The Effects of the ECB Communications on Financial Markets before and during COVID-19 Pandemic

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Abstract

The paper aims to estimate the effects of the European Central Bank communications on the sectoral returns of STOXX Europe 600 from 2013 to 2021. Previous literature has investigated the effects of communications of central banks and checked their effects on macroeconomics and financial data. New opportunities offered by text mining analysis allow us to find new insights into these aspects. However, studies focusing on how text mining indices derived from central banks' communications can affect different financial sectors are more limited. In this paper, we use different sentiment and topic indices derived from the European Central Bank's speeches. The paper shows how these different topics and sentiment indices affect the returns on different financial sectors. Our results indicate that the topic of communications is more influential on returns of sectoral indices than the type of communications. Moreover, we find that monetary policy and financial stability topics are the most relevant. We also find that during the COVID-19 time, the number of negative speeches is relevant for almost all the sectoral index returns.

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1 INTRODUCTION

Communications of central banks are the object of an intense work of research in the last decades (Cieslak & Schrimpf, 2019; Vayid, 2013). In particular, the use of text mining methods becomes a standard procedure in recent literature on the analysis of the macroeconomic effects of central banks' communications (Hansen et al., 2019; Hansen & McMahon, 2016) as well as their influence on financial markets (Kaminskas et al., 2021; Möller & Reichmann, 2021; Picault & Renault, 2017). The COVID-19 pandemic poses new challenges for the central banks. Recent studies show how their roles and responses to the disease are essential to handle the current crisis and to sustain the recovery (Klose & Tillmann, 2021; Baker et al., 2020).

Even if sentiment analysis is the most used tool to observe how central banks' communications affect financial markets, topic modelling is acquiring importance. Kaminskas et al. (2021) show how both topics and sentiments (opinions expressed in text towards certain topic) are relevant on different stock market indices. However, some topics are more relevant than others, and the significance of the sentiments depends on their estimations methods. Considering Cour-Thimann and Jung (2020) and Hartmann and Smets (2018) reaction functions of the European Central Bank (ECB), Alfieri and Gabrielyan (2021) illustrate different communication reaction functions, where different topic indices, employed by Latent Dirichlet Allocation method, are influenced by distinct independent variables. The indices are constructed following Gabrielyan et al. (2019), and the text analysis procedure aims to reduce as much as possible the choice of the number of topics.

The paper aims to analyse the effects of the European Central Bank speeches (ECB, 2019) on sector-wise stock market returns before and during COVID-19. The ECB's speeches are composed by the speeches of the ECB's presidents, vice-presidents, and the members of the ECB's board from 1997 and they are updated every two months. We employ both daily topic indices and daily sentiment analysis indices and observe their effects on stock market returns of 19 different sectors of the STOXX Europe 600 from 2013 to 2021. The topic indices are the same constructed by Alfieri and

Gabrielyan (2021) but include COVID-19 data until end of March 2021. The STOXX Europe 600 allows us to check the stock market returns of different sectors and potentially to study the possible spillover effects and systemic risk (Eratalay & Vladimirov, 2020; Anufriev & Panchenko, 2015). In order to observe the effects of the COVID-19 pandemic, a COVID-19 dummy variable and its interactions are added to the baseline model. Finally, we are aware that there may be reverse causality, *i.e.* these sectoral returns could affect the topic indices and sentiment indices as well. To get a clear picture of causal effect of topics and sentiment indices, we include Morgan Stanley Composite Index for Europe as control variable to follow the general economic trends and, afterwards, we replace it with a factor derived by standard factor analysis of different stock market indices as a robustness check.

The paper hypothesises that stock market returns of each sector react differently to distinct topic indices and sentiments. In this sense, using multiple variables both from the right side of the equation (topic indices and sentiments) and the left side (stock markets data from different sectors) can give more specific indications of the correct communications that the ECB should keep in order to face the current crisis and the next ones.

This paper contributes to the literature related to the communication on central banks using text mining methods (Alfieri & Gabrielyan, 2021; Hansen et al., 2019). Furthermore, it enlarges the analysis of the effects on financial markets of central banks' communications (Möller & Reichmann, 2021; Born et al., 2014) considering different sectoral stock returns. Finally, it adds new insights on recent but increasing literature on the central banks' responses in face of COVID-19 (Klose & Tillmann, 2021; Baker et al., 2020).

Our findings indicate that the content of the ECB communications matter more compared to the way that these communications are performed. We also found that the most influential topics were those about monetary policy and financial issues. For some sectors, these topics were the only significant factors affecting the returns.

The rest of the paper is structured as follows. Section 2 gives a review of the existing literature on the central banks' communications and how they affect stock markets. Section 3 explains the text analysis and the extraction of the topic and sentiment in-

dices, continues with explaining the data for analysis and finally discusses the econo-metric methodology. Section 4 provides the estimation results, which are discussed in detail in Section 5. Section 6 concludes and suggests possible extensions for future research.

2   Literature Review

Studies over central banks' communications are increasingly exploiting the new tools provided by the domain of Natural Language Processing (NLP) such as Sentiment Analysis and Topic Modeling. In addition, COVID-19 pandemic has triggered an increase interest in this field of research. In this section, first we describe various works which have used Sentiment analysis (Section 2.1), followed by works which have explored Topic analysis (Section 2.2), and then works which have explored both of these techniques (Section 2.3). Finally, in Section 2.4 we discuss works which have performed analysis from COVID perspective.

2.1   Sentiment Analysis

Picault and Renault (2017) study the ECB press conferences using sentiment analysis with a new field-specific weighted lexicon that allow them to better understand the monetary policy stance of the ECB. They found that ECB communications can influence the volatility of the stock markets given a positive or negative tone of the conference on the euro area performance delivered the previous day.

Gertler and Horvath (2018) examine an extensive dataset of inter-meeting communications (press conferences, speeches, discussions and media interviews) of the members of the ECB's Governing Council between July 2008 and January 2014. They perform sentiment analysis using high-frequency data and measure how stock markets, exchange rates and EONIA swap rates react to ECB's communication. They apply OLS and quantile regressions. They found out that the most important aspects of the communications taken into account from the markets related to the person who is performing the communication (i.e. key members of the Council).

2.2   Topic Analysis

The communications of central banks are essential for avoiding panic in the financial markets. Even if the sentiment analysis is the most used method for analysing central bank communications and their effects on financial markets, the topic mod-

elling methods are acquiring more and more relevance among scholars. For example, Neuenkirch (2012) shows how an increase of transparency of central banks' informal communications can reduce the variations of the financial markets' expectations. The author analyses the speeches of different central banks and introduces the indicators in country-specific OLS regressions.

2.3   Combining both

Iglesias et al. (2017) implement a deep analysis on the central bank of Turkey's communications (statements and minutes) using various text mining techniques such as dynamic topic model (DTM), sentiment analysis, and social networks analysis based on texts. Subsequently, they employ a VAR model to measure the effects of the central bank's communications on the real economy, exchange rates and financial markets time series. The authors confirm that the central bank's communication can influence financial markets thanks to the term structure of its interest rate (Iglesias et al., 2017).

Kaminskas et al. (2021) implement a sentiment analysis exercise based on the methods of Picault and Renault (2017) and Hu and Liu (2004); and topic modelling methods through Latent Dirichlet Allocation following Blei et al. (2003) and Hartmann and Smets (2018), on speeches and press conferences of the ECB. Moreover, they estimate OLS models with stock returns coming from different financial data sources as dependent variables and their indicators derived by LDA and sentiment analysis as independent variables. The authors find the following results: both press conferences and speeches have significant effects on the stock returns; press conferences even if less frequent than speeches have a larger impact on stock returns; the results of sentiment analysis depend partially on the lexicon and financial indicators used; the topics with more effects on the volatility on the stock returns are the ones related to monetary policy instruments.

2.4   Impact of COVID

Concerning the impact of the COVID-19 pandemic on the financial markets, the literature is certainly more temporally limited, but it is growing, and text analysis is a

part of the tools economists use to understand the effects of the pandemic and the responses of central banks. Baker et al. (2020) explain how no other disease before impacted the financial markets as the last pandemic. They employ a text-based method over newspapers from 6 countries to analyze the impact of the disease. They find how the policy reactions to the pandemic are the most important factor affecting the stock markets' volatility. Klose and Tillmann (2021) confirm those findings using text data coming from newspaper articles in New York Times and Wall Street Journal in 2020 on European responses to the crisis. They observe the clear importance of the response policies at the national and European levels and, in particular, monetary policies. Asset purchasing for the authors has very positive effects on sustaining the real economy of the countries affected by the pandemic.

As we can see, the communications tools and the policies connected to them of the ECB are relevant to handling the pandemic and ensuring stable long-run inflation and growth rates. In this sense, understanding the impacts of communication of financial markets can enable us to observe what future patterns the ECB communications should maintain to reduce market volatility and to provide consistent information to the households and firms. However, it should also be taken into account how it is crucial to disentangle the effects of ECB communications from the communications and policies coming from other EU institutions and governments.

3 Empirical Analysis

3.1 Text Analysis

3.1.1 Topic indices

In terms of text analysis, we construct indices based on topic modelling following Alfieri and Gabrielyan (2021). They estimate topic indices employing LDA method considering previous works of Thorsrud (2020) and Gabrielyan et al. (2019) and reducing the arbitrariness of the choice of topics using different text analysis methods.

This section describes the different steps used to derive the topic indices. The first step consists about performing the pre-processing operations such removing

the non-English speeches, punctuation, white spaces, stop-words and digits. Afterwards, we tokenise the sentences by splitting them in different words and applying stemming procedure. Stemming consists to cut the beginning or the ending of the words to reduce the dimensions of the vocabulary. Finally, we erase the words that do not add additional meaning and only cause noise because they appear too much frequently (i.e. "today", "take").

Following the pre-processing phase, we analyse the corpus with "term frequency-inverse document frequency" (Salton & Harman, 2003), or TF-IDF. The method is employed to investigate what are the most frequent terms in each document in the corpus, possible further words to exclude and what kind of n-grams [1] would be more functional in order to derive the topics.

We impose a minimum threshold of term frequency of 10% and a maximum of 90% as in Alfieri and Gabrielyan (2021). This allows exclusion of very frequent or very rare terms of the corpus and it is diminishing the noise.

The TF-IDF is described as following:

$$TF - IDF = tf(w, d) \times log(\frac{N}{df + 1}), \tag{1}$$

where $tf(w, d)$ represents the frequency of a specific word w in a document d. The second part of the right side of (1) is the IDF. The IDF can assume values between 0 and 1 and measures how much a term appears in all the corpus. N is the corpus, the ensemble of the documents available in the dataset, and df is the frequency of one word in the document set: if df is close to 0, this means the terms is used in the corpus more often and conversely, if it is close to 1, the term is rarely used.

We employ the TF-IDF in combination with bigrams and trigrams and we find 254 of them. The trigrams are only 29 and they are not adding meaningful results. In the next step, we perform different variations of LDA model. The algorithm considers each document as a set of topics and clusters the terms into different topics. The algorithm gives specific probabilities to each word and document by estimating their probability distribution. The joint distribution for the LDA can be described in the following way:

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[1]The term in text analysis identifies two or more words that are adjacent and compose a determined meaning together.

$$P = (\theta_{1:M}, z_{1:M}, \beta_{1:k} | N; \alpha_{1:M}, \eta_{1:M}), \tag{2}$$

where M is the number of documents, k is the number of topics, θ is the distribution of the topics for each document, z is the number of topics per document, β is the distribution of words in each topic, N is the corpus, the set of documents analyzed, where all the M documents are included. α and η are vector parameters relating to the distribution of the documents and topics. The LDA model evaluates the joint posterior probability of θ, z, and β.

Following the findings of Alfieri and Gabrielyan (2021) we use LDA with the method of sampling by Griffiths and Steyvers (2004) in combination with bigrams to extract the five topics[2]. The topics are: financial stability and banking system (FSBS), canonical monetary policy (CMP), European monetary union and growth (EMUG), non-standard monetary policy (NMP), financial integration and payment system (FIPS).

Finally, we create the indices as in Alfieri and Gabrielyan (2021) and Gabrielyan et al. (2019) as following:

$$I_{zt} = \sum_{d \in I_t} \sum_{w} F(d, w, z), \tag{3}$$

where I_{zt} is the frequency index of topic z at time t from the LDA algorithm. $F(d, w, z)$ is the frequency of the word w of the topic z in the document d. Each w is one of 15 most frequent words of a topic z.

3.1.2 Sentiment indices

Sentiment analysis is a natural language processing technique that identifies polarity, positive or negative orientation of the expressed sentiment, towards a certain event expressed in the textual form. In general, in sentiment analysis, each word is analysed based on the context it is most commonly used with the further assignment of a

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[2]Contrary to Alfieri and Gabrielyan (2021) the analysis performed with the coherence score including Covid-19 data would suggest using LDA with TF-IDF. However, we prefer to use LDA without TF-IDF, given considerations in Alfieri and Gabrielyan (2021) and that the difference in terms of coherence score is not particularly significant.

score (positive or negative). One of the effective ways to perform sentiment analysis is based on a sentiment lexicon where each word of the text is analysed and assigned a score (from -1 to +1). There are various dictionaries and approaches used for sentiment analysis (for example, the most common general methodologies are VADER and TextBlob).

In this paper, following Paloviita et al. (2020) we use Loughran and McDonald (2011)'s Financial Sentiment Dictionary to create our sentiment scores. This dictionary was developed to address the misclassification problem, as general dictionaries may misclassify common words in financial texts (Loughran and Mcdonald (2011)). Thus, it is important to use specialised dictionaries for financial texts analysis to be able to adjust sentiments scores to the financial context.

This approach to sentiment analysis provides four outputs: count of positive words in the text, count of negative words in the text, text polarity (sentiment score), and text subjectivity (personal judgment towards a certain topic). In sentiment analysis, polarity refers to the float, which has a range of [-1,1] where 1 means positive text and -1 means negative text. The text polarity is calculated using the following formula:

$$Polarity = (Positive - Negative)/(Positive + Negative), \tag{4}$$

And, subjectivity refers to a personal opinion or judgment but not to factual information. Subjectivity has a range of [0,1], and is calculated in the following way:

$$Subjectivity = (Positive + Negative)/(Count), \tag{5}$$

As in some cases, there are several speeches per day, daily average polarity and subjectivity are calculated (the number of positive and negative words are summarised in this case). To perform sentiment analysis, the data is pre-processed: all data points that were missing a text or date are deleted. Additionally, as we use an English language dictionary, speeches in French, German, Italian, and Spanish are removed from the dataset.

In this research, we use Hu and Liu (2004)'s dictionary, from where we can extrapolate positive and negative sentiment, as in the Loughran and McDonald (2011)'s

Financial Sentiment Dictionary [3]. As some speeches are delivered on the same day, to check if the quantity of negative or positive speeches affects the financial sector, we create corresponding indices.

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[3]The dictionary is designed to detect negative, positive and neutral sentiments. Given the small number of neutral speeches, we drop them to be able to compare the results with Loughran and McDonald (2011) and Hu and Liu (2004)'s dictionaries.

3.2   Data

For this analysis, we consider three different datasets. The stock market data is from the 19 sectoral indices of STOXX Europe 600, which can be seen from Table 1. The data is daily and is from the period 17.10.2013 to 18.06.2021. This gave us 1965 return observations for each sectoral index. For the same period, we consider the Morgan and Stanley Composite Index (MSCI) Europe, to capture the general trend in the European economies. The stock market data and MSCI Europe data were retrieved from www.investing.com on 22.06.2021.

The returns on the sectoral indices and MSCI Europe index are calculated as:

$$r_t = log(P_t) - log(P_{t-1}) \tag{6}$$

where r_t is a return calculated from the prices P_t of an index, and *log* is a natural logarithm.

Table 1 presents descriptive statistics on the returns of sectoral indices and the returns on the MSCE Europe index. We can see that for all these series the mean is around zero and the variance is taking values between 0.01-0.02. It seems that the highest volatility was observed in the Basic Resources, Automobiles & Parts, Banks and Oil & Gas sectors. Except for the Basic Resources sector, the returns are at least moderately skewed. For the Construction & Materials, Financial Services, Insurance, Real Estate and Utilities sectors, as well as MSCI Europe series, the returns are highly negatively skewed. For all the series in Table 1 the kurtosis is much above what it would be for a normal distribution. In particular, Insurance, Oil & Gas and Utilities sectors' returns present fat tailed distributions.

The time-frame considered allows us to analyze the effects of the non-standard monetary policies of the ECB as well as the COVID-19 crisis.

The data related to the speeches is collected from the ECB speeches dataset (2019) from 1997 to end of March 2021. We restrict our attention to the period from 17.10.2013 to 18.06.2021 to the days when there was stock trading, which gave us 532 ECB speeches. The dataset includes speeches of the former Presidents, Vice-presidents and members of the Board of ECB. In Table 2 we present the descriptive statistics for the

Table 1: Descriptive statistics on the returns of sectoral indices of STOXX Europe 600, and MSCI Europe

	Mean	St. Dev.	Skewness	Kurtosis	Min	Median	Max
Automobiles & Parts	0.0002	0.0166	-0.6279	14.9098	-0.1730	0.0003	0.1433
Banks	-0.0002	0.0163	-0.8816	15.6175	-0.1562	-0.0001	0.1162
Basic Resources	0.0002	0.0189	-0.2790	9.6524	-0.1555	0.0003	0.1473
Chemicals	0.0003	0.0117	-0.5818	8.6545	-0.0987	0.0006	0.0701
Construction & Materials	0.0003	0.0130	-1.1022	17.0755	-0.1463	0.0006	0.0893
Financial Services	0.0004	0.0129	-1.0977	18.4598	-0.1359	0.0009	0.1186
Food & Beverage	0.0003	0.0095	-0.6548	10.9859	-0.0920	0.0003	0.0532
Health Care	0.0003	0.0102	-0.4842	8.7261	-0.0929	0.0004	0.0478
Industrial Goods & Services	0.0003	0.0121	-0.9263	14.8404	-0.1263	0.0007	0.0948
Insurance	0.0002	0.0136	-1.0971	26.5353	-0.1638	0.0006	0.1404
Media	0.0002	0.0114	-0.7451	14.2405	-0.1185	0.0001	0.0777
Oil & Gas	-0.0001	0.0161	-0.8690	21.6921	-0.1843	0.0004	0.1465
Personal & Household Goods	0.0003	0.0106	-0.6552	9.4765	-0.0977	0.0007	0.0610
Real Estate	0.0002	0.0115	-1.2686	18.2629	-0.1239	0.0006	0.0844
Retail	0.0002	0.0113	-0.6479	10.4406	-0.1068	0.0004	0.0712
Technology	0.0005	0.0132	-0.6697	8.9423	-0.1144	0.0010	0.0916
Telecommunications	-0.0001	0.0116	-0.6917	15.3229	-0.1218	0.0001	0.0964
Travel & Leisure	0.0002	0.0148	-0.6039	15.5903	-0.1409	0.0009	0.1130
Utilities	0.0002	0.0113	-1.7589	24.5854	-0.1536	0.0004	0.0593
MSCI Europe	0.0002	0.0107	-1.2245	17.9232	-0.1231	0.0006	0.0818

topic indices we created, following Alfieri and Gabrielyan (2021). In Tables 3 and 4 we present the descriptive statistics on the sentiment scores obtained using Loughran and McDonald (2011), and Hu and Liu (2004), respectively.

Table 2: Descriptive statistics on the topic indices

	Mean	St. Dev.	Skewness	Kurtosis	Min	Median	Max
fsbs	0.0000	1.0000	4.9276	37.2796	-0.3618	-0.3618	11.2874
cmp	0.0000	1.0000	3.8243	21.7517	-0.3940	-0.3940	8.4025
fips	0.0000	1.0000	5.6523	55.6427	-0.3671	-0.3671	16.1417
emug	0.0000	1.0000	4.5220	28.8405	-0.3535	-0.3535	10.1842
nmp	0.0000	1.0000	4.1744	25.8241	-0.3732	-0.3732	9.1876

Table 3: Descriptive statistics on the sentiment scores obtained using Loughran and Mc-Donald (2011)

	Mean	St. Dev.	Skewness	Kurtosis	Min	Median	Max
Polarity	-0.0343	0.1426	-0.8171	10.9677	-1.0000	0.0000	0.8065
Subjectivity	0.0263	0.0446	1.2421	2.8484	0.0000	0.0000	0.1837
Positive	0.0113	0.0199	1.4996	4.0922	0.0000	0.0000	0.1086
Negative	0.0150	0.0264	1.4935	4.0275	0.0000	0.0000	0.1578
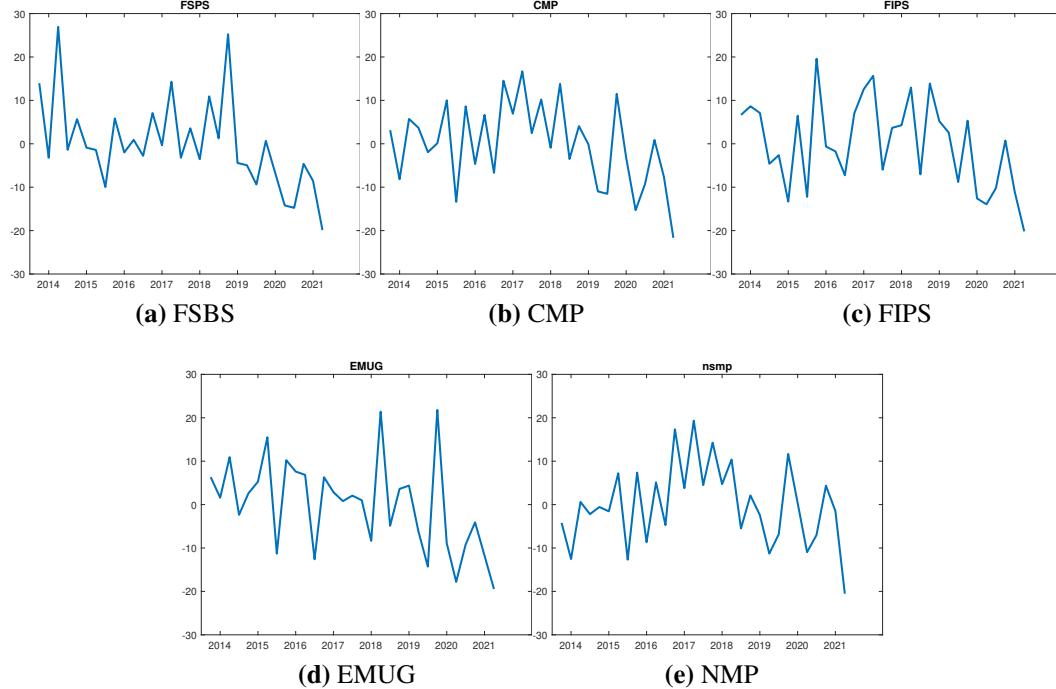
Figure 1: Time series plots of the frequency indices of the topics

Table 4: Descriptive statistics on the sentiment scores obtained using Hu and Liu (2004)

	Mean	St. Dev.	Skewness	Kurtosis	Min	Median	Max
Positive sentiments	0.2397	0.4270	1.2195	2.4872	0.0000	0.0000	1.0000
Negative sentiments	-0.0417	0.2000	-4.5833	22.0070	-1.0000	0.0000	0.0000
Number of positive articles	0.3059	0.6051	2.1901	8.6178	0.0000	0.0000	5.0000
Number of negative articles	0.0453	0.2290	5.9746	48.2253	0.0000	0.0000	3.0000

3.3 Models

The econometric part of the paper considers, principally, Eratalay and Vladimirov (2020) and Kaminskas et al. (2021). [4] We plan to first perform VAR (2) models of sentiment and topic indices in the following way.[5]

The VAR(2) model can be described as follows:

$$r_t = \beta_0 + \beta_1 r_{t-1} + \beta_2 r_{t-2} + \varepsilon_t, \tag{7}$$

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[4]The sentiment and topic indices are not in the same models following Kaminskas et al. (2021).

[5]The order of the VAR model was chosen as 2 since it gave good AIC values. It is also conceivable since in today's technology the news travel very fast and the markets and investors react to the news very quickly.

where β_0 is a vector, and β_1 and β_2 are *kxk* matrices of parameters. VAR(2) model allows to address possible reverse causality, by non-diagonal β_1 and β_2 matrices. All standard errors calculated for these models are heteroscedasticity and autocorrelation (HAC) robust. Depending on how r_t is defined, we have 5 different models:

1. r_t is a *7x1* vector consisting of the returns one of the 19 sectoral indices, the returns on MSCI Europe index, and the 5 topic indices.

2. r_t is a *4x1* vector consisting of the returns one of the 19 sectoral indices, the returns on MSCI Europe index, and the 2 sentiment indices: polarity and subjectivity, *a la.* Loughran and McDonald (2011).

3. r_t is a *4x1* vector consisting of the returns one of the 19 sectoral indices, the returns on MSCI Europe index, and the 2 sentiment indices: positivity and negativity, *a la.* Loughran and McDonald (2011).

4. r_t is a *4x1* vector consisting of the returns one of the 19 sectoral indices, the returns on MSCI Europe index, and the 2 sentiment indices: positivity and negativity, *a la.* Hu and Liu (2004).

5. r_t is a *4x1* vector consisting of the returns one of the 19 sectoral indices, the returns on MSCI Europe index, and the 2 sentiment indices: numbers of positive and negative speeches, *a la.* Hu and Liu (2004).

The effects of the COVID-19 pandemic are checked through two kinds of estimations. Firstly, we introduce a COVID-19 pandemic dummy starting from the end of February 2020 when the first major outbreak in Europe was detected in Lombardy, Italy. Secondly, we insert the interactions of the covid-19 dummy for each topic/sentiment index. In this way, it can be possible to evaluate the presence of possible basic non-linear relations. We modify the VAR(2) equation to include a dummy variable for COVID-19 effects, keeping the construction of r_t vector the same as above:

$$r_t = \beta_0 + \beta_0^D D_t + \beta_1 r_{t-1} + \beta_2 r_{t-2} + \varepsilon_t, \tag{8}$$

$$r_t = \beta_0 + \beta_0^D D_t + \beta_1 r_{t-1} + \beta_2 r_{t-2} + \beta_1^D D_{t-1} r_{t-1} + \beta_2^D D_{t-2} r_{t-2} + \varepsilon_t, \qquad (9)$$

where D_t takes value 1 after the end of February 2020, when the first major outbreak in Europe was detected in Lombardy, Italy. In the first model above, β_0^D is a vector of parameters through which the dummy variable directly changes the intercept of the equation at time t. In the second model, β_1^D and β_2^D are matrices of coefficients of the interaction between the lagged values of the dummy variables and returns.

Finally, we modify the VAR(2) model to include a common factor from different world stock markets, instead of using the returns from the MSCI Europe index. We keep the rest of the r_t as above. The factor is extracted via standard factor analysis from the following stock market indices: ASX200 (Australia), BIST (Turkey), BOVESPA (Brazil), BSESENSEX (India), CAC40 (France), DAX (Germany), EGX30 (Egypt), Nikkei (Japan), Shangai (China), S&P500 (USA), STOXX600 (USA) and TSX (Canada). The analysis of the variance of the different factors shows we should use only the first factor for our estimations. The presence of factors cannot allow measuring the effects of the COVID-19 pandemic separately because the factors already include the market movements associated with the COVID-19 pandemic. Therefore we don't use the factor and dummy variable in the same equation.

We assumed that the errors of the VAR(2) models follow a normal distribution. Although financial returns present fat-tailed behaviour, assuming a normal distribution for the returns and estimating via the maximum likelihood method has the advantage of providing consistent estimators, even though the true distribution is not normal. Moreover, when the returns are normal, equation by equation OLS provides the maximum likelihood estimators of the parameters of a VAR model. That's why we estimated our VAR(2) models via OLS and we used heteroscedasticity and autocorrelation robust (HAC) standard errors.

4 Results

The results of the VAR(2) models and the descriptions of them are available in the appendix in Tables from A1 to A304. We present here the discussion other the results by sectors' returns taking into account all the models performed and the general discussion of the results as a whole.

4.1 Automobiles and parts (SXAP)

The returns of the Automobiles sector shows a very strong and positive relationship with the the FSBS topics. Moreover, CMP has a non linear relationship with the movements of the returns of the sector. Taking into account the results with the covid-19 dummy, this non-linear relationship has been influenced by the COVID-19 pandemic. In terms of sentiment analysis negative speeches are relevant to understand the returns of this sector both in qualitative than quantitative (number of negative speeches). Finally, personal opinions (subjectivity indices) can play a role in the COVID-19 times, even if a clear causal relationship is difficult to demonstrate in the present framework.

4.2 Banks (SX7P)

The insights coming from the estimations over the Banks' returns are substantially the following: relationship between topics and sentiment indices are relevant only when the interactions with the covid-19 dummy is introduced. In other frameworks the only variable to have some (weak) relevance is the quantity of negative speeches.

When the interactions with the covid-19 dummy are introduced almost all the sentiment indices and the topics (the only exception is EMUG) become influential in determining the movements of Banks' returns. This could suggest that ECB communications are relevant for Banks only in the period of crisis. However, this hypothesis would need further research with a longer timeframe.

4.3 Basic Resources (SXPP)

In terms of the topics, we can observe that in this sector. topics like FIPS and, especially EMUG, have an influence of its returns. Topics like FSBS, NMP and CMP emerge with the introduction of covid-19 dummy. In particular, CMP appears to play an important role in the pandemic times. Sentiment indices are weakly connected with the movements of these returns indifferent estimations and their importance disappear with the introduction of the factors.

4.4 Chemicals (SX4P)

The returns of the Chemicals' sector are mostly influenced by topic rather than sentiment indices. In particular, NMP has a very robust relationship with this sector. CMP is relevant only when factors are introduced. Subjectivity is the only sentiment indices that is significant in the factors' estimations. In terms of covid-19, we can observe how monetary policies' topics are not relevant and FSBS becomes weakly significant when non-linear relations with covid-19 are introduced. Negativity sentiment indices are weakly significant as well. The effects of the ECB communications on the Chemicals sector count more in normal times than crisis time as the estimations suggest.

4.5 Construction and materials (SXOP)

The Construction and Materials' sector is mostly subjected by two topics FSBS and FIPS. This relation is very robust and it could indicate how sensitive this sector is over financial issues. Interestingly, this importance diminish in presence of covid-19 interactions and CMP becomes more relevant. The returns react more to the number of speeches than the content of the speeches.

4.6 Financial Services (SXFP)

The Financial Services' returns is one of the less affected by the ECB communications. Some very weak relationship emerge either with the introduction of factors (EMUG

topic) or interactions with the covid-19 dummy (polarity and, especially the number of negative speeches).

4.7 Food and Beverage (SX3P)

Food and Beverage's returns have a quite strong correlations with the two monetary policies' topics during covid time. The relevance of this two topics appears even including only the covid-19 dummy. FSBS is relevant as well only in covid-time when the interactions are included. However, this relation is not present in the estimations with factors. What is preserved in the estimations with factors is the influence of negativity sentiment indices (only with Hu and Liu dictionary).

4.8 Health Care (SXDP)

In this sector, the main insights that polarity index play an important and positive role, especially when the factors are added, on the returns and that topics are more relevant than sentiment indices only during covid-time. The topics of interest in covid-19 time are FSBS, CMP and NMP. Negative speeches are relevant in both baseline model and model with factors but only with Hu and Liu's dictionary.

4.9 Industrial Goods and Services (SXNP)

The returns of the Industrial Goods and Services are affected by the two monetary policies' topics. The results are present both in baseline model and the model with factors. During covid-time they are not particularly relevant and there is only a weak relation with FBPS. From the sentiment analysis perspective, what is clear is the importance of the positivity index and the number of positive speeches even it does not appear relevant during the covid-time.

4.10 Insurance(SXIP)

The Insurance is another sector which is not particularly affected by ECB's communications. NMP and CMP topics are relevant only during covid-time when the inter-

actions of covid dummy are included but they are not in the baseline model and the model with factors. Sentiment analysis does not provide any particular influence on the sector's returns.

4.11   Media(SXMP)

The two topics FIPS and FSBS have a strong and positive relation with the returns of Media's sector. In particular, FIPS is the most important one especially in the estimations with factors. This relation changes only during covid-time when we consider the interactions with covid-19 dummy. In this framework, the two monetary policies' topics assume more relevance. In terms of sentiment analysis, there is a very weak relation with the negativity index in the model with factors but only using the Hu and Liu' dictionary.

4.12   Oil and Gas(SXEP)

Oil and Gas' returns are not affected by topics in any estimations. The only index that appears relevant is the negativity index, even if its significance is present only using Hu and Liu's dictionary. However, this significance is mantained both before and during covid-time.

4.13   Personal and Household Goods (SXQP)

The returns of Personal and Household Goods' sector are principally affected by the two topics related to monetary policies CMP and NMP. This relevance is confirmed even during covid-time even if NMP has a different behaviour during covid-time and FSBS assumes a certain importance. In terms of sentiment analysis negative index is the most relevant among the others but this relation is not particularly strong.

4.14   Real Estate (SX86P)

Real Estate is one sector where sentiment indices are more relevant than topics. In particular, positivity index have a negative relation with the returns of the sector and

this relation is confirmed with both the two dictionary. Moreover, subjectivity as well has a very strong and negative significance with the sector's returns. Negativity is very significant as well but it is confirmed only by LM's dictionary. The only changes is present during covid-time when interactions are included. In this framework the two monetary policies' topics and FSBS are correlated with the returns. In particular, the NMP and CMP have a non-linear relation with the returns. Sentiment indices are not anymore relevant.

4.15   Retail (SXRP)

Retail sector' returns are no related at all with topic indices. Instead, sentiment indices of such as polarity and negativity indices are very relevant. In particular, polarity index has mostly a positive relation with the sector's returns. The importance of polarity disappears only when the interactions with covid-19 time are included but it is still present when only the covid-19 dummy is in the estimations (as in equation 8).

4.16   Technology (SX8P)

Returns of Technology's sector are mostly related to topic. The main topic of interest are EMUG (negative relationship) and the two monetary polices' topics (positive relationship), NMP and CMP. This relevance is confirmed by the model with factors. During covid-19 time, two topics still play a role: EMUG (without interactions with the covid-19 dummy) and CMP (with interactions with covid-19 dummy).

4.17   Telecommunications (SXKP)

The Telecommunications' sector is a particular case in our analysis. Topics such as FSBS, CMP, and NMP have a very strong negative relationship with the returns of the sector. This influence is relevant in covid-time as well, except when interactions are included and only FSBS among the three topics maintain a certain relevance even if with a different sign. Sentiment analysis becomes important for the sector only when factors are included in the model. The relevant indices are subjectivity, positivity and

negativity. It could be argued that sentiment indices affect the returns only when all the other possible influences are considered. Topics instead keep their effects in all the frameworks.

4.18   Travel and Leisure (SXTP)

The Travel and Leisure sector's returns have a negative relation with EMUG topic index at 10% in baseline, with the covid-19 dummy, and model with factors. This relation changes only when interactions with covid-time dummy are introduced. In this scenario, the two monetary policies topic prevail. The positivity sentiment index and the number of positive speeches are relevant only with the presence of the factors. Moreover, the effect is negative and significant at 10% and it is detected only by Hu and Liu's dictionary.

4.19   Utilities (SX6P)

EMUG is the only topic that appears to be significant for utilities in normal time and covid-time. However, when interactions of topics with the covid-19 dummy are included NMP, CMP, and FSBS become extremely relevant. No sentiment index plays a role in this topic.

4.20   General discussion of the results

From all the results we can observe important insights. It can be noticed that topic indices are more important than sentiment indices. This results has connections with previous literature over the effects of central bank's communications on financial markets. For example Kaminskas et al. (2021) observes that the effects of sentiment indices of the ECB's speeches tend to be less relevant than press conferences on financial markets. In Möller and Reichmann (2021) even if the authors recognize the importance of certain tones of the ECB communications, they also notice how forward-looking answers, so more content related communications, given by ECB officials in the Q&A sessions massively affect euro area stock returns. Born et al. (2014) stress how opti-

mistic speeches and interview related to financial issues have smaller effects in tranquil times over stock returns rather than during the Great Recession.

Moreover, we can see the importance of financial stability topic and the two monetary policies. This is line with Alfieri and Gabrielyan (2021), where it is showed how monetary policy (especially NMP) and financial stability topics are the most relevant ones among the ECB's communications. Kaminskas et al. (2021) attribute importance to the monetary policy instruments' topic for stock prices.

Furthermore, some sectors are affected mostly by financial issues and others by conventional or unconventional monetary policies. Finally, some indices are sensitive to the presence of the COVID-19 crisis. Communications are influenced by the presence or absence of crisis as Born et al. (2014) suggest. Cieslak and Schrimpf (2019) refer the relevance of non-monetary news during and right after the Great Recession in order to drive financial market's reaction and monetary news afterwards. Vayid (2013) stress how financial stability and monetary policy's communications change substantially after the Great Recession. The recent research over financial markets and policy announcements (national and European) by Klose and Tillmann (2021) explain how the stock markets are able to distinguish among different types of policies during the COVID-19.

5 Conclusions

The analysis shows how ECB communications can affect different financial market's returns. The general insights that can be derived by this exercise are numerous. Firstly, most of the returns are influenced by what the topic of the communications is about rather than how the communication is performed. However, some exceptions are possible (i.e. Real Estate and Retail sectors). Secondly, the main relevant topics affecting the returns are FSBS, CMP, NMP. These are the two monetary policies topics and the most relevant topic in financial issues after the Great Recession. Thirdly, certain returns are very much influenced only by monetary polices topics or only by financial issues. This aspect should be studied in more detail taking into account the different characteristics of the sectors. Lastly, some topics increase or decrease their importance

during the COVID-19 pandemic, but this relation is mostly non-linear and requires more studies. Moreover, during the pandemic, the number of negative speeches is relevant among almost all sectors.

The research in this paper can be extended in multiple ways. One could analyse the impact of the ECB communications on the volatilities of the STOXX 600 sectoral returns. It is possible that some topics do not affect the returns much, but can be influential on the volatilities of some sectors. Another interesting topic could be to study how the tail risk of different sectors could depend on these topics. Tail risk refers to the expected losses of the left tail of return distribution. Therefore one could expect that negative ECB communications would have an impact on tail risk. Furthermore, one could study the overall systemic risk of the STOXX 600 returns and see how the stock market returns overall react to the ECB communications. This would yield insights on what kind of ECB communications make the STOXX 600 system more fragile. Finally, studies with other sentiment analysis' dictionaries and communications of other central banks should be conducted.

Acknowledgments

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APPENDIX I

Topic Indices - Baseline model - Results

In the VAR(2) related to the Automobiles and Parts (SXAP) sector in Tables A.1-A.2, the first lag of the financial stability and banking system's topic is positive and statistically significant at 1%. No second lags of the topics are statistically significant.

In Tables A.3-4, the first lag of the canonical monetary policy is positive and statistically significant at 10% in the Banks' sector (SX7P). No second lags of the topic indices are significant.

In Tables A.5-6, we can notice that three topic indices are significant in the first lags on Basic Resources (SXPP). The topic over the European monetary union is positive and extremely significant at 1%. Moreover, the financial stability and banking system as well as the canonical monetary policy are positive significant at 10%. As for previous topics, no second lags of the topic indices are significant.

A different situation can be observed in Tables A7-A8 related to the Chemicals sector (SX4P). While no first lags are significant, the second lag of non-standard monetary policy topic is positive significant at 5%. Similar results are in Tables A9-A10 related to the Construction and Materials (SXOP) but with a difference: the significant second lags' topics have a negative sign. Indeed, the FSBS and the FIPS (financial integration and payment system) topics are negative and significant at 5%. The EMUG topic is negative significant at 10%.

Instead, no topic is significant in both first and second lags on Financial Services (SXFP) in Tables A11-A12. The same is observable in Tables A13-A14 on Food and Beverage (SX3P) and in tables A15-A16 related to Health Care (SXDP).

For what concerns the Industrial Production and Services (SXNP) in Tables A17-A18, the two topics related to monetary policy (CMP and NMP) are positive significant at 5% and the topic EMUG is positive significant at 10%. The second lag of CMP is significant at 10% but with a negative sign.

No topics are significant in Tables A19-A20 related to the Insurance sector (SXIP). The Media sector (SXMP) is affected by the financial topics (FSBS and FIPS) that are

significant and positive at 5% in the first lag. The results can be observed in Tables A21-A22.

In Tables A23-A24 we can notice that the Oil and Gas sector (SXEP) is unaffected by the topic indices. On the contrary, the Personal and Household Goods (SXPQ) sector in Tables A25-A26 is affected negatively significant at 10% by the CMP topic's first lag. Instead, both the sectors Real Estate(SX86P) at tables A27-A28 and Retail (SXRP) at tables A29-A30 are unaffected by topic indices.

The results of the Technology sector (SX8P) in Tables A31-A32 are very intriguing. The first lags of FIPS and EMUG topics are negatively significant at 10%. Instead, the CMP and NMP's second lags are positively significant at 5%. Another sector related to the high value-added industry very affected by the topic indices is the Telecommunications one (SXKP) in Tables A33-34. The two monetary policy topics' first lags CMP and NMP are highly significant and negative at 1%. The FSBS's first lag is negative significant at 5%.

The sector Travel and Leisure (SXTP) in Tables A35-A36 is affected negatively by the EMUG's first lag at 5%. Finally, no topics are influencing the Utilities sector (SX6P) in Tables A37-A38.

Table A1: Topic indices effects on Automobiles and Parts (SXAP) - first lag

SXAP	r_{t-1}^{st}	r_{t-1}^{msci}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,0849	0,0043	6,9078	3,9163	2,4201	3,0640	3,4761
r_t^{msci}	-0,1104	-0,0011	-11,0271	-7,3941	-1,5298	-5,4343	-6,5245
$fsbs_t$	0,0002	-0,0003	0,0099	0,0159	-0,0218	0,0101	0,0117
cmp_t	-0,0008	0,0006	0,0264	0,0300	-0,0020	-0,0102	0,0750
$fips_t$	0,0000	0,0000	0,0388	0,0109	0,0057	0,0064	0,0182
$emug_t$	0,0003	0,0002	0,0234	0,0140	0,0174	0,0014	0,0149
nmp_t	0,0006	-0,0008	-0,0196	-0,0010	0,0250	0,0026	-0,0221

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A2: Topic indices effects on Automobiles and Parts (SXAP) - second lag

SXAP	r_{t-2}^{st}	r_{t-2}^{msci}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	0,0772	0,0796	-1,8718	-1,1157	-2,4938	1,7226	-0,7974	0,0076
r_t^{msci}	-0,0494	-0,0710	1,2381	1,6959	3,8591	-0,5745	0,5121	0,0089
$fsbs_t$	0,0006	0,0004	-0,0549	-0,0554	-0,0326	-0,0476	-0,0447	0,0171
cmp_t	-0,0013	-0,0008	0,1506	0,2264	0,0525	0,1289	0,1621	0,0150
$fips_t$	-0,0005	-0,0002	0,0886	0,0868	0,0262	0,0707	0,0701	0,0415
$emug_t$	0,0004	0,0003	-0,0718	-0,0622	-0,0195	-0,0444	-0,0395	0,0095
nmp_t	0,0004	0,0005	-0,0723	-0,1428	0,0040	-0,0417	-0,1000	0,0146

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A3: Topic indices effects on Banks (SX7P) - first lag

SX7P	r_{t-1}^{st}	r_{t-1}^{msci}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,0596	-0,0194	2,7580	3,9459	-1,1768	1,3723	3,6089
r_t^{msci}	-0,0618	0,0306	-5,6022	-7,4455	3,1456	-3,2116	-6,7005
$fsbs_t$	0,0001	-0,0002	0,0062	0,0139	-0,0239	0,0103	0,0099
cmp_t	-0,0012	0,0005	0,0231	0,0288	-0,0026	-0,0116	0,0737
$fips_t$	-0,0002	-0,0001	0,0398	0,0119	0,0053	0,0060	0,0193
$emug_t$	0,0006	0,0003	0,0250	0,0147	0,0176	0,0023	0,0156
nmp_t	0,0005	-0,0008	-0,0188	-0,0015	0,0257	0,0031	-0,0225

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A4: Topic indices effects on Banks (SX7P) - second lag

SX7P	r_{t-2}^{st}	r_{t-2}^{msci}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	0,0427	0,0173	4,0164	1,8609	-0,5060	0,9617	2,4170	0,0063
r_t^{msci}	-0,0087	0,0103	-6,5319	-2,2581	1,2704	0,3821	-3,7505	0,0047
$fsbs_t$	0,0007	0,0004	-0,0521	-0,0545	-0,0306	-0,0470	-0,0440	0,0149
cmp_t	-0,0016	-0,0009	0,1468	0,2286	0,0477	0,1264	0,1643	0,0152
$fips_t$	-0,0006	-0,0002	0,0911	0,0884	0,0267	0,0709	0,0717	0,0407
$emug_t$	0,0003	0,0003	-0,0731	-0,0636	-0,0198	-0,0444	-0,0407	0,0087
nmp_t	0,0009	0,0005	-0,0672	-0,1433	0,0088	-0,0387	-0,1007	0,0151

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A5: Topic indices effects on Basic resources (SXPP) - first lag

SXPP	r_{t-1}^{st}	r_{t-1}^{msci}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	-0,0049	-0,0003	1,8721	2,6906	2,7727	5,5641	2,3503
r_t^{msci}	-0,0376	0,0054	-4,4695	-5,7883	-1,9950	-8,6592	-5,0485
$fsbs_t$	-0,0005	-0,0002	0,0068	0,0138	-0,0245	0,0094	0,0100
cmp_t	0,0009	0,0005	0,0212	0,0278	-0,0038	-0,0153	0,0730
$fips_t$	0,0000	-0,0001	0,0382	0,0107	0,0062	0,0063	0,0179
$emug_t$	0,0000	0,0003	0,0254	0,0124	0,0155	-0,0005	0,0135
nmp_t	-0,0011	-0,0008	-0,0163	0,0002	0,0259	0,0057	-0,0210

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A6: Topic indices effects on Basic Resources (SXPP) - second lag

SXPP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0314	-0,0059	-0,5677	2,0585	1,8394	2,5068	1,7932	0,0057
r^{msci}_t	0,0803	0,0404	-0,4037	-2,3258	-1,6630	-1,3313	-2,7636	0,0043
$fsbs_t$	0,0007	0,0004	-0,0510	-0,0532	-0,0308	-0,0459	-0,0429	0,0137
cmp_t	-0,0030	-0,0008	0,1415	0,2180	0,0471	0,1195	0,1546	0,0156
$fips_t$	0,0002	-0,0002	0,0894	0,0877	0,0273	0,0707	0,0708	0,0424
$emug_t$	0,0007	0,0003	-0,0716	-0,0616	-0,0192	-0,0422	-0,0389	0,0145
nmp_t	0,0023	0,0005	-0,0625	-0,1351	0,0087	-0,0338	-0,0932	0,0150

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A7: Topic indices effects on Chemicals (SX4P) - first lag

SX4P	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0390	-0,0396	-1,3357	-3,8623	2,8804	1,5571	-2,7529
r^{msci}_t	-0,0109	0,0454	-0,6944	1,6074	-1,1738	-2,9475	0,8435
$fsbs_t$	0,0000	-0,0002	0,0073	0,0147	-0,0242	0,0104	0,0107
cmp_t	0,0006	0,0006	0,0248	0,0337	0,0019	-0,0105	0,0811
$fips_t$	-0,0001	-0,0001	0,0374	0,0090	0,0056	0,0054	0,0161
$emug_t$	0,0001	0,0002	0,0246	0,0136	0,0159	0,0018	0,0136
nmp_t	-0,0006	-0,0009	-0,0187	-0,0038	0,0227	0,0031	-0,0264

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A8: Topic indices effects on Chemicals (SX4P) - second lag

SX4P	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0502	0,1060	1,0580	7,0810	6,5653	1,6178	10,5466	0,0052
r^{msci}_t	-0,0118	-0,0741	-2,3553	-6,9882	-5,7383	0,1424	-11,1202	0,0071
$fsbs_t$	0,0002	0,0004	-0,0514	-0,0534	-0,0321	-0,0470	-0,0436	0,0132
cmp_t	-0,0006	-0,0009	0,1411	0,2208	0,0499	0,1237	0,1570	0,0154
$fips_t$	-0,0001	-0,0002	0,0898	0,0886	0,0285	0,0709	0,0725	0,0419
$emug_t$	0,0003	0,0003	-0,0725	-0,0638	-0,0204	-0,0440	-0,0412	0,0086
nmp_t	0,0004	0,0005	-0,0618	-0,1355	0,0071	-0,0366	-0,0931	0,0166

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A9: Topic indices effects on Construction and Materials (SXOP) - first lag

SXOP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0058	0,0296	4,8173	1,9704	0,0653	5,5559	1,7839
r^{msci}_t	0,0220	-0,0289	-7,3851	-4,5073	1,6026	-7,6257	-4,0121
$fsbs_t$	-0,0002	-0,0002	0,0090	0,0142	-0,0216	0,0117	0,0099
cmp_t	0,0003	0,0006	0,0208	0,0290	-0,0075	-0,0135	0,0750
$fips_t$	-0,0001	0,0000	0,0371	0,0106	0,0042	0,0052	0,0181
$emug_t$	0,0002	0,0002	0,0266	0,0144	0,0209	0,0032	0,0147
nmp_t	-0,0005	-0,0008	-0,0170	-0,0007	0,0280	0,0038	-0,0223

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A10: Topic indices effects on Construction and Materials (SXOP) - second lag

SXOP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,1502	0,1538	-8,9657	0,7554	-12,6828	-5,6819	2,9372	0,0078
r^{msci}_t	-0,1304	-0,1401	8,7688	-0,6485	14,8262	7,9692	-3,8611	0,0097
$fsbs_t$	0,0005	0,0004	-0,0518	-0,0533	-0,0314	-0,0468	-0,0429	0,0158
cmp_t	-0,0015	-0,0008	0,1423	0,2218	0,0495	0,1252	0,1580	0,0139
$fips_t$	-0,0002	-0,0002	0,0891	0,0876	0,0257	0,0704	0,0710	0,0447
$emug_t$	0,0004	0,0003	-0,0714	-0,0625	-0,0189	-0,0435	-0,0399	0,0101
nmp_t	0,0008	0,0005	-0,0624	-0,1380	0,0092	-0,0375	-0,0960	0,0139

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A11: Topic indices effects on Financial Services (SXFP) - first lag

SXFP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,1039	0,0503	5,6120	2,1447	5,0166	1,7217	2,2878
r^{msci}_t	-0,0815	-0,0515	-8,3138	-4,7357	-4,0146	-3,4337	-4,6059
$fsbs_t$	-0,0002	-0,0002	0,0077	0,0141	-0,0236	0,0099	0,0102
cmp_t	-0,0003	0,0005	0,0229	0,0288	-0,0035	-0,0107	0,0740
$fips_t$	-0,0001	-0,0001	0,0373	0,0099	0,0054	0,0046	0,0171
$emug_t$	0,0003	0,0003	0,0258	0,0151	0,0185	0,0024	0,0159
nmp_t	-0,0001	-0,0008	-0,0183	-0,0007	0,0250	0,0026	-0,0220

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A12: Topic indices effects on Financial Services (SXFP) - second lag

SXFP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0200	0,0012	-1,6586	2,8116	-1,1060	6,4509	3,4094	0,0060
r^{msci}_t	0,0161	0,0299	0,4592	-2,9985	1,6882	-5,6369	-4,4404	0,0048
$fsbs_t$	0,0004	0,0004	-0,0518	-0,0533	-0,0313	-0,0462	-0,0429	0,0139
cmp_t	-0,0009	-0,0008	0,1462	0,2225	0,0544	0,1241	0,1587	0,0141
$fips_t$	-0,0004	-0,0002	0,0897	0,0870	0,0271	0,0698	0,0701	0,0412
$emug_t$	0,0002	0,0003	-0,0724	-0,0619	-0,0202	-0,0428	-0,0390	0,0096
nmp_t	0,0007	0,0005	-0,0668	-0,1391	0,0028	-0,0383	-0,0970	0,0140

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A13: Topic indices effects on Food and Beverage (SX3P) - first lag

SX3P	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0446	-0,0366	-5,1184	-5,4530	1,1603	-3,6965	-5,2879
r^{msci}_t	-0,0271	0,0309	1,6995	1,7158	0,7967	1,2967	1,8766
$fsbs_t$	-0,0002	-0,0002	0,0069	0,0148	-0,0232	0,0109	0,0106
cmp_t	0,0010	0,0006	0,0259	0,0305	-0,0032	-0,0103	0,0756
$fips_t$	0,0000	0,0000	0,0391	0,0108	0,0047	0,0056	0,0185
$emug_t$	0,0002	0,0002	0,0235	0,0137	0,0182	0,0016	0,0144
nmp_t	-0,0012	-0,0008	-0,0211	-0,0028	0,0265	0,0018	-0,0242

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A14: Topic indices effects on Food and Beverage (SX3P) - second lag

SX3P	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,1282	-0,1003	-2,7957	0,4817	3,7548	0,5385	-0,9818	0,0115
r^{msci}_t	0,1106	0,1065	0,8279	-0,1177	-2,1631	1,2714	0,1893	0,0074
$fsbs_t$	0,0004	0,0004	-0,0514	-0,0536	-0,0312	-0,0468	-0,0431	0,0142
cmp_t	-0,0004	-0,0008	0,1449	0,2240	0,0481	0,1256	0,1606	0,0146
$fips_t$	-0,0001	-0,0002	0,0900	0,0873	0,0265	0,0704	0,0707	0,0410
$emug_t$	0,0003	0,0003	-0,0727	-0,0623	-0,0194	-0,0438	-0,0397	0,0089
nmp_t	0,0001	0,0004	-0,0663	-0,1398	0,0094	-0,0382	-0,0982	0,0145

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A15: Topic indices effects on Health Care (SXDP) - first lag

SXDP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0610	-0,0379	-5,1524	-5,0526	4,2888	-5,2244	-5,2158
r^{msci}_t	-0,0513	0,0326	1,9000	1,5340	-1,7137	2,5214	1,9450
$fsbs_t$	-0,0004	-0,0002	0,0076	0,0142	-0,0254	0,0102	0,0102
cmp_t	0,0017	0,0006	0,0236	0,0290	-0,0006	-0,0108	0,0745
$fips_t$	0,0000	0,0000	0,0393	0,0124	0,0058	0,0079	0,0201
$emug_t$	-0,0001	0,0002	0,0241	0,0137	0,0171	0,0009	0,0143
nmp_t	-0,0018	-0,0008	-0,0180	-0,0009	0,0236	0,0025	-0,0224

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A16: Topic indices effects on Health Care (SXDP) - second lag

SXDP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0614	-0,0916	-0,3958	-2,0497	-3,0624	-2,9404	-2,7822	0,0071
r^{msci}_t	0,0583	0,1022	-0,9810	1,7395	2,9686	3,8523	1,5301	0,0077
$fsbs_t$	0,0003	0,0004	-0,0523	-0,0539	-0,0299	-0,0471	-0,0435	0,0141
cmp_t	-0,0001	-0,0008	0,1474	0,2271	0,0443	0,1299	0,1635	0,0149
$fips_t$	0,0001	-0,0002	0,0899	0,0881	0,0277	0,0715	0,0715	0,0415
$emug_t$	-0,0002	0,0003	-0,0735	-0,0639	-0,0193	-0,0455	-0,0412	0,0099
nmp_t	0,0002	0,0005	-0,0676	-0,1423	0,0116	-0,0418	-0,1002	0,0150

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A17: Topic indices effects on Industrial Goods and Services (SXNP) - first lag

SXNP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0067	-0,0090	3,4620	10,2743	2,4455	8,9768	12,6617
r^{msci}_t	0,0337	0,0148	-5,7588	-13,3475	-1,0254	-11,0800	-15,6152
$fsbs_t$	-0,0002	-0,0002	0,0069	0,0145	-0,0241	0,0108	0,0109
cmp_t	0,0003	0,0006	0,0180	0,0220	-0,0059	-0,0164	0,0679
$fips_t$	-0,0002	-0,0001	0,0377	0,0101	0,0057	0,0051	0,0173
$emug_t$	0,0004	0,0002	0,0269	0,0174	0,0189	0,0043	0,0180
nmp_t	-0,0005	-0,0008	-0,0110	0,0075	0,0292	0,0091	-0,0147

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A18: Topic indices effects on Industrial Goods and Services (SXNP) - second lag

SXNP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0508	0,0476	-10,5561	-8,8524	-5,5598	-5,7044	-6,1433	0,0061
r^{msci}_t	-0,0177	-0,0183	10,0447	9,5244	6,5236	7,6010	5,7924	0,0046
$fsbs_t$	0,0004	0,0004	-0,0523	-0,0540	-0,0314	-0,0470	-0,0434	0,0151
cmp_t	-0,0011	-0,0009	0,1445	0,2264	0,0519	0,1280	0,1629	0,0167
$fips_t$	-0,0002	-0,0002	0,0905	0,0891	0,0276	0,0719	0,0725	0,0412
$emug_t$	0,0005	0,0003	-0,0738	-0,0645	-0,0210	-0,0456	-0,0416	0,0103
nmp_t	0,0005	0,0005	-0,0660	-0,1428	0,0047	-0,0410	-0,1008	0,0168

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A19: Topic indices effects on Insurance (SXIP) - first lag

SXIP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,1441	0,0461	-3,7698	4,1204	-5,8594	0,6479	3,6162
r^{msci}_t	-0,1132	-0,0493	2,3066	-7,1204	8,4322	-2,1981	-6,2578
$fsbs_t$	0,0000	-0,0002	0,0074	0,0151	-0,0246	0,0109	0,0114
cmp_t	-0,0002	0,0005	0,0231	0,0268	-0,0013	-0,0123	0,0714
$fips_t$	-0,0001	-0,0001	0,0385	0,0104	0,0061	0,0055	0,0180
$emug_t$	0,0004	0,0003	0,0249	0,0149	0,0175	0,0024	0,0158
nmp_t	-0,0003	-0,0008	-0,0179	0,0006	0,0246	0,0039	-0,0203

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A20: Topic indices effects on Insurance (SXIP) - second lag

SXIP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,1088	0,0519	2,6111	2,3884	-0,9748	1,3220	3,6053	0,0127
r^{msci}_t	-0,0759	-0,0299	-4,0852	-2,7576	2,0174	0,0886	-4,9134	0,0058
$fsbs_t$	0,0003	0,0004	-0,0506	-0,0538	-0,0300	-0,0466	-0,0433	0,0137
cmp_t	-0,0014	-0,0008	0,1378	0,2240	0,0455	0,1240	0,1596	0,0146
$fips_t$	-0,0003	-0,0002	0,0892	0,0872	0,0269	0,0704	0,0703	0,0418
$emug_t$	0,0004	0,0003	-0,0718	-0,0629	-0,0195	-0,0441	-0,0400	0,0085
nmp_t	0,0012	0,0005	-0,0596	-0,1394	0,0105	-0,0367	-0,0967	0,0146

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A21: Topic indices effects on Media (SXMP) - first lag

SXMP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0948	0,1492	8,8867	0,7192	11,3458	2,4785	0,2167
r^{msci}_t	-0,0545	-0,1324	-10,1380	-2,7167	-8,6565	-3,5106	-2,0281
$fsbs_t$	0,0000	-0,0002	0,0101	0,0157	-0,0199	0,0122	0,0113
cmp_t	0,0014	0,0005	0,0203	0,0279	-0,0075	-0,0129	0,0733
$fips_t$	-0,0001	0,0000	0,0394	0,0122	0,0086	0,0071	0,0189
$emug_t$	0,0001	0,0003	0,0259	0,0147	0,0190	0,0025	0,0155
nmp_t	-0,0016	-0,0008	-0,0167	-0,0006	0,0269	0,0036	-0,0217

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A22: Topic indices effects on Media (SXMP) - second lag

SXMP	r_{t-2}^{st}	r_{t-2}^{msci}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,0773	-0,0309	-3,7093	-5,6555	-6,7845	-5,0453	-3,8887	0,0097
r_t^{msci}	0,1037	0,0578	1,9937	5,4656	6,6255	6,2895	3,0679	0,0109
$fsbs_t$	0,0002	0,0004	-0,0530	-0,0547	-0,0334	-0,0479	-0,0439	0,0162
cmp_t	-0,0010	-0,0010	0,1342	0,2224	0,0418	0,1231	0,1584	0,0148
$fips_t$	-0,0003	-0,0002	0,0896	0,0871	0,0269	0,0703	0,0703	0,0464
$emug_t$	0,0001	0,0003	-0,0712	-0,0632	-0,0191	-0,0443	-0,0402	0,0095
nmp_t	0,0011	0,0006	-0,0548	-0,1373	0,0161	-0,0350	-0,0952	0,0141

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A23: Topic indices effects on Oil and Gas (SXEP) - first lag

SXEP	r_{t-1}^{st}	r_{t-1}^{msci}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,1488	0,0324	-1,7814	0,2252	-3,5131	0,8297	0,2665
r_t^{msci}	-0,1516	-0,0357	0,1172	-2,5931	5,8359	-2,4973	-2,3442
$fsbs_t$	-0,0001	-0,0002	0,0078	0,0143	-0,0228	0,0105	0,0104
cmp_t	0,0011	0,0005	0,0249	0,0287	-0,0009	-0,0116	0,0738
$fips_t$	-0,0001	0,0000	0,0377	0,0107	0,0057	0,0063	0,0179
$emug_t$	0,0002	0,0002	0,0248	0,0144	0,0178	0,0015	0,0153
nmp_t	-0,0013	-0,0008	-0,0195	-0,0002	0,0224	0,0038	-0,0213

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A24: Topic indices effects on Oil and Gas (SXEP) - second lag

SXEP	r_{t-2}^{st}	r_{t-2}^{msci}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,0256	0,0434	0,8259	0,8682	1,7530	2,1292	0,8141	0,0125
r_t^{msci}	0,0856	-0,0209	-2,2007	-0,8421	-1,4575	-0,9586	-1,5435	0,0069
$fsbs_t$	0,0003	0,0004	-0,0514	-0,0537	-0,0309	-0,0473	-0,0433	0,0134
cmp_t	-0,0010	-0,0009	0,1415	0,2207	0,0507	0,1226	0,1569	0,0138
$fips_t$	0,0002	-0,0002	0,0896	0,0875	0,0271	0,0710	0,0707	0,0419
$emug_t$	0,0007	0,0003	-0,0726	-0,0626	-0,0208	-0,0444	-0,0398	0,0090
nmp_t	0,0005	0,0005	-0,0622	-0,1364	0,0070	-0,0347	-0,0942	0,0137

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A25: Topic indices effects on Personal and Household Goods (SXQP) - first lag

SXQP	r_{t-1}^{st}	r_{t-1}^{msci}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	-0,0172	-0,0334	-0,5727	-7,0353	-3,7286	-5,2244	-7,4438
r_t^{msci}	0,0080	0,0343	-1,5587	3,8591	4,9117	3,1590	4,5131
$fsbs_t$	-0,0004	-0,0002	0,0076	0,0138	-0,0249	0,0099	0,0099
cmp_t	0,0012	0,0006	0,0243	0,0289	-0,0029	-0,0115	0,0740
$fips_t$	0,0001	-0,0001	0,0377	0,0100	0,0057	0,0051	0,0173
$emug_t$	0,0002	0,0002	0,0244	0,0140	0,0177	0,0019	0,0148
nmp_t	-0,0014	-0,0008	-0,0191	-0,0006	0,0265	0,0037	-0,0218

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A26: Topic indices effects on Personal and Household Goods (SXQP) - second lag

SXQP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0485	-0,0222	-4,4901	-4,7883	3,1116	-1,7855	-5,1846	0,0073
r^{msci}_t	0,0696	0,0519	2,7102	4,3578	-2,1870	3,1697	3,9356	0,0046
$fsbs_t$	0,0004	0,0004	-0,0522	-0,0555	-0,0313	-0,0479	-0,0453	0,0136
cmp_t	-0,0006	-0,0008	0,1413	0,2261	0,0529	0,1275	0,1626	0,0155
$fips_t$	-0,0002	-0,0002	0,0895	0,0885	0,0279	0,0715	0,0718	0,0411
$emug_t$	0,0003	0,0003	-0,0724	-0,0626	-0,0199	-0,0440	-0,0397	0,0092
nmp_t	0,0003	0,0005	-0,0619	-0,1412	0,0038	-0,0398	-0,0992	0,0156

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A27: Topic indices effects on Real Estate (SX86P) - first lag

SX86P	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0712	0,0662	1,8353	-1,1732	-2,5610	-2,1691	-1,1292
r^{msci}_t	-0,0148	-0,0515	-3,5494	-1,2261	3,7456	0,4537	-0,9350
$fsbs_t$	-0,0002	-0,0002	0,0070	0,0152	-0,0236	0,0114	0,0116
cmp_t	0,0006	0,0006	0,0266	0,0271	-0,0062	-0,0145	0,0723
$fips_t$	-0,0001	0,0000	0,0378	0,0096	0,0055	0,0046	0,0167
$emug_t$	0,0004	0,0002	0,0239	0,0149	0,0187	0,0029	0,0156
nmp_t	-0,0009	-0,0009	-0,0203	0,0009	0,0284	0,0060	-0,0204

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A28: Topic indices effects on Real Estate (SX86P) - second lag

SX86P	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0660	0,0488	-0,0755	-2,8189	-0,3420	-2,3068	-3,7294	0,0112
r^{msci}_t	-0,0200	-0,0106	-1,2512	2,6153	0,9873	3,6666	2,6041	0,0076
$fsbs_t$	0,0006	0,0004	-0,0514	-0,0532	-0,0310	-0,0465	-0,0427	0,0133
cmp_t	-0,0006	-0,0008	0,1411	0,2170	0,0494	0,1203	0,1519	0,0143
$fips_t$	-0,0003	-0,0002	0,0898	0,0871	0,0267	0,0702	0,0702	0,0409
$emug_t$	0,0002	0,0002	-0,0726	-0,0610	-0,0193	-0,0426	-0,0379	0,0090
nmp_t	0,0002	0,0005	-0,0619	-0,1337	0,0070	-0,0338	-0,0903	0,0144

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A29: Topic indices effects on Retail (SXRP) - first lag

SXRP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0361	0,0008	2,4620	-1,5309	2,5411	-2,6961	-1,1961
r^{msci}_t	0,0706	0,0043	-4,2695	-0,8925	-0,7069	1,0368	-0,9000
$fsbs_t$	-0,0002	-0,0002	0,0076	0,0145	-0,0237	0,0104	0,0106
cmp_t	0,0011	0,0006	0,0253	0,0278	-0,0013	-0,0129	0,0731
$fips_t$	-0,0002	-0,0001	0,0382	0,0105	0,0061	0,0052	0,0179
$emug_t$	0,0002	0,0003	0,0241	0,0144	0,0172	0,0024	0,0152
nmp_t	-0,0013	-0,0008	-0,0191	0,0003	0,0243	0,0046	-0,0210

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A30: Topic indices effects on Retail (SXRP) - second lag

SXRP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0148	0,0333	-2,2025	-3,3021	-0,7741	-1,3166	-3,2762	0,0069
r^{msci}_t	0,0460	0,0023	0,6930	3,2831	1,2193	2,9448	2,4822	0,0046
$fsbs_t$	0,0004	0,0004	-0,0516	-0,0538	-0,0310	-0,0468	-0,0434	0,0135
cmp_t	-0,0010	-0,0008	0,1384	0,2204	0,0479	0,1247	0,1564	0,0142
$fips_t$	-0,0002	-0,0002	0,0899	0,0868	0,0274	0,0699	0,0701	0,0408
$emug_t$	0,0002	0,0003	-0,0718	-0,0622	-0,0199	-0,0440	-0,0393	0,0088
nmp_t	0,0008	0,0005	-0,0599	-0,1367	0,0088	-0,0375	-0,0943	0,0140

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A31: Topic indices effects on Technology (SX8P) - first lag

SX8P	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0045	0,0211	-3,0567	-1,1255	-5,6888	-5,1358	0,5556
r^{msci}_t	-0,0302	-0,0171	1,1512	-1,1735	7,5330	3,9125	-2,6201
$fsbs_t$	-0,0001	-0,0002	0,0065	0,0139	-0,0252	0,0094	0,0104
cmp_t	0,0004	0,0006	0,0230	0,0303	-0,0047	-0,0130	0,0758
$fips_t$	0,0001	-0,0001	0,0379	0,0121	0,0058	0,0058	0,0192
$emug_t$	0,0000	0,0003	0,0246	0,0161	0,0173	0,0023	0,0169
nmp_t	-0,0005	-0,0008	-0,0163	-0,0028	0,0291	0,0061	-0,0247

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A32: Topic indices effects on Technology (SX8P) - second lag

SX8P	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0305	0,0235	-0,3093	6,0798	-1,4414	0,3021	5,7263	0,0035
r^{msci}_t	-0,0042	0,0090	-1,0074	-6,1270	1,9211	1,1889	-6,4758	0,0047
$fsbs_t$	0,0004	0,0004	-0,0512	-0,0520	-0,0306	-0,0459	-0,0419	0,0136
cmp_t	-0,0005	-0,0008	0,1405	0,2229	0,0485	0,1230	0,1593	0,0157
$fips_t$	-0,0004	-0,0002	0,0900	0,0872	0,0277	0,0710	0,0702	0,0423
$emug_t$	0,0001	0,0003	-0,0730	-0,0627	-0,0215	-0,0453	-0,0395	0,0098
nmp_t	0,0001	0,0005	-0,0612	-0,1402	0,0093	-0,0352	-0,0982	0,0153

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A33: Topic indices effects on Telecommunications (SXKP) - first lag

SXKP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0084	-0,0642	-6,6386	-8,7287	-4,9741	-3,9373	-8,2890
r^{msci}_t	0,0034	0,0638	4,1221	5,6746	6,2676	2,1111	5,5639
$fsbs_t$	-0,0002	-0,0002	0,0070	0,0137	-0,0239	0,0101	0,0098
cmp_t	0,0005	0,0005	0,0232	0,0250	-0,0020	-0,0145	0,0701
$fips_t$	-0,0002	-0,0001	0,0372	0,0091	0,0056	0,0045	0,0165
$emug_t$	0,0003	0,0003	0,0245	0,0153	0,0171	0,0030	0,0162
nmp_t	-0,0008	-0,0008	-0,0158	0,0034	0,0268	0,0055	-0,0179

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A34: Topic indices effects on Telecommunications (SXKP) - second lag

SXKP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0045	0,0094	4,2882	0,3189	5,4783	-2,5292	-0,0125	0,0041
r^{msci}_t	0,0265	0,0237	-5,2057	-0,1471	-4,4439	3,9276	-0,6076	0,0058
$fsbs_t$	0,0004	0,0004	-0,0513	-0,0536	-0,0306	-0,0469	-0,0432	0,0155
cmp_t	-0,0005	-0,0008	0,1423	0,2206	0,0517	0,1225	0,1567	0,0168
$fips_t$	-0,0003	-0,0002	0,0892	0,0862	0,0270	0,0696	0,0693	0,0427
$emug_t$	0,0002	0,0003	-0,0722	-0,0619	-0,0202	-0,0436	-0,0391	0,0094
nmp_t	0,0003	0,0005	-0,0640	-0,1375	0,0048	-0,0357	-0,0952	0,0164

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A35: Topic indices effects on Travel and Leisure (SXTP) - first lag

SXTP	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0923	0,0394	2,5817	0,5101	-0,0768	-3,5751	1,0164
r^{msci}_t	-0,0098	-0,0395	-4,8634	-2,8451	1,7676	2,4852	-3,0673
$fsbs_t$	-0,0003	-0,0002	0,0073	0,0144	-0,0234	0,0102	0,0109
cmp_t	0,0004	0,0005	0,0231	0,0286	-0,0016	-0,0105	0,0740
$fips_t$	-0,0001	-0,0001	0,0376	0,0103	0,0058	0,0054	0,0176
$emug_t$	0,0005	0,0003	0,0258	0,0148	0,0162	0,0012	0,0152
nmp_t	-0,0008	-0,0008	-0,0182	-0,0002	0,0250	0,0038	-0,0216

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A36: Topic indices effects on Travel and Leisure (SXTP) - second lag

SXTP	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0827	0,0498	0,7344	-0,0890	-2,2533	-0,4884	-1,0198	0,0162
r^{msci}_t	-0,0399	-0,0250	-2,2655	0,2737	3,0576	2,5057	0,4768	0,0074
$fsbs_t$	0,0003	0,0004	-0,0512	-0,0534	-0,0313	-0,0469	-0,0431	0,0137
cmp_t	-0,0018	-0,0009	0,1412	0,2212	0,0503	0,1235	0,1576	0,0138
$fips_t$	-0,0002	-0,0002	0,0897	0,0874	0,0272	0,0704	0,0706	0,0410
$emug_t$	0,0006	0,0003	-0,0724	-0,0626	-0,0206	-0,0436	-0,0401	0,0096
nmp_t	0,0011	0,0005	-0,0624	-0,1371	0,0073	-0,0362	-0,0948	0,0138

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A37: Topic indices effects on Utilities (SX6P) - first lag

SX6P	r^{st}_{t-1}	r^{msci}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0239	-0,0184	1,5581	-1,9812	-1,4455	-1,9554	-2,5424
r^{msci}_t	0,0251	0,0217	-3,3466	-0,5564	2,8560	0,2987	0,2136
$fsbs_t$	-0,0004	-0,0002	0,0069	0,0130	-0,0244	0,0090	0,0093
cmp_t	0,0008	0,0005	0,0244	0,0265	-0,0036	-0,0139	0,0716
$fips_t$	0,0002	0,0000	0,0378	0,0114	0,0062	0,0065	0,0186
$emug_t$	0,0003	0,0003	0,0246	0,0156	0,0180	0,0032	0,0165
nmp_t	-0,0012	-0,0008	-0,0180	0,0021	0,0262	0,0061	-0,0192

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A38: Topic indices effects on Utilities (SX6P) - second lag

SX6P	r^{st}_{t-2}	r^{msci}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,1198	0,0902	2,4340	3,9525	0,6179	4,8126	2,7935	0,0103
r^{msci}_t	-0,0847	-0,0449	-3,3297	-3,1814	0,0619	-2,4863	-2,9510	0,0076
$fsbs_t$	0,0005	0,0004	-0,0508	-0,0529	-0,0310	-0,0460	-0,0428	0,0135
cmp_t	0,0006	-0,0008	0,1421	0,2242	0,0508	0,1273	0,1599	0,0146
$fips_t$	-0,0002	-0,0002	0,0887	0,0870	0,0272	0,0699	0,0705	0,0407
$emug_t$	0,0001	0,0003	-0,0730	-0,0632	-0,0201	-0,0450	-0,0400	0,0097
nmp_t	-0,0009	0,0005	-0,0625	-0,1400	0,0059	-0,0398	-0,0975	0,0143

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (LM) - Polarity and Subjectivity - Baseline model - Results

In Table A39, we can observe the results for polarity and subjectivity in the automobiles and parts sector (SXAP). Neither subjectivity nor polarity has significant effects. The same results can be seen in Table A40 over the Banks sector (SX7P). In Table A41, it can be noticed that the first lag of subjectivity has positive and significant effects on the Basic Resources (SXPP) at 10%.

For what concerns the results of the Chemicals sector, Table A42 shows that the second lags of both polarity and subjectivity are significant at 10%. In particular, polarity has negative effects and subjectivity positive ones. The Construction sector (SXOP) is not affected by polarity and subjectivity (Table A43), the same is observable in Table A44 for what concerns the Financial Services (SXFP) as well as Food and Beverage (SX3P) in Table A45.

In Table 46 it can be noticed that the first lag of polarity is positive and significant at 10% over the Health care sector (SXDP). The second lag of polarity is negative significant at 10% over Industrial Goods and Services (SXNP) in Table A47. For what concerns Table A48 (Insurance sector, SXIP), Table A49 (Media sector, SXMP), Table A50 (Oil and Gas, SXEP), and Table A51 (Personal and Household Goods, SXQP) neither polarity nor subjectivity is significant.

In Table A52 we can observe how the first lag's subjectivity is negative and extremely significant at 1% over the Real Estate sector (SX86P). The Retail sector (SXRP) is negatively affected by the first lag of polarity and positively by its second lag. Both

the lags are significant at 10% (Table A53). Table A54 is related to the effects of polarity and subjectivity on the Technology sector (SX8P) that are not significant in this specific case.

The Telecommunications (SXKP) sector (Table A55) is affected negatively and significant at 5% by subjectivity. The Travel and Leisure sector (SXTP) in Table A56 and the Utilities sector (SX6P) in Table A57 do not show any significance of polarity and subjectivity indices.

Table A39: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Automobiles and Parts (SXAP)

SXAP	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0889	0,0081	-0,4137	0,1454	0,0779	0,0785	-0,0671	-0,0167	0,0075
r^{msci}_t	-0,1149	-0,0072	0,7644	-0,2422	-0,0498	-0,0691	0,3147	-0,0325	0,0073
pol_t	0,0022	0,0025	-0,0083	0,0029	0,0034	0,0016	-0,0031	-0,0051	0,0233
sub_t	0,0129	0,0019	-0,2511	0,1337	-0,0042	0,0005	-0,1807	0,0906	0,0347

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A40: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Banks (SX7P)

SX7P	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0639	-0,0173	-0,0626	0,0621	0,0419	0,0165	-0,2381	0,0514	0,0047
r^{msci}_t	-0,0681	0,0270	0,3049	-0,1338	-0,0069	0,0116	0,5414	-0,1228	0,0031
pol_t	0,0040	0,0024	-0,0079	0,0028	0,0031	0,0016	-0,0027	-0,0053	0,0228
sub_t	0,0082	0,0023	-0,2475	0,1322	-0,0010	0,0000	-0,1834	0,0917	0,0341

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A41: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0074	-0,0011	-0,2012	0,1312	-0,0335	-0,0054	-0,1727	0,0515	0,0031
r^{msci}_t	-0,0357	0,0056	0,4865	-0,2237	0,0839	0,0400	0,4437	-0,1152	0,0028
pol_t	0,0049	0,0024	-0,0077	0,0027	0,0001	0,0016	-0,0022	-0,0055	0,0231
sub_t	0,0100	0,0023	-0,2458	0,1316	0,0010	0,0000	-0,1826	0,0911	0,0354

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A42: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Chemicals (SX4P)

SX4P	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0351	-0,0355	0,5362	-0,1780	0,0496	0,1062	-1,0219	0,3506	0,0053
r_t^{msci}	-0,0153	0,0405	-0,3164	0,1270	-0,0113	-0,0739	1,2686	-0,4112	0,0055
pol_t	0,0011	0,0024	-0,0074	0,0026	0,0020	0,0015	-0,0022	-0,0054	0,0242
sub_t	0,0029	0,0023	-0,2482	0,1325	-0,0018	0,0003	-0,1868	0,0930	0,0358

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A43: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Construction (SXOP)

SXOP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0064	0,0284	-0,2900	0,0877	0,1491	0,1532	-0,1889	-0,1726	0,0059
r_t^{msci}	0,0220	-0,0285	0,5515	-0,1504	-0,1294	-0,1391	0,4439	0,1379	0,0081
pol_t	0,0023	0,0024	-0,0077	0,0027	0,0013	0,0015	-0,0027	-0,0051	0,0227
sub_t	0,0012	0,0021	-0,2476	0,1325	-0,0034	-0,0001	-0,1845	0,0925	0,0343

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A44: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Financial Services (SXFP)

SXFP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,1042	0,0492	-0,4861	-0,0470	0,0208	0,0004	0,3027	-0,1022	0,0053
r_t^{msci}	-0,0826	-0,0510	0,7676	0,0010	0,0155	0,0311	-0,0965	0,0615	0,0032
pol_t	0,0031	0,0024	-0,0076	0,0027	0,0010	0,0015	-0,0025	-0,0052	0,0229
sub_t	0,0029	0,0019	-0,2443	0,1326	-0,0021	0,0000	-0,1864	0,0928	0,0340

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A45: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Food and Beverage (SX3P)

SX3P	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0455	-0,0377	0,5026	-0,1951	-0,1284	-0,1006	0,2931	0,1052	0,0085
r_t^{msci}	-0,0292	0,0307	-0,1409	0,0916	0,1114	0,1071	0,0124	-0,1316	0,0058
pol_t	0,0012	0,0025	-0,0084	0,0029	0,0016	0,0016	-0,0026	-0,0054	0,0231
sub_t	-0,0045	0,0020	-0,2470	0,1325	0,0046	-0,0003	-0,1814	0,0913	0,0345

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A46: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Health Care (SXDP)

SXDP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0580	-0,0417	1,0773	-0,1085	-0,0588	-0,0919	0,3731	-0,1629	0,0039
r_t^{msci}	-0,0513	0,0346	-0,5924	0,0273	0,0566	0,1028	-0,0464	0,0686	0,0063
pol_t	0,0014	0,0026	-0,0085	0,0031	0,0014	0,0015	-0,0021	-0,0053	0,0250
sub_t	-0,0042	0,0023	-0,2487	0,1325	0,0008	-0,0002	-0,1781	0,0916	0,0346

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A47: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Industrial Goods and Services (SXNP)

SXNP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0014	-0,0052	-0,0512	-0,1193	0,0465	0,0423	-1,2797	-0,3216	0,0041
r_t^{msci}	0,0275	0,0098	0,2795	0,0752	-0,0133	-0,0124	1,6060	0,2936	0,0030
pol_t	0,0019	0,0024	-0,0079	0,0028	0,0018	0,0015	-0,0025	-0,0052	0,0239
sub_t	0,0044	0,0023	-0,2494	0,1320	-0,0037	0,0001	-0,1857	0,0920	0,0348

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A48: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Insurance (SXIP)

SXIP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,1453	0,0476	-0,4638	-0,0645	0,1091	0,0535	0,0999	0,0202	0,0122
r_t^{msci}	-0,1151	-0,0520	0,7619	0,0216	-0,0760	-0,0315	0,1361	-0,0750	0,0044
pol_t	0,0041	0,0024	-0,0077	0,0028	0,0011	0,0015	-0,0021	-0,0051	0,0229
sub_t	0,0055	0,0021	-0,2452	0,1329	0,0015	-0,0005	-0,1835	0,0922	0,0339

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A49: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Media (SXMP)

SXMP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0946	0,1494	-0,0261	-0,0084	-0,0780	-0,0331	0,0691	-0,1925	0,0076
r_t^{msci}	-0,0553	-0,1334	0,2462	-0,0367	0,1038	0,0601	0,1652	0,1245	0,0095
pol_t	0,0034	0,0026	-0,0079	0,0028	0,0000	0,0014	-0,0026	-0,0054	0,0226
sub_t	0,0031	0,0027	-0,2483	0,1324	-0,0040	-0,0002	-0,1840	0,0915	0,0344

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A50: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Oil and Gas (SXEP)

SXEP	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,1500	0,0329	-0,4603	0,0114	-0,0231	0,0457	-0,4933	0,1426	0,0108
r^{msci}_t	-0,1535	-0,0373	0,8008	-0,0711	0,0828	-0,0234	0,8409	-0,2289	0,0055
pol_t	0,0025	0,0025	-0,0085	0,0031	0,0019	0,0015	-0,0022	-0,0054	0,0248
sub_t	0,0000	0,0022	-0,2476	0,1327	0,0089	-0,0001	-0,1833	0,0917	0,0348

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A51: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Personal and Household Goods (SXQP)

SXQP	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0211	-0,0367	-0,2213	-0,0095	-0,0493	-0,0225	1,0846	-0,0730	0,0044
r^{msci}_t	0,0105	0,0363	0,4282	-0,0452	0,0706	0,0524	-0,7287	0,0094	0,0031
pol_t	0,0024	0,0024	-0,0077	0,0028	0,0008	0,0016	-0,0025	-0,0052	0,0240
sub_t	0,0005	0,0022	-0,2485	0,1324	-0,0024	-0,0001	-0,1817	0,0919	0,0339

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A52: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Real Estate (SX86P)

SX86P	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0714	0,0648	0,2411	-0,3902	0,0664	0,0508	0,2511	-0,0733	0,0092
r^{msci}_t	-0,0151	-0,0513	0,0168	0,2735	-0,0212	-0,0118	0,0100	0,0226	0,0060
pol_t	0,0032	0,0025	-0,0075	0,0026	-0,0010	0,0015	-0,0029	-0,0047	0,0229
sub_t	0,0011	0,0027	-0,2460	0,1329	-0,0054	-0,0001	-0,1848	0,0915	0,0381

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A53: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Retail (SXRP)

SXRP	r^{st}_{t-1}	r^{msci}_{t-1}	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0350	0,0020	-0,9832	-0,0716	-0,0141	0,0361	1,2052	-0,2423	0,0043
r^{msci}_t	0,0687	0,0023	1,1188	0,0127	0,0446	0,0001	-0,8383	0,1685	0,0031
pol_t	0,0028	0,0025	-0,0071	0,0022	-0,0002	0,0016	0,0002	-0,0056	0,0265
sub_t	-0,0012	0,0024	-0,2485	0,1311	-0,0019	0,0002	-0,1799	0,0905	0,0348

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A54: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Technology (SX8P)

SX8P	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0058	0,0217	-0,3296	-0,0025	0,0300	0,0227	-0,2797	0,1148	0,0043
r_t^{msci}	-0,0323	-0,0185	0,5696	-0,0513	-0,0034	0,0101	0,5094	-0,1740	0,0032
pol_t	0,0020	0,0025	-0,0086	0,0029	0,0022	0,0016	-0,0033	-0,0051	0,0230
sub_t	0,0045	0,0023	-0,2494	0,1326	-0,0077	0,0000	-0,1846	0,0924	0,0342

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A55: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Telecommunications (SXKP)

SXKP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0071	-0,0636	0,2612	-0,2936	0,0066	0,0122	0,3620	0,0196	0,0026
r_t^{msci}	0,0010	0,0624	-0,0048	0,2153	0,0247	0,0214	-0,0986	-0,0754	0,0042
pol_t	0,0021	0,0023	-0,0074	0,0024	0,0012	0,0015	-0,0023	-0,0052	0,0230
sub_t	-0,0053	0,0021	-0,2445	0,1313	0,0034	-0,0004	-0,1810	0,0903	0,0356

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A56: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Travel and Leisure (SXTP)

SXTP	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0918	0,0392	0,0626	-0,0825	0,0795	0,0472	0,0471	-0,0771	0,0141
r_t^{msci}	-0,0101	-0,0401	0,1553	0,0395	-0,0369	-0,0219	0,1720	0,0364	0,0056
pol_t	0,0015	0,0024	-0,0078	0,0028	0,0012	0,0016	-0,0026	-0,0053	0,0226
sub_t	-0,0001	0,0023	-0,2484	0,1326	-0,0069	-0,0001	-0,1842	0,0922	0,0344

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A57: Sentiment indices LM(2011) - Polarity and Subjectivity effects on Utilities (SX6P)

SX6P	r_{t-1}^{st}	r_{t-1}^{msci}	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0226	-0,0196	0,2702	-0,0818	0,1172	0,0891	-0,1973	0,2011	0,0063
r_t^{msci}	0,0240	0,0219	-0,0090	0,0191	-0,0814	-0,0435	0,3986	-0,2277	0,0060
pol_t	0,0025	0,0024	-0,0080	0,0028	0,0010	0,0015	-0,0027	-0,0053	0,0228
sub_t	0,0036	0,0024	-0,2483	0,1327	0,0016	0,0001	-0,1849	0,0924	0,0349

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (LM) - Positivity and Negativity - Baseline model - Results

Looking in Table A58, positivity or negativity sentiments have no effects on the Automobiles and Parts sector (SXAP) as well as the Bank sector (SX7P) in Table A59 and Table A60 shows that the Basic Resources sector (SXPP) is affected by negative sentiment indices positively and significant at 10% at first lag. The Chemicals sector (SX4P) is positively and significantly affected by the first lag's negative sentiments at 10% as can be seen in Table A61. Construction and Materials (SXOP) in Table A62, Financial Services (SXFP) in Table A63, Food and Beverage (SX3P) in Table A64, and Health care in Table A65 are not affected by positive/negative sentiments.

In Table A66, it can be observed that the second lag of positive sentiments has negative and significant effects over Industrial Goods and Services (SXNP) at 5%. Instead, in Table A67 it can be noticed no effects of positive/negative sentiments over the Insurance sector (SXIP). The same results can be shown for Media (SXMP) in Table A68, Oil and Gas (SXEP) in Table A69, and Personal and Household Goods (SXQP) in Table A70.

In Table A71, it can be shown that the first lag of both positive and negative sentiments has negative significant effects at 1% over the Real Estate sector (SX86P). Neither the Retail sector (SXRP) in Table A72 nor the Technology sector (SX8P) in Table A73 is not being affected by positive or negative significant effects. In Table A74 Telecommunications sector (SXKP) is more affected negatively by positive sentiments at 5% than negative sentiments that are significant at 10%. Finally, no effects of positive and negative sentiments are significant over Travel and Leisure (SXTP) in Table A75 and Utilities (SX6P) in Table A76.

Table A58: Sentiment indices LM(2011) - Positivity and Negativity effects on Automobiles and Parts (SXAP)

SXAP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0887	0,0081	0,0509	0,0972	0,0781	0,0786	-0,0030	-0,0112	0,0075
r^{msci}_t	-0,1144	-0,0071	-0,0814	-0,1635	-0,0497	-0,0689	-0,0128	-0,0227	0,0072
pos_t	0,0325	0,0223	0,0882	0,1538	0,0345	0,0236	0,0394	0,0579	0,0311
neg_t	-0,0070	-0,0191	0,0244	0,0227	-0,0405	-0,0202	0,0428	0,0553	0,0360

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A59: Sentiment indices LM(2011) - Positivity and Negativity effects on Banks (SX7P)

SX7P	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0643	-0,0171	0,0312	0,0302	0,0415	0,0163	0,0180	0,0329	0,0041
r^{msci}_t	-0,0684	0,0269	-0,0559	-0,0763	-0,0060	0,0123	-0,0409	-0,0811	0,0029
pos_t	0,0355	0,0214	0,0870	0,1516	0,0310	0,0219	0,0394	0,0582	0,0309
neg_t	-0,0213	-0,0175	0,0245	0,0228	-0,0317	-0,0197	0,0436	0,0567	0,0351

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A60: Sentiment indices LM(2011) - Positivity and Negativity effects on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0075	-0,0011	0,0543	0,0752	-0,0336	-0,0055	0,0177	0,0335	0,0027
r^{msci}_t	-0,0356	0,0057	-0,0859	-0,1350	0,0845	0,0406	-0,0373	-0,0775	0,0026
pos_t	0,0505	0,0215	0,0862	0,1504	0,0069	0,0219	0,0382	0,0564	0,0319
neg_t	-0,0311	-0,0175	0,0248	0,0231	-0,0037	-0,0197	0,0442	0,0577	0,0365

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A61: Sentiment indices LM(2011) - Positivity and Negativity effects on Chemicals (SX4P)

SX4P	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0354	-0,0353	-0,0444	-0,1269	0,0499	0,1064	0,1349	0,2120	0,0053
r^{msci}_t	-0,0149	0,0403	0,0302	0,0907	-0,0113	-0,0736	-0,1527	-0,2542	0,0054
pos_t	0,0125	0,0204	0,0857	0,1491	0,0209	0,0223	0,0403	0,0592	0,0319
neg_t	-0,0070	-0,0166	0,0259	0,0250	-0,0231	-0,0195	0,0438	0,0575	0,0371

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A62: Sentiment indices LM(2011) - Positivity and Negativity effects on Construction and Materials (SXOP)

SXOP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0060	0,0289	0,0246	0,0628	0,1492	0,1533	-0,0777	-0,0951	0,0057
r^{msci}_t	0,0216	-0,0289	-0,0424	-0,1071	-0,1292	-0,1389	0,0699	0,0683	0,0080
pos_t	0,0189	0,0218	0,0867	0,1510	0,0138	0,0210	0,0403	0,0595	0,0310
neg_t	-0,0171	-0,0182	0,0250	0,0236	-0,0191	-0,0191	0,0433	0,0563	0,0354

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A63: Sentiment indices LM(2011) - Positivity and Negativity effects on Financial Services (SXFP)

SXFP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1033	0,0483	-0,0474	-0,0033	0,0203	-0,0003	-0,0269	-0,0722	0,0052
r^{msci}_t	-0,0813	-0,0500	0,0384	-0,0326	0,0164	0,0324	0,0147	0,0435	0,0031
pos_t	0,0316	0,0209	0,0874	0,1511	0,0129	0,0215	0,0403	0,0593	0,0308
neg_t	-0,0254	-0,0177	0,0249	0,0233	-0,0155	-0,0193	0,0435	0,0570	0,0351

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A64: Sentiment indices LM(2011) - Positivity and Negativity effects on Food and Beverage (SX3P)

SX3P	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0449	-0,0381	-0,0867	-0,1103	-0,1285	-0,1002	0,0558	0,0483	0,0089
r^{msci}_t	-0,0287	0,0311	0,0491	0,0444	0,1118	0,1072	-0,0577	-0,0729	0,0057
pos_t	0,0088	0,0216	0,0881	0,1530	0,0284	0,0225	0,0387	0,0575	0,0313
neg_t	-0,0173	-0,0183	0,0238	0,0219	-0,0165	-0,0208	0,0440	0,0570	0,0355

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A65: Sentiment indices LM(2011) - Positivity and Negativity effects on Health Care (SXDP)

SXDP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0581	-0,0417	0,0007	-0,1068	-0,0585	-0,0914	-0,0626	-0,1064	0,0041
r^{msci}_t	-0,0515	0,0347	-0,0167	0,0428	0,0569	0,1029	0,0309	0,0426	0,0061
pos_t	0,0068	0,0234	0,0885	0,1539	0,0249	0,0214	0,0397	0,0573	0,0310
neg_t	-0,0159	-0,0194	0,0233	0,0209	-0,0201	-0,0196	0,0436	0,0568	0,0362

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A66: Sentiment indices LM(2011) - Positivity and Negativity effects on Industrial Goods and Services (SXNP)

SXNP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0003	-0,0044	-0,0347	-0,0825	0,0457	0,0412	-0,2052	-0,1217	0,0041
r^{msci}_t	0,0263	0,0090	0,0221	0,0516	-0,0120	-0,0107	0,2045	0,0950	0,0028
pos_t	0,0149	0,0213	0,0881	0,1524	0,0221	0,0217	0,0396	0,0580	0,0324
neg_t	-0,0079	-0,0174	0,0235	0,0220	-0,0269	-0,0194	0,0433	0,0573	0,0354

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A67: Sentiment indices LM(2011) - Positivity and Negativity effects on Insurance (SXIP)

SXIP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1450	0,0475	-0,0567	-0,0136	0,1083	0,0528	0,0229	0,0006	0,0116
r^{msci}_t	-0,1146	-0,0518	0,0504	-0,0213	-0,0747	-0,0303	-0,0407	-0,0377	0,0042
pos_t	0,0361	0,0216	0,0881	0,1519	0,0165	0,0206	0,0401	0,0586	0,0309
neg_t	-0,0266	-0,0180	0,0245	0,0229	-0,0122	-0,0194	0,0432	0,0567	0,0349

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A68: Sentiment indices LM(2011) - Positivity and Negativity effects on Media (SXMP)

SXMP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0931	0,1478	-0,0111	0,0013	-0,0775	-0,0333	-0,0879	-0,1005	0,0076
r^{msci}_t	-0,0537	-0,1317	-0,0010	-0,0339	0,1037	0,0607	0,0651	0,0558	0,0092
pos_t	0,0385	0,0226	0,0868	0,1516	0,0034	0,0189	0,0391	0,0576	0,0312
neg_t	-0,0308	-0,0180	0,0248	0,0231	-0,0095	-0,0174	0,0438	0,0572	0,0354

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A69: Sentiment indices LM(2011) - Positivity and Negativity effects on Oil and Gas (SXEP)

SXEP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1505	0,0333	-0,0168	0,0269	-0,0238	0,0453	0,0440	0,1006	0,0107
r^{msci}_t	-0,1542	-0,0376	0,0040	-0,0730	0,0841	-0,0225	-0,0702	-0,1610	0,0054
pos_t	0,0136	0,0223	0,0887	0,1543	0,0353	0,0214	0,0388	0,0572	0,0311
neg_t	-0,0159	-0,0184	0,0234	0,0208	-0,0149	-0,0194	0,0441	0,0575	0,0364

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A70: Sentiment indices LM(2011) - Positivity and Negativity effects on Personal and Household Goods (SXQP)

SXQP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0214	-0,0373	-0,0239	0,0140	-0,0488	-0,0220	0,0095	-0,0798	0,0044
r_t^{msci}	0,0110	0,0369	0,0060	-0,0500	0,0703	0,0524	-0,0256	0,0328	0,0030
pos_t	0,0260	0,0212	0,0871	0,1514	0,0103	0,0220	0,0399	0,0579	0,0306
neg_t	-0,0240	-0,0176	0,0245	0,0232	-0,0134	-0,0200	0,0434	0,0569	0,0352

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A71: Sentiment indices LM(2011) - Positivity and Negativity effects on Real Estate (SX86P)

SX86P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0721	0,0642	-0,1789	-0,2121	0,0664	0,0508	-0,0313	-0,0397	0,0096
r_t^{msci}	-0,0152	-0,0507	0,1344	0,1402	-0,0215	-0,0115	0,0167	0,0044	0,0059
pos_t	0,0413	0,0228	0,0857	0,1500	-0,0157	0,0205	0,0435	0,0630	0,0351
neg_t	-0,0359	-0,0180	0,0263	0,0249	0,0045	-0,0187	0,0398	0,0523	0,0386

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A72: Sentiment indices LM(2011) - Positivity and Negativity effects on Retail (SXRP)

SXRP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0349	0,0013	-0,0919	0,0259	-0,0133	0,0367	-0,0693	-0,1596	0,0042
r_t^{msci}	0,0688	0,0031	0,0686	-0,0605	0,0440	-0,0001	0,0492	0,1070	0,0030
pos_t	0,0271	0,0227	0,0823	0,1474	0,0010	0,0228	0,0385	0,0536	0,0316
neg_t	-0,0286	-0,0184	0,0275	0,0259	-0,0037	-0,0202	0,0435	0,0596	0,0361

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A73: Sentiment indices LM(2011) - Positivity and Negativity effects on Technology (SX8P)

SX8P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0057	0,0214	-0,0208	0,0223	0,0305	0,0229	0,0486	0,0719	0,0047
r_t^{msci}	-0,0322	-0,0181	0,0060	-0,0608	-0,0032	0,0103	-0,0680	-0,1117	0,0030
pos_t	0,0215	0,0222	0,0876	0,1534	0,0284	0,0223	0,0404	0,0598	0,0310
neg_t	-0,0130	-0,0181	0,0242	0,0217	-0,0393	-0,0200	0,0432	0,0558	0,0353

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A74: Sentiment indices LM(2011) - Positivity and Negativity effects on Telecommunications (SXKP)

SXKP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0077	-0,0643	-0,1285	-0,1629	0,0066	0,0120	0,0182	0,0045	0,0027
r_t^{msci}	0,0016	0,0632	0,1025	0,1116	0,0251	0,0219	-0,0348	-0,0433	0,0041
pos_t	0,0144	0,0208	0,0856	0,1497	0,0238	0,0216	0,0392	0,0578	0,0323
neg_t	-0,0247	-0,0172	0,0253	0,0237	-0,0144	-0,0201	0,0426	0,0556	0,0364

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A75: Sentiment indices LM(2011) - Positivity and Negativity effects on Travel and Leisure (SXTP)

SXTP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0914	0,0387	-0,0326	-0,0499	0,0791	0,0468	-0,0334	-0,0445	0,0142
r_t^{msci}	-0,0093	-0,0394	0,0215	0,0188	-0,0363	-0,0210	0,0223	0,0152	0,0054
pos_t	0,0193	0,0208	0,0876	0,1525	0,0081	0,0214	0,0399	0,0589	0,0311
neg_t	-0,0180	-0,0171	0,0243	0,0225	-0,0206	-0,0195	0,0436	0,0567	0,0355

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A76: Sentiment indices LM(2011) - Positivity and Negativity effects on Utilities (SX6P)

SX6P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0225	-0,0196	-0,0388	-0,0453	0,1177	0,0895	0,0750	0,1259	0,0062
r_t^{msci}	0,0241	0,0219	0,0189	0,0030	-0,0816	-0,0435	-0,0815	-0,1459	0,0059
pos_t	0,0272	0,0221	0,0878	0,1527	0,0151	0,0214	0,0395	0,0580	0,0314
neg_t	-0,0196	-0,0178	0,0242	0,0225	-0,0106	-0,0190	0,0441	0,0576	0,0361

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (HL) - Positivity and Negativity - Baseline model - Results

For what concerns the results with Hu and Liu (2004) dictionary, we derive the positivity and negativity scores as well as the effects on financial returns on the number of positive and negative speeches during a given day. Table A77 shows the first lag of the negative sentiment index to have a negative and significant effect on Automobile and parts (SXAP)'s financial returns at 5%. In Table A78, we can observe that the second lag of the negative index is negatively affecting the Banks' sector (SX7P) at 10% significance. Basic Resources (SXPP), Chemicals (SX4P), Construction (SXOP), Financial Services (SXFP), Food and Beverage (SX3P) - in Tables from A79 to A83 - are not affected by the sentiment indices. In Table A84, we can observe a 10% positive and significant effect of the second lag of the negative index on the Health Care (SXDP) sector. Instead, Table A85 shows a negative and significant effect at 10% of the second lag of the positive index on Industrial and Goods and Services (SXNP). Tables A86 and A87 are related to the effects of the sentiment indices on Insurance (SXIP) and Media (SXMP). We do not observe any significant effects of the sentiment indices over those sectors. Table A88 shows a negative effect of the second lag of the negative sentiment index over the Oil and Gas sector (SXEP) at 5% significance. The Personal and Household sector (SXQP) in Table A89 is not affected by the sentiment indices. Instead, Table A90 illustrates how the Real Estate sector (SX86P) is affected negatively and significant at 5% by the first lag of the positive index. Retail(SXRP), Technology (SX8P), and Telecommunications (SXKP) do not show to be affected by the sentiment indices respectively in Tables A91, A92, A93.

In Table A94, it can be noticed how the second lag of positive sentiment affect negatively the Travel and Leisure (SXTP) sector at 10% significance. Finally, sentiment indices do not have effects on Utilities (SX6P), as we can observe in Table A95.

Table A77: Sentiment indices HL(2004) - Positivity and Negativity effects on Automobiles and Parts (SXAP)

SXAP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0882	0,0072	0,6291	-1,033	0,0774	0,079	-0,1895	-0,2082	0,007
r_t^{msci}	-0,1124	-0,0054	-0,6384	1,0291	-0,0509	-0,0694	-0,3094	0,0743	0,0068
pos_t	0,0012	0,0001	0,1227	-0,0207	-0,0011	-0,0003	0,0964	-0,0152	0,0321
neg_t	0,0002	0,0015	-0,0137	0,0265	-0,0001	-0,0004	-0,0346	0,0272	0,0082

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A78: Sentiment indices HL(2004) - Positivity and Negativity effects on Banks (SX7P)

SX7P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,063	-0,0186	1,0962	0,3824	0,0431	0,0165	1,2626	-1,0812	0,004
r_t^{msci}	-0,0658	0,0293	-1,2462	-0,83	-0,0095	0,0119	-2,2238	1,2202	0,0026
pos_t	0,0004	0,0001	0,121	-0,0198	-0,0012	-0,0003	0,0963	-0,0157	0,0331
neg_t	0,0009	0,0014	-0,0154	0,0267	-0,001	-0,0004	-0,0366	0,0307	0,0081

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A79: Sentiment indices HL(2004) - Positivity and Negativity effects on Basic Resources (SXPP)

SXPP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0064	-0,0001	1,1943	-0,0431	-0,0341	-0,0059	0,6338	0,1423	0,0023
r_t^{msci}	-0,0373	0,0049	-1,3749	-0,2616	0,0856	0,041	-1,3206	-0,3808	0,0023
pos_t	0,0005	0,0001	0,1222	-0,0204	0,0001	-0,0003	0,097	-0,0161	0,0335
neg_t	0,0012	0,0013	-0,0112	0,0266	-0,0011	-0,0004	-0,0341	0,029	0,006

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A80: Sentiment indices HL(2004) - Positivity and Negativity effects on Chemicals (SX4P)

SX4P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0364	-0,0366	-1,7901	0,2687	0,0497	0,1065	1,5768	-0,7801	0,0049
r_t^{msci}	-0,0133	0,0421	1,9671	-0,5924	-0,0119	-0,074	-2,2146	0,5928	0,005
pos_t	0,0003	0,0001	0,1221	-0,0203	-0,0005	-0,0003	0,0978	-0,0164	0,0327
neg_t	0,0007	0,0013	-0,0135	0,0268	0,0002	-0,0004	-0,0365	0,0289	0,0063

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A81: Sentiment indices HL(2004) - Positivity and Negativity effects on Construction and Materials (SXOP)

SXOP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0069	0,0281	1,2894	-0,3157	0,1506	0,154	-2,1492	-0,0786	0,0063
r_t^{msci}	0,0236	-0,0275	-1,2561	0,0364	-0,131	-0,1398	1,8392	-0,1017	0,0077
pos_t	0	0,0001	0,1224	-0,0201	-0,0007	-0,0003	0,0976	-0,0162	0,0328
neg_t	0,0015	0,0014	-0,0138	0,0267	-0,0014	-0,0004	-0,0349	0,0288	0,006

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A82: Sentiment indices HL(2004) - Positivity and Negativity effects on Financial Services (SXFP)

SXFP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,1041	0,0492	0,9578	0,6413	0,0179	-0,0019	0,3466	-0,5053	0,005
r_t^{msci}	-0,0818	-0,0505	-0,9008	-1,0326	0,0192	0,034	-0,9757	0,3552	0,0028
pos_t	0,0002	0,0001	0,1218	-0,0204	-0,0006	-0,0003	0,0969	-0,016	0,032
neg_t	0,0015	0,0013	-0,0131	0,0269	-0,0007	-0,0004	-0,0356	0,0288	0,0063

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A83: Sentiment indices HL(2004) - Positivity and Negativity effects on Food and Beverage (SX3P)

SX3P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0441	-0,0376	-2,6992	-0,8359	-0,1257	-0,0974	0,0838	1,4188	0,0088
r_t^{msci}	-0,0277	0,0312	2,1614	0,3122	0,1105	0,105	-0,6107	-1,2329	0,0052
pos_t	-0,0003	0,0001	0,1218	-0,0196	0,0005	-0,0003	0,0967	-0,0161	0,0331
neg_t	0,0017	0,0013	-0,0113	0,028	0,0004	-0,0003	-0,0338	0,0284	0,0078

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A84: Sentiment indices HL(2004) - Positivity and Negativity effects on Health Care (SXDP)

SXDP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0578	-0,0422	-2,1872	-0,0142	-0,0582	-0,089	-1,7053	1,4201	0,0049
r_t^{msci}	-0,051	0,0355	1,8211	-0,283	0,0573	0,101	0,7263	-1,2791	0,0056
pos_t	-0,0005	0,0001	0,1219	-0,0194	0,0001	-0,0003	0,0965	-0,0166	0,0336
neg_t	0,0022	0,0013	-0,013	0,0265	0,0005	-0,0003	-0,033	0,0288	0,0077

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A85: Sentiment indices HL(2004) - Positivity and Negativity effects on Industrial Goods and Services (SXNP)

SXNP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0024	-0,0053	1,5948	0,7687	0,0445	0,041	-4,2141	-0,8076	0,0041
r_t^{msci}	0,0299	0,0105	-1,5351	-1,1444	-0,0114	-0,0106	3,9379	0,658	0,0025
pos_t	0,0003	0,0001	0,1234	-0,0198	-0,0006	-0,0003	0,0957	-0,0166	0,0337
neg_t	0,0013	0,0013	-0,0117	0,0269	-0,0011	-0,0004	-0,0358	0,0288	0,0064

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A86: Sentiment indices HL(2004) - Positivity and Negativity effects on Insurance (SXIP)

SXIP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,1457	0,0478	-0,0842	0,0862	0,1082	0,0525	1,4958	-1,0154	0,0114
r_t^{msci}	-0,1152	-0,0516	0,2512	-0,4009	-0,0747	-0,0301	-2,2917	0,9823	0,0039
pos_t	0,0002	0,0001	0,1223	-0,0202	-0,0004	-0,0003	0,0963	-0,0156	0,0323
neg_t	0,0014	0,0013	-0,013	0,0266	-0,0011	-0,0004	-0,0359	0,029	0,0067

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A87: Sentiment indices HL(2004) - Positivity and Negativity effects on Media (SXMP)

SXMP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0941	0,1496	0,3724	-1,1975	-0,0757	-0,0326	-1,7656	-0,107	0,0075
r_t^{msci}	-0,0547	-0,133	-0,0905	0,8005	0,1028	0,0599	1,0755	-0,0637	0,009
pos_t	0,0002	0,0001	0,1224	-0,0204	-0,0004	-0,0003	0,0967	-0,0161	0,0325
neg_t	0,0021	0,0013	-0,0147	0,0264	-0,0007	-0,0005	-0,0362	0,0299	0,007

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A88: Sentiment indices HL(2004) - Positivity and Negativity effects on Oil and Gas (SXEP)

SXEP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,1495	0,0332	-0,1773	0,1049	-0,0237	0,0447	1,1705	-1,0915	0,0105
r_t^{msci}	-0,1519	-0,0371	0,359	-0,4123	0,0834	-0,0219	-1,9794	1,1338	0,005
pos_t	-0,0001	0,0001	0,1223	-0,0202	0,0003	-0,0003	0,0971	-0,0161	0,0326
neg_t	0,0006	0,0013	-0,013	0,0266	-0,0018	-0,0004	-0,0358	0,0289	0,0086

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A89: Sentiment indices HL(2004) - Positivity and Negativity effects on Personal and Household Goods (SXQP)

SXQP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0177	-0,034	0,1355	-0,5313	-0,0494	-0,023	-1,4506	1,3386	0,0041
r_t^{msci}	0,0079	0,0345	0,0491	0,1591	0,0713	0,0532	0,7204	-1,3774	0,0026
pos_t	0,0002	0,0001	**0,1224**	**-0,0205**	-0,0004	-0,0003	**0,0965**	-0,0155	0,0322
neg_t	0,0014	0,0013	-0,0134	0,0268	0,0001	-0,0004	-0,0364	0,0297	0,0071

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A90: Sentiment indices HL(2004) - Positivity and Negativity effects on Real Estate (SX86P)

SX86P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0705	0,0653	**-2,6037**	0,2442	0,0663	0,05	-0,235	0,2955	0,0086
r_t^{msci}	-0,0147	-0,0511	**2,3498**	-0,5305	-0,02	-0,0109	-0,2537	-0,4492	0,0055
pos_t	0	0,0001	**0,1223**	-0,02	-0,0006	-0,0003	**0,0967**	-0,0162	0,0339
neg_t	0,0016	0,0013	-0,0132	0,0266	-0,0004	-0,0004	-0,0344	0,0288	0,0061

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A91: Sentiment indices HL(2004) - Positivity and Negativity effects on Retail (SXRP)

SXRP	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0314	0,0039	-1,7112	-0,9431	-0,0181	0,0326	-2,1653	0,0269	0,0052
r_t^{msci}	0,0661	0,0012	1,7418	0,5407	0,049	0,0035	1,4705	-0,1875	0,0026
pos_t	0	0,0001	**0,1204**	**-0,0208**	-0,0005	-0,0003	**0,0958**	-0,0162	0,0332
neg_t	0,0021	0,0014	-0,0173	0,0253	-0,0015	-0,0004	-0,0371	0,0298	0,0066

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A92: Sentiment indices HL(2004) - Positivity and Negativity effects on Technology (SX8P)

SX8P	r_{t-1}^{st}	r_{t-1}^{msci}	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	r_{t-2}^{msci}	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0041	0,0201	-0,5312	-0,3809	0,0279	0,0214	0,7702	0,4745	0,0029
r_t^{msci}	-0,0298	-0,0162	0,7247	0,0737	-0,0017	0,0117	-1,373	-0,6971	0,0026
pos_t	0,0003	0,0001	**0,1222**	**-0,0202**	-0,0008	-0,0003	**0,0973**	-0,0161	0,0321
neg_t	0	0,0014	-0,0128	0,0268	0	-0,0004	-0,0362	0,0284	0,0064

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A93: Sentiment indices HL(2004) - Positivity and Negativity effects on Telecommunications (SXKP)

SXKP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0077	-0,0642	-1,5369	0,623	0,0058	0,0107	1,1382	0,7064	0,0034
r^{msci}_t	0,0018	0,0636	1,6064	-0,8697	0,0269	0,0229	-1,6106	-0,8319	0,0037
pos_t	-0,0005	0,0001	0,1223	-0,0197	0,0003	-0,0003	0,0967	-0,0157	0,0327
neg_t	0,0026	0,0013	-0,0138	0,0262	0	-0,0003	-0,0338	0,028	0,0068

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A94: Sentiment indices HL(2004) - Positivity and Negativity effects on Travel and Leisure (SXTP)

SXTP	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0915	0,0389	0,3363	0,2441	0,0795	0,047	-1,7036	0,0968	0,0141
r^{msci}_t	-0,0088	-0,0392	-0,1296	-0,5875	-0,037	-0,0214	1,2699	-0,3203	0,0051
pos_t	-0,0001	0,0001	0,1222	-0,0203	-0,001	-0,0003	0,0982	-0,0162	0,0332
neg_t	0,001	0,0013	-0,012	0,0267	-0,0008	-0,0004	-0,0365	0,029	0,006

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A95: Sentiment indices HL(2004) - Positivity and Negativity effects on Utilities (SX6P)

SX6P	r^{st}_{t-1}	r^{msci}_{t-1}	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	r^{msci}_{t-2}	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0205	-0,0179	-1,3098	0,342	0,1172	0,0896	2,2769	0,2817	0,0067
r^{msci}_t	0,0229	0,021	1,324	-0,6097	-0,0811	-0,0437	-2,5158	-0,4354	0,0055
pos_t	0,0003	0,0001	0,1228	-0,0201	-0,0003	-0,0003	0,0975	-0,0162	0,0336
neg_t	0,0018	0,0013	-0,0143	0,0267	-0,0008	-0,0004	-0,034	0,0287	0,0061

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (HL) - Effects of number of positive and negative speeches in a given day - Baseline model - Results

The first lag of the number of negative speeches has a positive and significant effect at 10% on Automobiles and parts (SXAP) in Table A96. In Table A97, we can observe a positive effect of the second lag of negative speeches at 5% over Banks (SX7P). In Table A98, it can be noticed how the quantity of positive or negative speeches is not affecting Basic Resources'sector (SXPP). Table A99 related to the Chemicals' sector (SX4P) shows the same results. Table A100 indicates that the second lag of quantity of positive speeches has a very negative effect on the Construction and Materials (SXOP)' sector with a statistical significance of 10%. The Food and Beverage (SX3P)' sector is not affected by the quantity of positive/negative sentiment indices (Table A101). Instead, Health Care (SXDP) is strongly affected by the quantity of negative speeches (Table A102). The effects of speeches are negative and statistically significant at 5%. Industrial Goods and Services (SXNP) are affected negatively by the second lag of the number of positive speeches at 10% (Table A103). The results of the Insurance (SXIP) and Media (SXMP) sectors are unaffected by the quantity of positive or negative speeches on a given day by the ECB (Tables A104-A105). Table A106 shows how the quantity of negative speeches has a positive and significant effect at 5% on the Oil and Gas (SXEP) sector. The results of Personal and Household Goods (SXQP) in Table A107, Real Estate (SX86P) in Table A108, Retail (SXRP) in Table A109, Technology(SX8P) in Table A110, and Telecommunications (SXKP) in Table A111 do not show any effects of the quantity of positive and negative speeches. Table A112 illustrates a negative and significant at 10% of the number of positive speeches of the ECB on the Travel and Leisure (SXTP)' sector. Finally, Utilities (SX6P) are not affected by the quantity of positive or negative speeches (Table A113).

Table A96: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Automobiles and parts (SXAP)

SXAP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0878	0,007	0,4708	1,1124	0,0789	0,08	-1,0435	0,2655	0,0072
r^{msci}_t	-0,1127	-0,0055	-0,9735	-1,1409	-0,0516	-0,0702	1,1995	-0,3798	0,0082
$npos_t$	0,0009	0,0001	0,0704	0,017	-0,0008	-0,0001	0,1289	0,0079	0,0258
$nneg_t$	-0,0011	-0,0022	0,0249	0,0132	0,0002	0,0004	0,0392	0,0145	0,0056

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A97: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Banks (SX7P)

SX7P	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0629	-0,0187	1,1422	-0,6492	0,0408	0,0154	0,666	1,5532	0,0043
r^{msci}_t	-0,0664	0,0291	-1,8605	1,1783	-0,0052	0,014	-1,044	-2,0667	0,0039
$npos_t$	0,0002	0,0001	0,0697	0,0162	-0,0006	-0,0001	0,1294	0,0084	0,0259
$nneg_t$	-0,0021	-0,0021	0,0245	0,0145	0,0005	0,0005	0,0398	0,0181	0,0072

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A98: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0061	0,0001	1,0801	-0,0517	-0,0338	-0,006	0,7972	0,0005	0,003
r^{msci}_t	-0,0379	0,0043	-1,7763	0,3791	0,0862	0,0418	-1,1421	-0,0415	0,0036
$npos_t$	0,0001	0,0001	0,07	0,0166	0,0003	-0,0001	0,1298	0,0086	0,0263
$nneg_t$	-0,0023	-0,0021	0,0218	0,0139	0,0013	0,0005	0,0382	0,0165	0,0035

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A99: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Chemicals (SX4P)

SX4P	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0359	-0,0364	-3,7942	-0,4886	0,0499	0,1064	2,5177	0,8584	0,0056
r^{msci}_t	-0,0142	0,0416	3,411	0,8043	-0,0113	-0,0732	-2,8564	-0,9137	0,0063
$npos_t$	0,0003	0,0001	0,0696	0,0166	-0,0002	0	0,1308	0,0089	0,0269
$nneg_t$	-0,0017	-0,0021	0,0239	0,0141	-0,0001	0,0005	0,041	0,0165	0,004

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A100: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Construction and Materials (SXOP)

SXOP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0056	0,029	0,2766	-0,0984	0,1491	0,1531	-4,4671	0,1853	0,0075
r^{msci}_t	0,0224	-0,0289	-0,6567	0,4211	-0,1283	-0,1381	4,8484	-0,2449	0,009
$npos_t$	0,0001	0,0001	0,0701	0,0166	-0,0004	-0,0001	0,1301	0,0086	0,0269
$nneg_t$	-0,0024	-0,0021	0,0227	0,0139	0,0014	0,0004	0,0399	0,0164	0,0035

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A101: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Financial Services (SXFP)

SXFP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,1047	0,0498	0,1143	-0,67	0,0165	-0,0032	0,2888	0,7021	0,0059
$factor_t$	-0,0828	-0,0514	-0,5021	1,0561	0,0216	0,036	-0,4878	-0,8066	0,0041
$npos_t$	0,0002	0,0001	0,07	0,0167	-0,0003	-0,0001	0,1295	0,0084	0,0255
$nneg_t$	-0,0022	-0,0021	0,0231	0,0142	0,0007	0,0004	0,0397	0,0163	0,0039

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A102: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Food and Beverage (SX3P)

SX3P	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0417	-0,0402	-2,3912	1,1044	-0,1245	-0,0955	2,5818	-1,8718	0,0102
r^{msci}_t	-0,0264	0,0328	1,415	-0,5211	0,1094	0,1042	-2,0484	1,3329	0,0065
$npos_t$	-0,0001	0,0001	0,0706	0,0162	0,0004	-0,0001	0,1294	0,0086	0,0265
$nneg_t$	-0,0022	-0,0021	0,019	0,0161	-0,0002	0,0003	0,0411	0,0151	0,006

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A103: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Health Care (SXDP)

SXDP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0586	-0,0421	-1,8725	0,5344	-0,0569	-0,0881	-1,8263	-1,8394	0,0064
r^{msci}_t	-0,052	0,0351	1,0286	-0,1274	0,0562	0,1009	1,2187	1,3722	0,0069
$npos_t$	-0,0003	0,0001	0,0701	0,0159	0,0001	-0,0001	0,1293	0,0093	0,0263
$nneg_t$	-0,0025	-0,0021	0,0234	0,0144	-0,0001	0,0004	0,0377	0,0167	0,006

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A104: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Industrial Goods and Services (SXNP)

SXNP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0019	-0,0049	1,4599	-1,0399	0,0432	0,04	-5,1756	1,1138	0,0051
r^{msci}_t	0,029	0,0097	-1,9402	1,4297	-0,009	-0,009	5,3738	-1,2131	0,0038
$npos_t$	0,0003	0,0001	0,0708	0,0163	-0,0003	-0,0001	0,1284	0,0089	0,0268
$nneg_t$	-0,0022	-0,0021	0,021	0,0144	0,0009	0,0004	0,0407	0,0163	0,0042

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A105: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Insurance (SXIP)

SXIP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,1457	0,0479	-0,3696	-0,4374	0,1069	0,0513	1,021	1,6892	0,0128
r^{msci}_t	-0,1153	-0,052	0,0413	0,7906	-0,0722	-0,0281	-1,3276	-1,9786	0,0051
$npos_t$	0,0003	0,0001	0,0702	0,0167	-0,0002	-0,0001	0,1293	0,0082	0,0256
$nneg_t$	-0,0025	-0,0021	0,0231	0,0141	0,001	0,0005	0,0399	0,0165	0,0053

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A106: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Media (SXMP)

SXMP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0928	0,149	2,0084	1,1048	-0,0749	-0,0319	-1,1639	0,0835	0,0091
r^{msci}_t	-0,0541	-0,1327	-2,1872	-0,7193	0,1029	0,0599	0,8731	-0,1433	0,0102
$npos_t$	0,0002	0,0002	0,0707	0,0168	0	-0,0001	0,129	0,0085	0,026
$nneg_t$	-0,0028	-0,002	0,0244	0,0141	0,0005	0,0006	0,0415	0,0175	0,0043

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A107: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Oil and Gas (SXEP)

SXEP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,149	0,0333	-0,6653	-0,3743	-0,0235	0,0442	1,3672	1,2296	0,0113
r^{msci}_t	-0,1507	-0,0375	0,3984	0,73	0,0842	-0,0207	-1,8096	-1,5269	0,0063
$npos_t$	0,0002	0,0001	0,07	0,0166	0,0004	-0,0001	0,1299	0,0089	0,0261
$nneg_t$	-0,0016	-0,0021	0,0235	0,0143	0,0017	0,0004	0,0405	0,0168	0,0062

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A108: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Personal and Household Goods (SXQP)

SXQP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0179	-0,0338	1,1127	0,7265	-0,0479	-0,0217	-0,5587	-1,9085	0,0046
r^{msci}_t	0,0074	0,0341	-1,3538	-0,3414	0,0706	0,0526	0,3448	1,6508	0,0039
$npos_t$	0,0002	0,0001	0,0703	0,0169	-0,0001	-0,0001	0,1294	0,0082	0,0256
$nneg_t$	-0,0018	-0,0021	0,0228	0,0142	-0,0001	0,0005	0,04	0,0171	0,0054

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A109: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Real Estate (SX86P)

SX86P	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0702	0,0649	-1,9508	-0,2047	0,0668	0,0499	-0,3317	-0,697	0,0099
r^{msci}_t	-0,0146	-0,051	1,2602	0,5041	-0,0197	-0,0102	0,1974	0,5497	0,0068
$npos_t$	0,0002	0,0001	0,0702	0,0164	-0,0004	-0,0001	0,1297	0,0087	0,0261
$nneg_t$	-0,0023	-0,0021	0,0223	0,0137	0,0006	0,0005	0,0385	0,0162	0,0041

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A110: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Retail (SXRP)

SXRP	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0337	0,0045	-1,291	1,206	-0,0164	0,0344	-0,9626	-0,5069	0,0053
r^{msci}_t	0,0681	0,0003	0,8093	-0,7865	0,0483	0,0024	0,7588	0,3857	0,0039
$npos_t$	0	0,0001	0,0693	0,017	-0,0002	-0,0001	0,129	0,0085	0,0258
$nneg_t$	-0,002	-0,0021	0,025	0,0131	0,0013	0,0004	0,0406	0,0171	0,0046

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A111: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Technology (SX8P)

SX8P	r^{st}_{t-1}	r^{msci}_{t-1}	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	r^{msci}_{t-2}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0029	0,0194	-1,8528	0,5298	0,0292	0,0226	1,6404	-0,7086	0,0028
r^{msci}_t	-0,0285	-0,0159	1,5431	-0,2335	-0,0023	0,0111	-1,9174	0,713	0,0039
$npos_t$	0	0,0001	0,0708	0,0163	-0,0005	-0,0001	0,1291	0,0088	0,0264
$nneg_t$	-0,0008	-0,0021	0,022	0,0143	0,0004	0,0004	0,0423	0,0157	0,0043

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A112: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Telecommunications (SXKP)

SXKP	r_{t-1}^{st}	r_{t-1}^{msci}	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	r_{t-2}^{msci}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	-0,0072	-0,0636	-1,8138	-0,9011	0,0047	0,01	0,7991	-0,9438	0,0059
r_t^{msci}	0,0006	0,0626	1,3005	1,1107	0,028	0,0242	-0,9066	0,8142	0,005
$npos_t$	-0,0003	0,0001	0,07	0,0162	0,0003	-0,0001	0,1291	0,0081	0,0259
$nneg_t$	-0,0033	-0,0021	0,0235	0,0131	0	0,0004	0,0374	0,0151	0,0049

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A113: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Travel and Leisure (SXTP)

SXTP	r_{t-1}^{st}	r_{t-1}^{msci}	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	r_{t-2}^{msci}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	0,0913	0,0387	0,6256	-0,6191	0,0787	0,0459	-2,3519	-0,1662	0,0145
r_t^{msci}	-0,009	-0,0392	-0,9734	0,9919	-0,0352	-0,0195	2,3489	0,1979	0,0063
$npos_t$	-0,0001	0,0001	0,0701	0,0168	-0,0006	-0,0001	0,1306	0,0085	0,0268
$nneg_t$	-0,0018	-0,002	0,0206	0,0137	0,0004	0,0004	0,0398	0,0167	0,0042

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A114: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day on Utilities (SX6P)

SX6P	r_{t-1}^{st}	r_{t-1}^{msci}	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	r_{t-2}^{msci}	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	-0,0194	-0,0175	-1,0979	0,0092	0,1179	0,0901	1,8543	-0,7486	0,0093
r_t^{msci}	0,0217	0,0202	0,5878	0,2977	-0,0809	-0,0436	-1,7549	0,6055	0,0069
$npos_t$	0,0004	0,0001	0,0703	0,0165	-0,0002	-0,0001	0,1297	0,0086	0,0261
$nneg_t$	-0,0028	-0,0021	0,0233	0,0139	0,001	0,0004	0,0382	0,0167	0,004

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

5.1   Topic with COVID-19 dummy

The introduction of covid-19[6] dummy makes the Automobiles sector (SXAP) no more sensitive to any topics. The same happens with the Banks (SX7P)' sector. For what concerns Basic Resources (SXPP), we can observe how the first lag of FIPS remains positive and significant at 10% in the first lag and EMUG is positive and significant in both lags one and two at 10%. The NMP is no more significant in comparison to the baseline model related to the Chemicals' sector (SX4P).

No more topics are significant on Construction and Materials (SXOP) with the introduction of the covid-19 dummy. The covid-19 dummy does not change the results of the baseline model for Financial Services (SXFP). The Food and Beverage (S3XP) sector's estimations with covid-19 dummy show the two monetary policies' topics are negative and significant at 10% at first lag. In Health Care (SXDP) sector's estimations, FSBS and the two monetary policies are negative and significant at 10% at first lag. No more topics are significant for the Industrial Goods and Services sector (SXNP). No changes are observed for what concerns the Insurance sector (SXIP), the topics remain not significant. In the Media sector (SXMP) only FIPS is still significant and positive but at 10% lag 1. Oil and Gas (SXEP) sector is still not affected by topics even in this framework. Personal and Household Goods (SXQP) is negatively affected by canonical monetary policy at 10% at first lag but NMP is no anymore significant. In Real Estate (SX86P) and Retail (SXRP) sectors, the topics are not significant as in the previous baseline model. In the Technology sector (SX8P) the EMUG has negative and significant effects at lag 1 at 10%. For what concerns the Telecommunications (SXKP), it can be noticed how the introduction of the covid-19 dummy reduces the negative significance of NMP at lag 1 at 5%. FSBS and CMP remain negative and significant respectively at 5% and 1%. EMUG at lag 1 has negative and significant effects on Travel and Leisure (SXTP) but the level of significance is reduced at 10%. In Utilities EMUG is positive and significant at 10% at lag 1.

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[6]We summarize all the results with covid-19 dummy and its interactions with topics and sentiment indices. We present more in detail the ones of topics with the interactions with the covid-19 dummy because they are the most significant ones. The other results are available under request.

5.2 Sentiment Indices (LM) - Polarity and Subjectivity - Model with COVID-19 dummy - Results

The changes in the effects of polarity and subjectivity indices with the LM dictionary are limited in this framework. Automobiles and parts (SXAP) and Banks (S7XP)'s results remain the same as in the baseline model. In the Basic Resources (SXPP) and Chemicals (SX4P) no sentiment indices are longer significant. No changes are detected in Construction (SXOP), Financial Services (SXFP), Food and Beverage (SX3P). Polarity is no more significant in Health care (SXDP) and Industrial Goods and Services (SXNP) in comparison with the baseline model. No difference is observed in Insurance (SXIP), Media (SXMP), Oil and Gas (SXEP), Personal and Household Goods (SXQP) sectors. Subjectivity is still negatively affected the Real Estate (SX86P) sector but its level of significance decreases at 5%. Retail (SXRP) is still affected positively by the second lag of polarity at 10%. Technology (SX8P), Travel and Leisure (SXTP) and Utilities (SX6P) show no changes in comparison with the baseline model. Finally, the Telecommunications (SXKP) sector is not affected anymore by subjectivity.

5.3 Sentiment Indices (LM) - Positivity and Negativity - Model with COVID-19 dummy

Automobiles and parts (SXAP) and Banks (SX7P) do not show any changes from the previous scenario without a covid-19 dummy. Negativity is no more relevant for the Basic Resources (SXPP) and Chemicals (SX4P) sector. Positive and negative sentiment indices are still not significant in Construction and Materials (SXOP), Financial Services (SXFP), Food and Beverage (SX3P), and Health Care (SXDP). Positivity does not have anymore a significant effect on Industrial Goods and Services (SXNP).

Insurance (SXIP), Media (SXMP) and Oil and Gas, Personal and Household Goods (SXQP) are not affected by positive or negative sentiment indices. Both positive and negative sentiment indices at first lag are still affecting negatively Real Estate sector (SX86P) but their significance is reduced at 5 %. For what concerns Retail (8SXRP) and Technology (SX8P), Travel and Leisure (SXTP), and Utilities (SX6P) they are

still not affected by sentiment indices. Finally, sentiment indices have no effects on Telecommunications (SXKP).

5.4 Sentiment indices (HL) - Positivity and Negativity - Model with COVID-19 dummy - Results

With the introduction of the covid-19 dummy, no more sentiment indices in this framework are not significant. In particular, Automobiles and parts (SXAP) are no longer affected by the negative sentiment index. In the Banks sector, the negativity index is not significant when the covid-19 dummy is introduced. Basic Resources (SXPP), Chemicals (SX4P), Construction and Materials (SXOP), Financial Services (SXFP), and Food and Beverage (SX3P) continue to not be affected by the positive and negative sentiment indices. Negativity is not relevant to Health Care (SXDP) with a covid-19 dummy introduced. Industrial Goods and Services (SXNP) are not affected by the positivity index as in the baseline model.

Insurance (SXIP) and Media (SXMP) are still not affected by sentiment indices. Sentiment indices are not relevant to the Oil and Gas (SXEP) sector when the covid-19 dummy is added. Personal Household and Goods (SXQP) are still not affected by positive or negative sentiment indices. Positivity is not influencing the Real Estate (SX86P) when the covid-19 dummy is present. Retail (SXRP), Technology (SX8P) and Telecommunications (SXKP), and Utilities are still not affected by the positive and negative sentiment indices. In Travel and Leisure (SXTP) positivity is no longer relevant when the covid-19 dummy is introduced.

5.5 Sentiment indices (HL) - Effects of number of positive and negative speeches during a given day - Model with COVID-19 dummy - Results

The number of positive speeches is positive and significant at 10% in the Automobiles and parts (SXAP) as in the baseline model. Banks (S7XP) are not affected anymore by the number of negative speeches as in the baseline model. Basic Resources (SXPP)

and Chemicals (SX4P) are still not affected by the number of positive and negative speeches. In Construction and Materials (SXOP) the number of positive speeches is no longer significant. Financial Services (SXFP) and Food Beverage (SX3P) sectors continue to not show any influence on the number of positive or negative speeches.

The number of negative speeches is not significant for what concerns the Health Care (SXDP) when the covid-19 dummy is included in the model. The number of positive speeches is not affected the Industrial Goods and Services (SXNP) sector in this framework. Insurance (SXIP) and Media (SXMP) continue to not be influenced by the number of positive and negative speeches. The number of negative speeches is no longer relevant in the Oil and Gas sector (SXEP). The number of positive or negative speeches is still not significant in the Personal and Household Goods (SXQP), Real Estate (SX86P), Retail (SXRP), Technology (SX8P), Telecommunications (SXKP), and Utilities (SX6P) sectors. Finally, the number of positive speeches is no longer significant in the Travel and Leisure (SXTP) sector.

Topic Indices with COVID-19 dummy interactions - Results

For what concerns Automobiles and parts (SXAP) in Tables A115-A118, the second lag of FSBS is significant and positive at 5% and the one of CMP is negative and significant at 10%. Moreover, the interaction between the covid-19 dummy and EMUG topic is positive and significant at 10%.

In Tables A119-A122, Banks (SX7P) are affected positively by the second lag of FSBS and NMP at 5% and negatively by the second lag of CMP at 5%. Furthermore, FIPS' second lag is negative and significant at 10%.

In Tables A123-A126, we can observe the Basic Resources (SXPP)' sector is negative and significant at 1% affected by CMP at lag 2. Moreover, NMP is positive and significant at 5%. Finally, FSBS is positive and significant at 10%. Tables A127-A130 illustrate how the Chemicals sector (SX4P) is negatively and significantly influenced at 10% only by the interactions of the covid-19 dummy and FSBS at lag 2.

Construction and Materials (SXOP) sector in Tables A131-A134 is positively affected at 10% by FSBS at lag 2 and negatively at 10% by CMP at lag 2. Moreover, the

interactions of covid-19 dummy and CMP at lag 1 is positive significant at 10%. In Tables A135-A138 it can be noticed how only FSBS at lag 2 has significant effects on Financial Services (SFXP). For what concerns Food and Beverage (SX3P), in Tables A139-A142, we can observe that the lag 2 of FSBS is positive and significant at 5% as well as the interaction between the covid-19 dummy and CMP's lag1. Moreover, the interactions of the covid-19 dummy and NMP's lag 1 is negative and significant at 5%.

The Health Care (SXDP) sector's results are observable in Tables A143-A146. The interactions of covid-19 dummy and CMP at lag 1 is positive and significant at 10% and the one with NMP is negative and significant at 10%. In addition, the interactions between covid-19 dummy and FSBS is negative and significant at 5%. In Tables A147-A150, it can be observed how no variables are significantly affected the Industrial Goods and Services (SXNP). The CMP at lag 2 has negative and significant at 5% on Insurence sector (SXIP) in Tables A151-A154. Moreover, NMP at lag 2 has positive and significant effects at 5%.

Media (SXMP) sector' results are available in Tables A155-A158. It can be observed negative effects of lag 2 of CMP significant at 10%. NMP's lag 2 is positive and significant at 5%. Oil and Gas (SXIP) sector's results are in Tables A159-A162 do not show any topics being significant. In Tables A163-A166 Personal and Household Goods (SXQP) sector shows how it is affected positively and significantly at 10% by the interactions between the covid-19 dummy and CMP's lag 1. Moreover,the interactions between the covid-19 dummy and NMP at lag 1 is negative and significant at 10%.

Real Estate (SX86P) in Tables A167-A170 is influenced positively by FSBS at lag 2 at 5%. More significantly the interactions of the covid-19 dummy and CMP's lag 1 is positive and significant at 1% and the one with NMP is negative and significant at 1% as well. Retail (SXRP)'s results are not affected by any topics as it can be seen in Tables A171-A174. For what concerns Technology (SX8P) in Tables A175-A178, the interactions between CMP's lag 1 and the covid-19 dummy has positive and significant at 10% impact over the returns' sector. Instead, Telecommunications (SXKP) is negatively affected only by the interactions between EMUG's topic and the covid-19 dummy at a significant level of 10% (Tables A179-A182).

Tables A183-A186 of Travel and Leisure sector (SXTP) can be observed how the second lag of CMP is significant and negative at 5% and the second lag of NMP is positive and significant at 10%.

Finally, it can be noticed how the returns of Utilities' sector (SX6P) is affected by many topics (Tables A187-A190). In particular: FSBS at lag 1 is positive and significant at 5%; the interaction between covid-19 dummy and CMP's lag 1 is positive and significant at 1%; the interaction between covid-19 dummy and EMUG's lag 1 is negative and significant at 5%; the interaction between the covid-19 dummy and NMP's lag 1 is negative and significant at 1%; and the interaction between the covid-19 dummy and FSBS's lag 1 is negative and significant at 5%.

Table A115: Topic indices effects on Automobiles and Parts (SXAP) with Covid-19 dummy interactions - first lag

SXAP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0728	0,0000	-0,0007	0,0001	0,0003	0,0006	0,000505
$fsbs_t$	1,4210	0,0029	0,0411	0,0434	0,0115	-0,0334	-0,21203
cmp_t	-0,7611	0,0043	0,0847	0,0099	0,0052	-0,0539	-0,1661
$fips_t$	2,3130	-0,0312	0,0192	0,0088	0,0066	0,0086	-0,19671
$emug_t$	-0,6312	0,0007	0,0077	0,0041	-0,0048	-0,0159	-0,23893
nmp_t	-0,4940	-0,0006	0,1411	0,0209	0,0066	-0,0834	-0,07171

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A116: Topic indices effects on Automobiles and Parts (SXAP) with Covid-19 dummy interactions - second lag

SXAP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0012	0,0007	-0,0020	-0,0003	0,0003	0,0012
$fsbs_t$	-1,9211	-0,0645	0,1356	0,0964	-0,0798	-0,0558
cmp_t	-0,6654	-0,0585	0,1964	0,0921	-0,0671	-0,1176
$fips_t$	-0,7895	-0,0399	0,0085	0,0290	-0,0234	0,0501
$emug_t$	1,9941	-0,0481	0,1097	0,0717	-0,0528	-0,0227
nmp_t	-1,5348	-0,0474	0,1177	0,0763	-0,0378	-0,0673

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A117: Topic indices effects on Automobiles and Parts (SXAP) with Covid-19 dummy interactions - first lag with the interactions

SXAP	r^{st}_{t-1} $\times D_{t-1}$	$fsbs_{t-1}$ $\times D_{t-1}$	cmp_{t-1} $\times D_{t-1}$	$fips_{t-1}$ $\times D_{t-1}$	$emug_{t-1}$ $\times D_{t-1}$	nmp_{t-1} $\times D_{t-1}$
r^{st}_t	-0,1048	0,0034	0,0014	-0,0004	-0,0033	-0,0016
$fsbs_t$	-0,5142	-0,0196	-0,4110	-0,1078	0,2311	0,2894
cmp_t	2,7233	0,1038	-0,7648	0,0074	0,0947	0,5854
$fips_t$	-1,2576	0,0421	-0,4429	-0,0542	0,1384	0,3106
$emug_t$	2,6634	0,0880	-0,3917	-0,0354	0,0723	0,3132
nmp_t	2,1328	0,1673	-0,7856	-0,0278	0,0472	0,5984

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A118: Topic indices effects on Automobiles and Parts (SXAP) with Covid-19 dummy interactions - second lag with the interactions

SXAP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1244	-0,0028	-0,0019	-0,0018	0,0047	-0,0002	0,0180
$fsbs_t$	2,3629	0,2311	-0,0767	-0,2001	0,0824	0,0567	0,0235
cmp_t	1,7177	0,0901	0,2479	-0,1329	0,0798	-0,1447	0,0233
$fips_t$	0,9909	0,1364	0,2593	-0,1156	0,0393	-0,2325	0,0501
$emug_t$	-0,7577	-0,0814	-0,0941	-0,0317	0,1939	0,0559	0,0187
nmp_t	2,6643	0,1777	0,6866	-0,1813	-0,1004	-0,4030	0,0239

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A119: Topic indices effects on Banks (SX7P) with Covid-19 dummy interactions - first lag

SX7P	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0503	0,0000	-0,0015	-0,0001	0,0006	0,0009	-0,00062
$fsbs_t$	-0,5088	0,0031	0,0389	0,0413	0,0126	-0,0304	-0,20948
cmp_t	-1,2419	0,0044	0,0845	0,0095	0,0052	-0,0532	-0,15868
$fips_t$	0,6236	-0,0311	0,0156	0,0077	0,0076	0,0120	-0,19411
$emug_t$	-1,2377	0,0015	0,0062	0,0045	-0,0048	-0,0146	-0,23191
nmp_t	-0,9855	-0,0008	0,1409	0,0204	0,0065	-0,0826	-0,06454

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A120: Topic indices effects on Banks (SX7P) with Covid-19 dummy interactions - second lag

SX7P	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0132	0,0008	-0,0024	-0,0006	0,0002	0,0019
$fsbs_t$	0,5426	-0,0651	0,1386	0,0975	-0,0801	-0,0591
cmp_t	-0,5698	-0,0585	0,1958	0,0920	-0,0668	-0,1175
$fips_t$	-0,2800	-0,0399	0,0088	0,0293	-0,0232	0,0500
$emug_t$	0,9368	-0,0480	0,1054	0,0710	-0,0516	-0,0196
nmp_t	-1,5713	-0,0473	0,1176	0,0762	-0,0377	-0,0672

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A121: Topic indices effects on Banks (SX7P) with Covid-19 dummy interactions - first lag with the interactions

SX7P	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0614	0,0011	0,0019	-0,0020	-0,0014	-0,0021
$fsbs_t$	0,6464	-0,0186	-0,3954	-0,1067	0,2268	0,2764
cmp_t	3,1439	0,1124	-0,7738	0,0050	0,1021	0,5847
$fips_t$	0,0838	0,0445	-0,4342	-0,0541	0,1369	0,3017
$emug_t$	2,2908	0,0914	-0,3751	-0,0381	0,0721	0,2989
nmp_t	2,8019	0,1780	-0,8050	-0,0304	0,0572	0,6032

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A122: Topic indices effects on Banks (SX7P) with Covid-19 dummy interactions - second lag with the interactions

SX7P	$r^{st}_{t-2} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r^{st}_t	0,1242	-0,0014	-0,0020	-0,0002	0,0034	-0,0011	0,0140
$fsbs_t$	0,1446	0,2362	-0,0793	-0,2017	0,0819	0,0587	0,0226
cmp_t	3,5927	0,0999	0,2246	-0,1290	0,0897	-0,1301	0,0243
$fips_t$	1,1649	0,1416	0,2502	-0,1149	0,0415	-0,2273	0,0492
$emug_t$	1,0023	-0,0723	-0,0906	-0,0300	0,1931	0,0515	0,0183
nmp_t	5,2092	0,1871	0,6541	-0,1770	-0,0856	-0,3825	0,0254

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A123: Topic indices effects on Basic Resources (SXPP) with Covid-19 dummy interactions - first lag

SXPP	r_{t-1}^{st}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r_t^{st}	0,0034	-0,0005	0,0004	0,0001	0,0000	-0,0005	0,000685
$fsbs_t$	0,4094	0,0024	0,0376	0,0425	0,0133	-0,0304	-0,20888
cmp_t	-0,0922	0,0043	0,0891	0,0090	0,0035	-0,0568	-0,16339
$fips_t$	2,5383	-0,0318	0,0171	0,0072	0,0056	0,0105	-0,1954
$emug_t$	2,5337	0,0003	0,0118	0,0046	-0,0086	-0,0200	-0,23416
nmp_t	-0,1311	-0,0008	0,1440	0,0201	0,0060	-0,0852	-0,06952

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A124: Topic indices effects on Basic Resources (SXPP) with Covid-19 dummy interactions - second lag

SXPP	r_{t-2}^{st}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r_t^{st}	-0,0091	0,0009	-0,0038	0,0002	0,0007	0,0030
$fsbs_t$	-0,8393	-0,0643	0,1387	0,0970	-0,0801	-0,0583
cmp_t	1,1743	-0,0593	0,1981	0,0929	-0,0679	-0,1198
$fips_t$	1,5784	-0,0395	0,0068	0,0300	-0,0231	0,0510
$emug_t$	2,4930	-0,0476	0,1041	0,0717	-0,0524	-0,0185
nmp_t	0,3804	-0,0480	0,1213	0,0772	-0,0388	-0,0708

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A125: Topic indices effects on Basic Resources (SXPP) with Covid-19 dummy interactions - first lag with the interactions

SXPP	$r_{t-1}^{st} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r_t^{st}	-0,0887	-0,0001	0,0021	-0,0003	0,0015	-0,0033
$fsbs_t$	-0,9311	-0,0206	-0,3775	-0,1076	0,2211	0,2667
cmp_t	1,9284	0,1087	-0,7576	0,0065	0,0978	0,5776
$fips_t$	-1,8678	0,0432	-0,4284	-0,0530	0,1367	0,2996
$emug_t$	-1,6613	0,0900	-0,3649	-0,0376	0,0715	0,2958
nmp_t	1,9273	0,1742	-0,7852	-0,0292	0,0518	0,5943

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A126: Topic indices effects on Basic Resources (SXPP) with Covid-19 dummy interactions - second lag with the interactions

SXPP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,0285	-0,0041	0,0046	0,0003	0,0011	-0,0039	0,0093
$fsbs_t$	0,6637	0,2345	-0,0648	-0,2025	0,0767	0,0470	0,0227
cmp_t	0,3188	0,0976	0,2499	-0,1327	0,0727	-0,1426	0,0234
$fips_t$	-1,2394	0,1405	0,2614	-0,1168	0,0353	-0,2332	0,0513
$emug_t$	-1,6623	-0,0748	-0,0696	-0,0325	0,1822	0,0390	0,0208
nmp_t	1,3951	0,1834	0,6843	-0,1805	-0,1053	-0,3976	0,0237

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A127: Topic indices effects on Chemicals (SX4P) with Covid-19 dummy interactions - first lag

SX4P	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	-0,0180	0,0000	0,0001	-0,0002	0,0002	-0,0001	8,04E-05
$fsbs_t$	-2,2198	0,0032	0,0354	0,0417	0,0130	-0,0277	-0,21058
cmp_t	-3,3837	0,0054	0,0840	0,0085	0,0054	-0,0525	-0,16433
$fips_t$	2,5333	-0,0312	0,0200	0,0070	0,0070	0,0086	-0,19525
$emug_t$	-0,9977	0,0019	0,0091	0,0040	-0,0055	-0,0171	-0,23384
nmp_t	-2,6065	0,0000	0,1406	0,0195	0,0069	-0,0821	-0,07034

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A128: Topic indices effects on Chemicals (SX4P) with Covid-19 dummy interactions - second lag

SX4P	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	0,0033	0,0003	-0,0010	0,0000	0,0002	0,0007
$fsbs_t$	-1,3666	-0,0645	0,1372	0,0964	-0,0795	-0,0575
cmp_t	0,4153	-0,0589	0,1989	0,0919	-0,0671	-0,1203
$fips_t$	2,0185	-0,0407	0,0103	0,0306	-0,0238	0,0483
$emug_t$	1,7977	-0,0484	0,1077	0,0712	-0,0522	-0,0211
nmp_t	-0,0083	-0,0479	0,1214	0,0765	-0,0382	-0,0710

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A129: Topic indices effects on Chemicals (SX4P) with Covid-19 dummy interactions - first lag with the interactions

SX4P	r^{st}_{t-1} $\times D_{t-1}$	$fsbs_{t-1}$ $\times D_{t-1}$	cmp_{t-1} $\times D_{t-1}$	$fips_{t-1}$ $\times D_{t-1}$	$emug_{t-1}$ $\times D_{t-1}$	nmp_{t-1} $\times D_{t-1}$
r^{st}_t	-0,0899	-0,0002	0,0064	0,0009	-0,0024	-0,0047
$fsbs_t$	1,7564	-0,0196	-0,3800	-0,1081	0,2242	0,2659
cmp_t	4,0368	0,1095	-0,7308	0,0011	0,0881	0,5619
$fips_t$	-1,4071	0,0450	-0,4336	-0,0549	0,1342	0,3048
$emug_t$	1,2502	0,0881	-0,3502	-0,0393	0,0643	0,2868
nmp_t	3,0160	0,1749	-0,7572	-0,0352	0,0431	0,5780

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A130: Topic indices effects on Chemicals (SX4P) with Covid-19 dummy interactions - second lag with the interactions

SX4P	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,0946	-0,0037	0,0021	-0,0011	0,0017	-0,0015	0,0162
$fsbs_t$	2,1281	0,2358	-0,0709	-0,2006	0,0762	0,0528	0,0231
cmp_t	3,6096	0,1030	0,2335	-0,1335	0,0734	-0,1329	0,0243
$fips_t$	-0,6565	0,1432	0,2457	-0,1183	0,0396	-0,2222	0,0501
$emug_t$	-0,0726	-0,0716	-0,0769	-0,0331	0,1818	0,0433	0,0180
nmp_t	4,6990	0,1901	0,6677	-0,1815	-0,1056	-0,3873	0,0247

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A131: Topic indices effects on Construction and Materials (SXOP) with Covid-19 dummy interactions - first lag

SXOP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0365	-0,0002	-0,0006	-0,0001	0,0004	0,0003	-0,00033
$fsbs_t$	-0,5914	0,0025	0,0342	0,0434	0,0135	-0,0280	-0,21083
cmp_t	-2,7594	0,0045	0,0834	0,0096	0,0056	-0,0519	-0,16274
$fips_t$	2,3437	-0,0318	0,0133	0,0093	0,0082	0,0123	-0,19506
$emug_t$	-0,3179	0,0010	0,0074	0,0053	-0,0052	-0,0162	-0,23335
nmp_t	-2,2874	-0,0007	0,1394	0,0206	0,0073	-0,0813	-0,06865

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A132: Topic indices effects on Construction and Materials (SXOP) with Covid-19 dummy interactions - second lag

SXOP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0311	0,0007	-0,0018	-0,0002	0,0004	0,0011
$fsbs_t$	-4,0548	-0,0642	0,1349	0,0963	-0,0792	-0,0542
cmp_t	-0,8508	-0,0590	0,1962	0,0916	-0,0664	-0,1177
$fips_t$	-3,1200	-0,0389	0,0071	0,0292	-0,0233	0,0527
$emug_t$	-0,0265	-0,0477	0,1057	0,0707	-0,0519	-0,0191
nmp_t	-1,5620	-0,0479	0,1188	0,0762	-0,0375	-0,0683

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A133: Topic indices effects on Construction and Materials (SXOP) with Covid-19 dummy interactions - first lag with the interactions

SXOP	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0595	-0,0005	0,0083	0,0000	-0,0028	-0,0062
$fsbs_t$	0,0993	-0,0195	-0,3782	-0,1089	0,2225	0,2665
cmp_t	3,5937	0,1071	-0,7377	0,0057	0,0901	0,5645
$fips_t$	-2,1585	0,0437	-0,4191	-0,0555	0,1317	0,2941
$emug_t$	0,6557	0,0882	-0,3522	-0,0383	0,0652	0,2870
nmp_t	2,7622	0,1718	-0,7629	-0,0298	0,0439	0,5802

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A134: Topic indices effects on Construction and Materials (SXOP) with Covid-19 dummy interactions - second lag with the interactions

SXOP	$r^{st}_{t-2} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r^{st}_t	0,1859	-0,0034	-0,0003	-0,0011	0,0031	0,0002	0,0211
$fsbs_t$	4,2019	0,2342	-0,0613	-0,2012	0,0750	0,0439	0,0241
cmp_t	3,0819	0,0985	0,2489	-0,1319	0,0757	-0,1466	0,0238
$fips_t$	3,8443	0,1403	0,2594	-0,1160	0,0375	-0,2352	0,0505
$emug_t$	1,1489	-0,0741	-0,0710	-0,0318	0,1832	0,0375	0,0176
nmp_t	4,0366	0,1845	0,6886	-0,1801	-0,1040	-0,4055	0,0243

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A135: Topic indices effects on Financial Services (SXFP) with Covid-19 dummy interactions - first lag

SXFP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0586	-0,0002	-0,0009	-0,0001	0,0004	0,0006	-0,00055
$fsbs_t$	-1,3369	0,0025	0,0369	0,0427	0,0122	-0,0288	-0,21173
cmp_t	-2,6836	0,0045	0,0847	0,0096	0,0046	-0,0527	-0,16416
$fips_t$	2,2300	-0,0313	0,0165	0,0075	0,0081	0,0106	-0,19486
$emug_t$	-1,6846	0,0021	0,0088	0,0034	-0,0053	-0,0162	-0,23395
nmp_t	-2,2383	-0,0009	0,1407	0,0208	0,0062	-0,0819	-0,07032

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A136: Topic indices effects on Financial Services (SXFP) with Covid-19 dummy interactions - second lag

SXFP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0394	0,0005	-0,0013	-0,0004	0,0002	0,0013
$fsbs_t$	-1,8895	-0,0648	0,1361	0,0969	-0,0799	-0,0560
cmp_t	-0,1198	-0,0590	0,1959	0,0920	-0,0668	-0,1177
$fips_t$	0,1176	-0,0397	0,0104	0,0297	-0,0237	0,0486
$emug_t$	2,8812	-0,0485	0,1062	0,0709	-0,0512	-0,0209
nmp_t	-1,0884	-0,0479	0,1186	0,0766	-0,0380	-0,0682

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A137: Topic indices effects on Financial Services (SXFP) with Covid-19 dummy interactions - first lag with interactions

SXFP	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0461	-0,0008	0,0056	0,0005	-0,0016	-0,0045
$fsbs_t$	2,0799	-0,0188	-0,3907	-0,1088	0,2277	0,2727
cmp_t	3,8921	0,1042	-0,7325	0,0022	0,0893	0,5619
$fips_t$	-0,6449	0,0425	-0,4309	-0,0554	0,1350	0,3020
$emug_t$	2,4602	0,0853	-0,3552	-0,0387	0,0655	0,2899
nmp_t	3,3803	0,1688	-0,7583	-0,0331	0,0440	0,5775

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A138: Topic indices effects on Financial Services (SXFP) with Covid-19 dummy interactions - second lag with interactions

SXFP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1964	-0,0023	-0,0020	-0,0006	0,0027	0,0003	0,0183
$fsbs_t$	2,3566	0,2357	-0,0744	-0,2025	0,0794	0,0549	0,0231
cmp_t	2,2237	0,1000	0,2499	-0,1375	0,0748	-0,1463	0,0237
$fips_t$	0,3521	0,1421	0,2502	-0,1186	0,0394	-0,2258	0,0497
$emug_t$	-1,6241	-0,0727	-0,0744	-0,0348	0,1832	0,0418	0,0187
nmp_t	3,3660	0,1861	0,6871	-0,1860	-0,1040	-0,4033	0,0242

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A139: Topic indices effects on Food and Beverage (SX3P) with Covid-19 dummy interactions - first lag

SX3P	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0316	-0,0002	0,0002	0,0000	0,0003	-0,0003	-0,00033
$fsbs_t$	-5,3479	0,0033	0,0358	0,0427	0,0117	-0,0286	-0,21206
cmp_t	-5,3969	0,0054	0,0835	0,0099	0,0045	-0,0530	-0,16227
$fips_t$	1,8021	-0,0301	0,0164	0,0058	0,0083	0,0121	-0,19348
$emug_t$	-3,7687	0,0032	0,0060	0,0039	-0,0052	-0,0148	-0,23339
nmp_t	-4,9041	-0,0007	0,1398	0,0215	0,0059	-0,0825	-0,06852

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A140: Topic indices effects on Food and Beverage (SX3P) with Covid-19 dummy interactions - second lag

SX3P	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0384	0,0006	-0,0006	-0,0001	0,0003	0,0003
$fsbs_t$	-2,4202	-0,0649	0,1376	0,0968	-0,0786	-0,0589
cmp_t	-0,6514	-0,0592	0,1986	0,0920	-0,0661	-0,1206
$fips_t$	2,7957	-0,0407	0,0097	0,0297	-0,0233	0,0493
$emug_t$	2,1259	-0,0489	0,1074	0,0706	-0,0508	-0,0211
nmp_t	-2,4848	-0,0477	0,1204	0,0766	-0,0373	-0,0708

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A141: Topic indices effects on Food and Beverage (SX3P) with Covid-19 dummy interactions - first lag with iterations

SX3P	r^{st}_{t-1} $\times D_{t-1}$	$fsbs_{t-1}$ $\times D_{t-1}$	cmp_{t-1} $\times D_{t-1}$	$fips_{t-1}$ $\times D_{t-1}$	$emug_{t-1}$ $\times D_{t-1}$	nmp_{t-1} $\times D_{t-1}$
r^{st}_t	-0,0526	-0,0013	0,0078	0,0001	-0,0023	-0,0061
$fsbs_t$	5,9469	-0,0204	-0,3894	-0,1068	0,2282	0,2730
cmp_t	5,3838	0,1033	-0,7127	0,0018	0,0845	0,5511
$fips_t$	0,4904	0,0429	-0,4394	-0,0543	0,1394	0,3077
$emug_t$	4,0919	0,0844	-0,3434	-0,0386	0,0635	0,2825
nmp_t	4,8168	0,1682	-0,7384	-0,0335	0,0392	0,5666

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A142: Topic indices effects on Food and Beverage (SX3P) with Covid-19 dummy interactions - second lag with iteractions

SX3P	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,0339	-0,0024	0,0010	-0,0008	0,0017	-0,0004	0,0146
$fsbs_t$	1,6714	0,2343	-0,0664	-0,2004	0,0738	0,0511	0,0246
cmp_t	2,9865	0,1019	0,2540	-0,1388	0,0746	-0,1482	0,0245
$fips_t$	-3,1681	0,1426	0,2485	-0,1162	0,0384	-0,2237	0,0499
$emug_t$	-1,2365	-0,0717	-0,0701	-0,0345	0,1817	0,0384	0,0186
nmp_t	4,7149	0,1873	0,6947	-0,1871	-0,1051	-0,4074	0,0251

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A143: Topic indices effects on Health Care (SXDP) with Covid-19 dummy interactions - first lag

SXDP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0259	-0,0003	0,0009	0,0000	0,0001	-0,0009	-0,00058
$fsbs_t$	-5,0764	0,0039	0,0356	0,0427	0,0118	-0,0278	-0,212
cmp_t	-4,6194	0,0048	0,0834	0,0110	0,0043	-0,0527	-0,16231
$fips_t$	2,9694	-0,0323	0,0173	0,0076	0,0079	0,0106	-0,1946
$emug_t$	-3,7119	0,0025	0,0046	0,0052	-0,0053	-0,0136	-0,2331
nmp_t	-4,4983	-0,0008	0,1402	0,0223	0,0056	-0,0824	-0,06855

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A144: Topic indices effects on Health Care (SXDP) with Covid-19 dummy interactions - second lag

SXDP	r_{t-2}^{st}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r_t^{st}	-0,0185	0,0004	-0,0006	0,0001	-0,0001	0,0007
$fsbs_t$	-1,0535	-0,0658	0,1419	0,0971	-0,0798	-0,0620
cmp_t	-1,2580	-0,0593	0,2013	0,0923	-0,0674	-0,1223
$fips_t$	-0,5327	-0,0391	0,0054	0,0296	-0,0231	0,0529
$emug_t$	0,4705	-0,0487	0,1093	0,0706	-0,0518	-0,0225
nmp_t	-2,2862	-0,0481	0,1233	0,0770	-0,0385	-0,0727

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A145: Topic indices effects on Health Care (SXDP) with Covid-19 dummy interactions - first lag with interactions

SXDP	$r_{t-1}^{st} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r_t^{st}	-0,0500	-0,0019	0,0068	0,0007	-0,0025	-0,0052
$fsbs_t$	6,0500	-0,0203	-0,3920	-0,1059	0,2233	0,2744
cmp_t	3,9102	0,1004	-0,7101	0,0061	0,0846	0,5487
$fips_t$	-0,2425	0,0461	-0,4385	-0,0549	0,1300	0,3062
$emug_t$	2,0977	0,0811	-0,3285	-0,0332	0,0590	0,2723
nmp_t	4,3358	0,1656	-0,7424	-0,0277	0,0380	0,5688

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A146: Topic indices effects on Health Care (SXDP) with Covid-19 dummy interactions - second lag with interactions

SXDP	$r_{t-2}^{st} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r_t^{st}	0,0135	-0,0043	0,0052	0,0004	0,0007	-0,0035	0,0158
$fsbs_t$	-0,2160	0,2359	-0,0725	-0,2006	0,0784	0,0563	0,0245
cmp_t	1,3552	0,0972	0,2757	-0,1356	0,0650	-0,1648	0,0243
$fips_t$	-0,4613	0,1439	0,2506	-0,1171	0,0415	-0,2248	0,0499
$emug_t$	-1,3257	-0,0775	-0,0424	-0,0314	0,1732	0,0169	0,0186
nmp_t	1,4715	0,1828	0,7155	-0,1831	-0,1135	-0,4226	0,0250

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A147: Topic indices effects on Industrial Goods and Services (SXNP) with Covid-19 dummy interactions - first lag

SXNP	r_{t-1}^{st}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r_t^{st}	0,0448	-0,0002	-0,0004	-0,0002	0,0005	0,0002	-8,94E-05
$fsbs_t$	-1,7034	0,0018	0,0343	0,0434	0,0128	-0,0266	-0,21142
cmp_t	-1,8386	0,0033	0,0824	0,0111	0,0052	-0,0516	-0,16488
$fips_t$	2,2811	-0,0316	0,0157	0,0082	0,0080	0,0115	-0,19573
$emug_t$	-0,4634	0,0012	0,0078	0,0050	-0,0054	-0,0165	-0,23437
nmp_t	-1,0904	-0,0021	0,1387	0,0221	0,0069	-0,0810	-0,07085

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A148: Topic indices effects on Industrial Goods and Services (SXNP) with Covid-19 dummy interactions - second lag

SXNP	r_{t-2}^{st}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r_t^{st}	-0,0212	0,0006	-0,0014	-0,0001	0,0004	0,0008
$fsbs_t$	-3,7630	-0,0646	0,1348	0,0962	-0,0794	-0,0549
cmp_t	-2,8655	-0,0584	0,1954	0,0914	-0,0669	-0,1165
$fips_t$	-0,9106	-0,0395	0,0087	0,0299	-0,0240	0,0504
$emug_t$	0,4944	-0,0478	0,1060	0,0707	-0,0518	-0,0195
nmp_t	-3,5759	-0,0473	0,1181	0,0762	-0,0383	-0,0672

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A149: Topic indices effects on Industrial Goods and Services (SXNP) with Covid-19 dummy interactions - first lag with interactions

SXNP	$r_{t-1}^{st} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r_t^{st}	-0,0576	-0,0011	0,0064	0,0010	-0,0021	-0,0051
$fsbs_t$	1,7122	-0,0180	-0,3831	-0,1089	0,2249	0,2677
cmp_t	3,4507	0,1097	-0,7362	0,0004	0,0898	0,5643
$fips_t$	-1,1856	0,0444	-0,4275	-0,0561	0,1336	0,2995
$emug_t$	1,2221	0,0890	-0,3534	-0,0400	0,0652	0,2879
nmp_t	2,7759	0,1741	-0,7639	-0,0347	0,0447	0,5816

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A150: Topic indices effects on Industrial Goods and Services (SXNP) with Covid-19 dummy interactions - second lag with interactions

SXNP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1294	-0,0034	-0,0009	-0,0008	0,0031	0,0002	0,0165
$fsbs_t$	4,1888	0,2350	-0,0681	-0,2013	0,0773	0,0501	0,0240
cmp_t	5,3333	0,1001	0,2447	-0,1368	0,0758	-0,1406	0,0241
$fips_t$	1,8442	0,1419	0,2504	-0,1188	0,0400	-0,2260	0,0496
$emug_t$	0,8919	-0,0729	-0,0755	-0,0344	0,1835	0,0428	0,0176
nmp_t	6,0785	0,1861	0,6823	-0,1854	-0,1030	-0,3976	0,0249

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A151: Topic indices effects on Insurance (SXIP) with Covid-19 dummy interactions - first lag

SXIP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0656	-0,0001	-0,0009	0,0000	0,0004	0,0006	-0,00077
$fsbs_t$	-3,9148	0,0031	0,0353	0,0416	0,0126	-0,0267	-0,21148
cmp_t	-2,6806	0,0042	0,0840	0,0098	0,0051	-0,0526	-0,16201
$fips_t$	-0,6011	-0,0308	0,0142	0,0073	0,0079	0,0137	-0,19494
$emug_t$	-2,2117	0,0022	0,0061	0,0046	-0,0050	-0,0147	-0,2334
nmp_t	-2,3561	-0,0014	0,1404	0,0207	0,0065	-0,0819	-0,06817

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A152: Topic indices effects on Insurance (SXIP) with Covid-19 dummy interactions - second lag

SXIP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0152	0,0004	-0,0018	-0,0002	0,0003	0,0016
$fsbs_t$	-1,1718	-0,0651	0,1336	0,0968	-0,0784	-0,0549
cmp_t	-0,7316	-0,0587	0,1952	0,0921	-0,0665	-0,1170
$fips_t$	-0,0966	-0,0401	0,0076	0,0293	-0,0226	0,0506
$emug_t$	1,3428	-0,0482	0,1049	0,0708	-0,0512	-0,0190
nmp_t	-1,7272	-0,0476	0,1175	0,0767	-0,0375	-0,0674

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A153: Topic indices effects on Insurance (SXIP) with Covid-19 dummy interactions - first lag with interactions

SXIP	r^{st}_{t-1} $\times D_{t-1}$	$fsbs_{t-1}$ $\times D_{t-1}$	cmp_{t-1} $\times D_{t-1}$	$fips_{t-1}$ $\times D_{t-1}$	$emug_{t-1}$ $\times D_{t-1}$	nmp_{t-1} $\times D_{t-1}$
r^{st}_t	-0,0059	0,0006	0,0037	-0,0014	-0,0005	-0,0044
$fsbs_t$	3,9859	-0,0185	-0,3872	-0,1074	0,2260	0,2687
cmp_t	4,2133	0,1110	-0,7481	0,0023	0,0924	0,5691
$fips_t$	1,4353	0,0434	-0,4258	-0,0541	0,1333	0,2965
$emug_t$	2,8969	0,0888	-0,3593	-0,0396	0,0664	0,2907
nmp_t	3,8996	0,1768	-0,7767	-0,0331	0,0479	0,5856

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A154: Topic indices effects on Insurance (SXIP) with Covid-19 dummy interactions - second lag with interactions

SXIP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1598	-0,0020	-0,0012	-0,0012	0,0030	0,0007	0,0215
$fsbs_t$	1,8621	0,2367	-0,0721	-0,2019	0,0770	0,0535	0,0243
cmp_t	3,0742	0,1020	0,2403	-0,1340	0,0736	-0,1383	0,0241
$fips_t$	0,4480	0,1414	0,2579	-0,1159	0,0355	-0,2309	0,0491
$emug_t$	0,1276	-0,0713	-0,0784	-0,0329	0,1826	0,0441	0,0183
nmp_t	4,4788	0,1889	0,6741	-0,1825	-0,1047	-0,3928	0,0249

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A155: Topic indices effects on Media (SXMP) with Covid-19 dummy interactions - first lag

SXMP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0602	0,0000	0,0009	-0,0001	0,0002	-0,0012	-0,00024
$fsbs_t$	0,8322	0,0024	0,0371	0,0444	0,0124	-0,0304	-0,20998
cmp_t	-2,4728	0,0036	0,0825	0,0120	0,0048	-0,0521	-0,16234
$fips_t$	6,3316	-0,0314	0,0161	0,0105	0,0080	0,0090	-0,19433
$emug_t$	-0,6544	0,0009	0,0071	0,0054	-0,0053	-0,0159	-0,23321
nmp_t	-1,9500	-0,0015	0,1385	0,0233	0,0064	-0,0813	-0,06852

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A156: Topic indices effects on Media (SXMP) with Covid-19 dummy interactions - second lag

SXMP	r_{t-2}^{st}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r_t^{st}	-0,0437	0,0003	-0,0014	-0,0002	0,0001	0,0015
$fsbs_t$	-3,2471	-0,0648	0,1359	0,0969	-0,0805	-0,0551
cmp_t	-3,2549	-0,0585	0,1988	0,0914	-0,0674	-0,1198
$fips_t$	-2,7803	-0,0399	0,0010	0,0300	-0,0241	0,0598
$emug_t$	-0,2381	-0,0476	0,1063	0,0706	-0,0520	-0,0198
nmp_t	-4,1111	-0,0476	0,1207	0,0760	-0,0385	-0,0696

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A157: Topic indices effects on Media (SXMP) with Covid-19 dummy interactions - first lag

SXMP	$r_{t-1}^{st} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r_t^{st}	-0,0332	-0,0025	0,0046	0,0014	-0,0021	-0,0030
$fsbs_t$	0,2373	-0,0179	-0,3950	-0,1086	0,2285	0,2772
cmp_t	3,3239	0,1040	-0,7353	0,0021	0,0920	0,5647
$fips_t$	-4,6515	0,0443	-0,4354	-0,0561	0,1366	0,3060
$emug_t$	1,0421	0,0861	-0,3496	-0,0385	0,0651	0,2860
nmp_t	2,2200	0,1672	-0,7596	-0,0343	0,0466	0,5797

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A158: Topic indices effects on Media (SXMP) with Covid-19 dummy interactions - second lag

SXMP	$r_{t-2}^{st} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r_t^{st}	0,1188	-0,0023	0,0007	-0,0003	0,0023	-0,0012	0,0144
$fsbs_t$	3,3309	0,2371	-0,0736	-0,2028	0,0800	0,0536	0,0234
cmp_t	5,3898	0,1022	0,2446	-0,1341	0,0760	-0,1432	0,0242
$fips_t$	3,4334	0,1453	0,2553	-0,1189	0,0414	-0,2343	0,0528
$emug_t$	0,9269	-0,0728	-0,0689	-0,0332	0,1819	0,0364	0,0175
nmp_t	6,8670	0,1881	0,6811	-0,1815	-0,1026	-0,4003	0,0252

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A159: Topic indices effects on Oil and Gas (SXEP) with Covid-19 dummy interactions - first lag

SXEP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0641	-0,0003	0,0007	0,0000	0,0002	-0,0008	-0,0002
$fsbs_t$	-3,0576	0,0042	0,0364	0,0409	0,0138	-0,0295	-0,20915
cmp_t	-3,2267	0,0057	0,0839	0,0089	0,0063	-0,0540	-0,15861
$fips_t$	-0,7154	-0,0299	0,0154	0,0067	0,0077	0,0129	-0,1946
$emug_t$	-1,1604	0,0028	0,0090	0,0043	-0,0056	-0,0167	-0,23238
nmp_t	-2,8859	-0,0001	0,1395	0,0199	0,0082	-0,0830	-0,06427

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A160: Topic indices effects on Oil and Gas (SXEP) with Covid-19 dummy interactions - second lag

SXEP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0319	0,0003	-0,0013	0,0003	0,0005	0,0009
$fsbs_t$	-1,0135	-0,0650	0,1395	0,0967	-0,0791	-0,0601
cmp_t	-0,6867	-0,0589	0,1998	0,0919	-0,0668	-0,1212
$fips_t$	1,4009	-0,0410	0,0097	0,0298	-0,0233	0,0491
$emug_t$	2,5954	-0,0495	0,1084	0,0716	-0,0528	-0,0211
nmp_t	-2,0218	-0,0471	0,1216	0,0762	-0,0373	-0,0716

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A161: Topic indices effects on Oil and Gas (SXEP) with Covid-19 dummy interactions - first lag with interactions

SXEP	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	0,0004	0,0021	0,0002	-0,0017	-0,0004	-0,0019
$fsbs_t$	2,9926	-0,0208	-0,3896	-0,1056	0,2254	0,2728
cmp_t	4,8401	0,1047	-0,7622	0,0105	0,1002	0,5793
$fips_t$	0,7852	0,0402	-0,4196	-0,0523	0,1318	0,2927
$emug_t$	1,6811	0,0849	-0,3590	-0,0357	0,0683	0,2906
nmp_t	4,5188	0,1703	-0,7949	-0,0241	0,0569	0,5985

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A162: Topic indices effects on Oil and Gas (SXEP) with Covid-19 dummy interactions - second lag with interactions

SXEP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1220	0,0002	-0,0036	-0,0018	0,0045	0,0010	0,0151
$fsbs_t$	1,5478	0,2357	-0,0768	-0,2009	0,0789	0,0576	0,0240
cmp_t	2,6151	0,0953	0,2384	-0,1282	0,0789	-0,1354	0,0249
$fips_t$	-1,1445	0,1422	0,2605	-0,1171	0,0361	-0,2339	0,0494
$emug_t$	-1,9581	-0,0735	-0,0721	-0,0319	0,1837	0,0394	0,0186
nmp_t	4,4766	0,1810	0,6699	-0,1753	-0,0980	-0,3880	0,0260

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A163: Topic indices effects on Personal and Household Goods (SXQP) with Covid-19 dummy interactions - first lag

SXQP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0151	-0,0004	0,0006	0,0002	0,0003	-0,0007	-1,91E-05
$fsbs_t$	-2,7372	0,0025	0,0361	0,0420	0,0121	-0,0280	-0,21152
cmp_t	-4,8914	0,0040	0,0818	0,0095	0,0048	-0,0502	-0,16424
$fips_t$	-0,0545	-0,0306	0,0153	0,0068	0,0080	0,0130	-0,1966
$emug_t$	-3,4085	0,0016	0,0053	0,0040	-0,0050	-0,0129	-0,2341
nmp_t	-4,6829	-0,0012	0,1379	0,0205	0,0063	-0,0795	-0,07044

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A164: Topic indices effects on Personal and Household Goods (SXQP) with Covid-19 dummy interactions - second lag

SXQP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0414	0,0005	-0,0009	-0,0002	0,0003	0,0005
$fsbs_t$	-2,4987	-0,0657	0,1376	0,0971	-0,0792	-0,0577
cmp_t	-1,8788	-0,0602	0,1993	0,0926	-0,0660	-0,1207
$fips_t$	1,4943	-0,0402	0,0097	0,0297	-0,0229	0,0484
$emug_t$	1,6207	-0,0490	0,1092	0,0715	-0,0510	-0,0234
nmp_t	-3,1157	-0,0492	0,1209	0,0770	-0,0370	-0,0704

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A165: Topic indices effects on Personal and Household Goods (SXQP) with Covid-19 dummy interactions - first lag with interactions

SXQP	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0825	-0,0003	0,0076	-0,0002	-0,0027	-0,0058
$fsbs_t$	3,3761	-0,0192	-0,3871	-0,1061	0,2265	0,2697
cmp_t	5,4074	0,1052	-0,7154	0,0028	0,0855	0,5499
$fips_t$	2,6490	0,0438	-0,4373	-0,0556	0,1359	0,3067
$emug_t$	3,8711	0,0852	-0,3454	-0,0374	0,0631	0,2830
nmp_t	5,1923	0,1697	-0,7409	-0,0322	0,0405	0,5650

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A166: Topic indices effects on Personal and Household Goods (SXQP) with Covid-19 dummy interactions - second lag with interactions

SXQP	$r^{st}_{t-2} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r^{st}_t	0,1648	-0,0011	0,0031	-0,0006	-0,0011	-0,0016	0,0177
$fsbs_t$	2,1170	0,2359	-0,0700	-0,2019	0,0765	0,0526	0,0236
cmp_t	3,5442	0,1015	0,2554	-0,1369	0,0697	-0,1490	0,0248
$fips_t$	-0,7710	0,1434	0,2391	-0,1177	0,0417	-0,2157	0,0494
$emug_t$	-1,3713	-0,0728	-0,0674	-0,0343	0,1793	0,0375	0,0185
nmp_t	4,8186	0,1877	0,6944	-0,1851	-0,1097	-0,4074	0,0256

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A167: Topic indices effects on Real Estate (SX86P) with Covid-19 dummy interactions - first lag

SX86P	r_{t-1}^{st}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r_t^{st}	0,0500	-0,0001	-0,0003	0,0000	0,0005	-0,0002	-0,00102
$fsbs_t$	-1,0582	0,0031	0,0365	0,0418	0,0125	-0,0287	-0,21027
cmp_t	-3,0851	0,0048	0,0790	0,0097	0,0057	-0,0487	-0,16172
$fips_t$	-0,2930	-0,0308	0,0140	0,0073	0,0079	0,0137	-0,19453
$emug_t$	-3,2332	0,0018	0,0006	0,0047	-0,0038	-0,0099	-0,23355
nmp_t	-2,6354	-0,0003	0,1359	0,0206	0,0068	-0,0786	-0,0679

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A168: Topic indices effects on Real Estate (SX86P) with Covid-19 dummy interactions - second lag

SX86P	r_{t-2}^{st}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r_t^{st}	-0,0521	0,0007	-0,0006	-0,0003	0,0002	0,0001
$fsbs_t$	-1,7148	-0,0646	0,1344	0,0968	-0,0788	-0,0552
cmp_t	-2,8218	-0,0582	0,1911	0,0914	-0,0647	-0,1139
$fips_t$	-0,3785	-0,0400	0,0073	0,0293	-0,0225	0,0509
$emug_t$	-0,1493	-0,0480	0,1042	0,0704	-0,0502	-0,0190
nmp_t	-4,1928	-0,0469	0,1112	0,0759	-0,0353	-0,0623

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A169: Topic indices effects on Real Estate (SX86P) with Covid-19 dummy interactions - first lag with interactions

SX86P	$r_{t-1}^{st} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r_t^{st}	0,0154	-0,0009	0,0098	-0,0018	-0,0029	-0,0065
$fsbs_t$	0,9345	-0,0202	-0,3825	-0,1068	0,2246	0,2681
cmp_t	2,6382	0,1037	-0,7048	0,0046	0,0809	0,5439
$fips_t$	0,7595	0,0425	-0,4146	-0,0545	0,1298	0,2900
$emug_t$	3,4329	0,0856	-0,3354	-0,0379	0,0604	0,2751
nmp_t	1,9925	0,1676	-0,7309	-0,0300	0,0361	0,5599

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A170: Topic indices effects on Real Estate (SX86P) with Covid-19 dummy interactions - second lag with interactions

SX86P	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,2735	-0,0018	-0,0040	-0,0006	0,0013	0,0035	0,0353
$fsbs_t$	1,8700	0,2347	-0,0634	-0,2020	0,0754	0,0472	0,0228
cmp_t	4,5656	0,0980	0,2781	-0,1361	0,0647	-0,1670	0,0242
$fips_t$	1,3474	0,1424	0,2581	-0,1166	0,0360	-0,2326	0,0491
$emug_t$	0,7514	-0,0735	-0,0615	-0,0329	0,1779	0,0320	0,0183
nmp_t	5,8059	0,1835	0,7215	-0,1846	-0,1158	-0,4287	0,0253

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A171: Topic indices effects on Retail (SXRP) with Covid-19 dummy interactions - first lag

SXRP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0299	-0,0001	0,0006	-0,0003	0,0002	-0,0008	0,000538
$fsbs_t$	-1,2899	0,0025	0,0370	0,0425	0,0123	-0,0292	-0,21041
cmp_t	-3,0269	0,0040	0,0825	0,0103	0,0051	-0,0517	-0,16321
$fips_t$	2,8727	-0,0313	0,0181	0,0079	0,0073	0,0098	-0,19538
$emug_t$	-2,3614	0,0015	0,0056	0,0043	-0,0047	-0,0142	-0,23465
nmp_t	-2,6096	-0,0014	0,1388	0,0216	0,0064	-0,0811	-0,06912

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A172: Topic indices effects on Retail (SXRP) with Covid-19 dummy interactions - second lag

SXRP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0323	0,0005	-0,0014	-0,0001	0,0003	0,0011
$fsbs_t$	-1,8779	-0,0648	0,1372	0,0965	-0,0795	-0,0577
cmp_t	-1,8446	-0,0587	0,1981	0,0910	-0,0667	-0,1198
$fips_t$	0,2400	-0,0397	0,0071	0,0303	-0,0236	0,0520
$emug_t$	0,8688	-0,0480	0,1080	0,0702	-0,0517	-0,0218
nmp_t	-2,9472	-0,0476	0,1196	0,0756	-0,0376	-0,0696

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A173: Topic indices effects on Retail (SXRP) with Covid-19 dummy interactions - first lag with interactions

SXRP	r^{st}_{t-1} $\times D_{t-1}$	$fsbs_{t-1}$ $\times D_{t-1}$	cmp_{t-1} $\times D_{t-1}$	$fips_{t-1}$ $\times D_{t-1}$	$emug_{t-1}$ $\times D_{t-1}$	nmp_{t-1} $\times D_{t-1}$
r^{st}_t	-0,0290	-0,0019	0,0059	0,0011	-0,0001	-0,0047
$fsbs_t$	1,9279	-0,0186	-0,3859	-0,1077	0,2262	0,2699
cmp_t	3,4130	0,1036	-0,7199	0,0043	0,0866	0,5536
$fips_t$	-2,1354	0,0426	-0,4223	-0,0547	0,1327	0,2964
$emug_t$	2,4872	0,0852	-0,3453	-0,0381	0,0634	0,2828
nmp_t	2,8810	0,1679	-0,7458	-0,0309	0,0416	0,5690

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A174: Topic indices effects on Retail (SXRP) with Covid-19 dummy interactions - second lag with interactions

SXRP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1591	-0,0008	0,0039	-0,0013	-0,0017	-0,0026	0,0164
$fsbs_t$	1,8566	0,2363	-0,0709	-0,2019	0,0760	0,0536	0,0230
cmp_t	4,6724	0,1022	0,2597	-0,1363	0,0715	-0,1523	0,0240
$fips_t$	0,5585	0,1434	0,2597	-0,1191	0,0363	-0,2337	0,0498
$emug_t$	1,3588	-0,0710	-0,0702	-0,0342	0,1827	0,0386	0,0182
nmp_t	5,9285	0,1883	0,6993	-0,1847	-0,1077	-0,4110	0,0248

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A175: Topic indices effects on Technology (SX8P) with Covid-19 dummy interactions - first lag

SX8P	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	-0,0087	0,0000	-0,0004	-0,0001	0,0001	0,0001	-0,00024
$fsbs_t$	-3,4756	0,0023	0,0348	0,0415	0,0120	-0,0249	-0,21301
cmp_t	-3,1171	0,0048	0,0859	0,0091	0,0056	-0,0535	-0,16379
$fips_t$	-1,5844	-0,0310	0,0131	0,0071	0,0078	0,0154	-0,19823
$emug_t$	-4,0592	0,0015	0,0053	0,0046	-0,0047	-0,0125	-0,23594
nmp_t	-2,0974	-0,0005	0,1426	0,0199	0,0070	-0,0834	-0,06892

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A176: Topic indices effects on Technology (SX8P) with Covid-19 dummy interactions - second lag

SX8P	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0287	0,0005	-0,0008	-0,0003	0,0001	0,0005
$fsbs_t$	-1,4091	-0,0648	0,1358	0,0968	-0,0797	-0,0564
cmp_t	2,3088	-0,0585	0,1995	0,0924	-0,0673	-0,1223
$fips_t$	-0,2153	-0,0400	0,0075	0,0292	-0,0227	0,0506
$emug_t$	1,6167	-0,0475	0,1058	0,0706	-0,0515	-0,0210
nmp_t	1,5293	-0,0477	0,1220	0,0770	-0,0384	-0,0726

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A177: Topic indices effects on Technology (SX8P) with Covid-19 dummy interactions - first lag with interactions

SX8P	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0250	-0,0026	0,0109	0,0017	-0,0028	-0,0070
$fsbs_t$	4,0586	-0,0192	-0,3838	-0,1069	0,2256	0,2662
cmp_t	3,8513	0,1028	-0,7238	0,0039	0,0830	0,5587
$fips_t$	3,1042	0,0420	-0,4190	-0,0547	0,1307	0,2920
$emug_t$	4,7399	0,0855	-0,3445	-0,0387	0,0616	0,2817
nmp_t	2,7414	0,1666	-0,7502	-0,0300	0,0383	0,5749

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A178: Topic indices effects on Technology (SX8P) with Covid-19 dummy interactions - second lag with interactions

SX8P	$r^{st}_{t-2} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r^{st}_t	0,1527	-0,0025	0,0061	-0,0022	-0,0022	-0,0033	0,0177
$fsbs_t$	1,5685	0,2365	-0,0723	-0,2029	0,0780	0,0536	0,0241
cmp_t	-0,8988	0,0994	0,2590	-0,1377	0,0697	-0,1506	0,0244
$fips_t$	0,7360	0,1451	0,2493	-0,1201	0,0382	-0,2261	0,0495
$emug_t$	-0,9572	-0,0730	-0,0682	-0,0348	0,1804	0,0377	0,0197
nmp_t	-0,5001	0,1854	0,6999	-0,1859	-0,1100	-0,4105	0,0239

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A179: Topic indices effects on Telecommunications (SXKP) with Covid-19 dummy interactions - first lag

SXKP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0271	-0,0002	0,0001	-0,0002	0,0004	-0,0005	-0,0005
$fsbs_t$	-4,8867	0,0038	0,0333	0,0401	0,0130	-0,0247	-0,20914
cmp_t	-6,0909	0,0047	0,0783	0,0082	0,0058	-0,0474	-0,15917
$fips_t$	-0,5909	-0,0297	0,0159	0,0062	0,0077	0,0134	-0,19442
$emug_t$	-3,2000	0,0016	0,0038	0,0042	-0,0048	-0,0123	-0,2323
nmp_t	-5,6580	-0,0009	0,1344	0,0193	0,0075	-0,0770	-0,06475

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A180: Topic indices effects on Telecommunications (SXKP) with Covid-19 dummy interactions - second lag

SXKP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0628	0,0005	-0,0008	-0,0003	0,0002	0,0006
$fsbs_t$	0,1142	-0,0658	0,1388	0,0960	-0,0782	-0,0608
cmp_t	-1,0046	-0,0595	0,1974	0,0904	-0,0650	-0,1208
$fips_t$	2,6518	-0,0406	0,0113	0,0300	-0,0230	0,0467
$emug_t$	0,1734	-0,0482	0,1061	0,0699	-0,0508	-0,0207
nmp_t	-2,2309	-0,0484	0,1189	0,0748	-0,0360	-0,0703

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A181: Topic indices effects on Telecommunications (SXKP) with Covid-19 dummy interactions - first lag with interactions

SXKP	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0891	-0,0007	0,0056	0,0008	-0,0037	-0,0035
$fsbs_t$	4,8540	-0,0202	-0,3792	-0,1063	0,2242	0,2645
cmp_t	6,3824	0,1051	-0,7073	0,0043	0,0836	0,5444
$fips_t$	1,4929	0,0409	-0,4223	-0,0530	0,1321	0,2948
$emug_t$	3,2146	0,0861	-0,3366	-0,0380	0,0618	0,2760
nmp_t	6,2743	0,1706	-0,7352	-0,0314	0,0389	0,5619

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

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Table A182: Topic indices effects on Telecommunications (SXKP) with Covid-19 dummy interactions - second lag with interactions

SXKP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,2621	-0,0014	0,0000	-0,0004	0,0012	-0,0004	0,0240
$fsbs_t$	0,8558	0,2373	-0,0742	-0,2013	0,0764	0,0572	0,0247
cmp_t	3,6958	0,1028	0,2560	-0,1352	0,0696	-0,1492	0,0264
$fips_t$	-2,2270	0,1429	0,2556	-0,1185	0,0380	-0,2293	0,0497
$emug_t$	0,8559	-0,0723	-0,0653	-0,0331	0,1790	0,0350	0,0184
nmp_t	5,2987	0,1896	0,6916	-0,1838	-0,1082	-0,4051	0,0269

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A183: Topic indices effects on Travel and Leisure (SXTP) with Covid-19 dummy interactions - first lag

SXTP	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0711	-0,0002	0,0000	0,0000	0,0005	-0,0004	-0,00101
$fsbs_t$	0,2183	0,0028	0,0396	0,0417	0,0124	-0,0314	-0,20957
cmp_t	-3,3398	0,0045	0,0840	0,0100	0,0040	-0,0517	-0,16126
$fips_t$	2,1894	-0,0312	0,0162	0,0082	0,0074	0,0107	-0,19424
$emug_t$	-5,0801	0,0016	0,0040	0,0042	-0,0052	-0,0109	-0,23388
nmp_t	-2,5611	-0,0006	0,1406	0,0215	0,0048	-0,0817	-0,06731

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A184: Topic indices effects on Travel and Leisure (SXTP) with Covid-19 dummy interactions - second lag

SXTP	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}
r^{st}_t	-0,0529	0,0004	-0,0020	0,0000	0,0004	0,0014
$fsbs_t$	0,0481	-0,0649	0,1386	0,0973	-0,0803	-0,0586
cmp_t	-0,6666	-0,0591	0,1979	0,0919	-0,0662	-0,1199
$fips_t$	-1,1402	-0,0395	0,0074	0,0295	-0,0241	0,0522
$emug_t$	1,0666	-0,0486	0,1066	0,0703	-0,0494	-0,0221
nmp_t	-2,1345	-0,0479	0,1196	0,0766	-0,0377	-0,0692

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A185: Topic indices effects on Travel and Leisure (SXTP) with Covid-19 dummy interactions - first lag with interactions

SXTP	r^{st}_{t-1} $\times D_{t-1}$	$fsbs_{t-1}$ $\times D_{t-1}$	cmp_{t-1} $\times D_{t-1}$	$fips_{t-1}$ $\times D_{t-1}$	$emug_{t-1}$ $\times D_{t-1}$	nmp_{t-1} $\times D_{t-1}$
r^{st}_t	0,0196	-0,0029	0,0025	-0,0001	-0,0006	-0,0017
$fsbs_t$	-0,4945	-0,0231	-0,3799	-0,1062	0,2230	0,2690
cmp_t	4,2151	0,1060	-0,7311	0,0059	0,0895	0,5595
$fips_t$	-2,0928	0,0409	-0,4155	-0,0539	0,1307	0,2922
$emug_t$	5,1991	0,0869	-0,3444	-0,0370	0,0637	0,2790
nmp_t	3,5485	0,1691	-0,7569	-0,0293	0,0450	0,5762

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A186: Topic indices effects on Travel and Leisure (SXTP) with Covid-19 dummy interactions - second lag with interactions

SXTP	r^{st}_{t-2} $\times D_{t-2}$	$fsbs_{t-2}$ $\times D_{t-2}$	cmp_{t-2} $\times D_{t-2}$	$fips_{t-2}$ $\times D_{t-2}$	$emug_{t-2}$ $\times D_{t-2}$	nmp_{t-2} $\times D_{t-2}$	R^2
r^{st}_t	0,1957	-0,0018	-0,0039	-0,0032	0,0055	0,0020	0,0316
$fsbs_t$	-0,7290	0,2328	-0,0593	-0,2026	0,0748	0,0450	0,0226
cmp_t	1,4310	0,1020	0,2607	-0,1348	0,0689	-0,1538	0,0239
$fips_t$	0,9651	0,1406	0,2682	-0,1174	0,0350	-0,2408	0,0496
$emug_t$	-0,4765	-0,0720	-0,0666	-0,0328	0,1781	0,0367	0,0199
nmp_t	2,5571	0,1875	0,7032	-0,1833	-0,1108	-0,4149	0,0243

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A187: Topic indices effects on Utilities (SX6P) with Covid-19 dummy interactions - first lag

SX6P	r^{st}_{t-1}	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}	D_t
r^{st}_t	0,0149	-0,0003	0,0000	0,0001	0,0005	-0,0005	-0,00042
$fsbs_t$	-1,7505	0,0029	0,0372	0,0418	0,0128	-0,0291	-0,21019
cmp_t	-3,5879	0,0043	0,0824	0,0098	0,0061	-0,0513	-0,16127
$fips_t$	0,9454	-0,0308	0,0161	0,0070	0,0078	0,0119	-0,19417
$emug_t$	-3,0352	0,0017	0,0046	0,0042	-0,0036	-0,0128	-0,23287
nmp_t	-3,4550	-0,0010	0,1387	0,0209	0,0072	-0,0807	-0,06744

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A188: Topic indices effects on Utilities (SX6P) with Covid-19 dummy interactions - second lag

SX6P	r^{st}_{t-2}	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	
r^{st}_t	-0,0201	0,0006	0,0003	-0,0002	0,0001	-0,0007	
$fsbs_t$	0,0412	-0,0654	0,1384	0,0975	-0,0793	-0,0595	
cmp_t	1,0045	-0,0595	0,1994	0,0927	-0,0662	-0,1223	
$fips_t$	1,0337	-0,0399	0,0096	0,0292	-0,0237	0,0494	
$emug_t$	4,4212	-0,0486	0,1111	0,0708	-0,0517	-0,0257	
nmp_t	-0,9041	-0,0485	0,1200	0,0774	-0,0367	-0,0713	

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A189: Topic indices effects on Utilities (SX6P) with Covid-19 dummy interactions - first lag with interactions

SX6P	$r^{st}_{t-1} \times D_{t-1}$	$fsbs_{t-1} \times D_{t-1}$	$cmp_{t-1} \times D_{t-1}$	$fips_{t-1} \times D_{t-1}$	$emug_{t-1} \times D_{t-1}$	$nmp_{t-1} \times D_{t-1}$
r^{st}_t	-0,0561	-0,0012	0,0130	0,0005	-0,0046	-0,0081
$fsbs_t$	2,1146	-0,0200	-0,3880	-0,1068	0,2253	0,2721
cmp_t	3,2558	0,1011	-0,7112	0,0060	0,0810	0,5503
$fips_t$	-0,7919	0,0408	-0,4181	-0,0529	0,1308	0,2931
$emug_t$	3,3421	0,0841	-0,3444	-0,0371	0,0609	0,2836
nmp_t	2,8068	0,1653	-0,7343	-0,0289	0,0354	0,5638

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A190: Topic indices effects on Utilities (SX6P) with Covid-19 dummy interactions - second lag with interactions

SX6P	$r^{st}_{t-2} \times D_{t-2}$	$fsbs_{t-2} \times D_{t-2}$	$cmp_{t-2} \times D_{t-2}$	$fips_{t-2} \times D_{t-2}$	$emug_{t-2} \times D_{t-2}$	$nmp_{t-2} \times D_{t-2}$	R^2
r^{st}_t	0,1948	-0,0044	0,0013	0,0001	0,0017	-0,0006	0,0276
$fsbs_t$	-0,4025	0,2352	-0,0713	-0,2023	0,0775	0,0542	0,0227
cmp_t	1,2529	0,1010	0,2661	-0,1372	0,0659	-0,1563	0,0239
$fips_t$	-1,3768	0,1406	0,2642	-0,1170	0,0355	-0,2369	0,0492
$emug_t$	-4,1429	-0,0733	-0,0689	-0,0337	0,1801	0,0389	0,0197
nmp_t	3,6392	0,1876	0,7085	-0,1860	-0,1151	-0,4171	0,0245

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

5.6 Sentiment indices (LM) with COVID-19 dummy and its interactions - Polarity and Subjectivity -Results

The Automobiles and parts (SXAP) are affected positively and significantly at 5% by polarity's lag 1 after the introduction of the interactions of the covid-19 dummy. Contrarily to the baseline model Banks (SX7P) sector is positively affected at a significant level of 10% by the first lag of subjectivity and by the interactions between covid-19 dummy and both polarity second lag and subjectivity second lag.

The first lag of polarity has positive and significant effects on the Basic Resources sector (SXPP) as well as the interactions between the second lag of polarity and the covid-19 dummy. Subjectivity is no longer significant as it is the baseline model. Chemicals (SX4P) are not influenced by polarity or subjectivity in this framework. Construction and Materials (SXOP) is not affected by polarity and subjectivity indices as in the baseline model. Financial Service (SXFP) is affected by the first lag of polarity. The effect is positive and significant at 10%. Polarity and Subjectivity indices have no effects on Foods and Beverage (SX3P) as in the baseline scenario.

Health Care (SXDP) and Industrial Goods and Services (SXNP) do not show anymore any significant effects of polarity sentiment indices in comparison with the baseline model. Insurance sector returns (SXIP)and Media's ones (SXMP) continue to not be affected by any polarity or subjectivity sentiment indices. The returns of Oil and Gas (SXEP) shows to be influenced positively at 10% by the interactions between the polarity index's second lag and the covid-19 dummy. Personal and Household Goods (SXQP), Technology (SX8P), Travel and Leisure (SXTP), and Utilities (SX6P) remain unaffected by the polarity and subjectivity indices. The returns of Real Estate (SX86P), Retail (SXRP), and Telecommunications are no longer influenced by the sentiment indices.

5.7 Sentiment indices (LM) with COVID-19 dummy and its interactions - Positivity and Negativity - Results

The Automobiles and parts (SXAP)'s returns are positive and significant at 10% affected by the positivity sentiment index at lag 1.

For what concerns Banks (SX7P), the interactions between the covid-19 dummy and the positivity index at lag 2 are positive and significant at 5% and the interactions between the covid-19 and the negativity index at lag 2 are negative and significant at 5%.

In the Basic Resources (SXPP)'s results, the negativity index is no longer significant, but the positivity index at lag 1 is positive and significant at 10%.

The Chemicals (SX4P) sector's returns are not influenced anymore by any positivity or negativity sentiment indices. Construction and materials' (SXOP) is affected negatively by the negativity index interacted with the covid-19 dummy with significance at 10%. The returns of Financial Services (SXFP), Food and Beverage (SX3P), and Health Care (SXDP) continue to not be influenced by positive or negative sentiment indices as in the baseline model.

The returns of Industrial Goods and Services (SXNP)are no longer affected by the positivity index as in the baseline. Positivity and sentiment indices are continuing to not affect the Insurance (SXIP) and Media (SXMP) sectors' returns as in the baseline model.

For what concerns Oil and Gas (SXEP), the interactions between the covid-19 dummy and the positivity index at lag 2 are positive and significant at 10% and the interactions between the covid-19 and the negativity index at lag 2 are negative and significant at 10%.

The effects of the negativity and positivity sentiment indices continue to be not relevant for Personal and Household Goods (SXQP), Technology (SX8P), Travel and Leisure (SXTP), Utilities (SX6P).

Real Estate (SX86P) and Telecommunications (SXKP) are no longer affected by positivity or negativity sentiment indices when the interactions with the covid-19 dummy are introduced. Finally, the returns of the Retail (SXRP) are negatively influenced by

the negativity sentiment index at lag 1 with significance at 10%.

5.8 Sentiment indices (HL) with the COVID-19 dummy and its interactions - Positivity and Negativity -Results

Automobiles and parts (SXAP) and Banks (SX7P) are no longer affected by negativity sentiment indices when the interactions of the covid-19 dummy are introduced. What concerns Basic Resources (SXPP) and Chemicals (SX4P)'s returns, the interaction between the covid-19 dummy and the first lag of negativity sentiment indices have positive and significant at 10% effects.

Constructions and Materials (SXOP) and Financial Services (SFXP) continue to not be affected by positivity or negativity sentiment indices. The interaction between the first lag of the negativity sentiment index and the covid-19 dummy has positive and significant effects on Food and Beverage (SX3P)'s returns. Sentiment indices are no longer significant on Health Care (SXDP) and Industrial Goods and Services (SXNP) once the interactions between sentiment indices and covid-19 dummy variable are introduced.

Insurance (SXIP) and Media (SXMP) continue to not be influenced by negativity and positivity sentiment indices. The interaction between the covid-19 dummy and the first lag of the negativity sentiment index has positive and significant effects at 10% over Oil and Gas (SXEP).

The sectors related to Personal and Household Goods (SXQP), Technology and Utilities (SX6P) are still not influenced by positivity or negativity sentiment indices. Moreover, the sentiment indices are longer affecting the returns of Travel and Leisure (SXTP) and Real Estate (SX86P).

The Retail sector (SXRP)'s returns are influenced positively at 10% by the interaction between the negativity score and the covid-19 dummy at lag 1. Finally, the interaction between the negativity score and the covid-19 dummy at lag 1 has positive and significant effects on Telecommunications (SXKP).

5.9 Sentiment indices (HL) with the COVID-19 dummy and its interactions - Number of positive and negative speeches during a given day -Results

One of the interesting insights from these estimations is that the number of negative speeches at lag 1 interacting with the covid-19 dummy is negative and significant in every sector considered in our estimations. The differences are related to the percentage of significance.

For Automobiles and parts (SXAP), Banks (SX7P), Construction and materials (SXOP), Industrial Goods and Services (SXNP), Insurance (SXIP), Media (SXMP), Personal and Household Goods (SXQP), Retail (SXRP), Travel and Leisure (SXTP), and Utilities this significance is at 5%. For Technology and Telecommunications is equal to 10%. Finally, for Basic Resources (SXPP), Chemicals (SX4P), Financial Services (SXFP), Food and Beverage (SX3P), Health Care (SXDP), Oil and Gas (SXEP), Real Estate (SX86P) is at 1%.

At these results, it can be added the positive and significant effects at 10% over the Chemicals (SX4P) of the number of positive speeches in a given day at lag 1 interacted with the covid-19 dummy. Moreover, the interaction between the number of negative speeches in a given day at lag 1 interacted with the covid-19 dummy is negatively and significantly affecting the Media (SXMP) at 10%. Finally, the number of positive speeches in a given day at lag 2 interacted with the covid-19 dummy has negative and significant effects on the Telecommunications (SXKP).

Topic Indices with factors - Results

This and the following sections show the results of the VAR models with topic and sentiment indices with the factors. Given the importance of these last models, we proceed to examine them in detail.

The first lag of FSBS has positive and significant effects at 1% over the Automobiles and parts (SXAP) sector in Tables A191-A192. The first lag of CMP is positive as well and significant at 10%.

No topic is significantly influencing the Banks (SX7P)' sector returns in Tables A193-194.

Basic Resources (SXPP)'s returns in Tables A195-A196 are positively and significantly affected by FIPS and EMUG's first lags respectively at 10% and 1%. The Chemicals (SX4P)'s returns in Tables A197-A198 are positively and significantly influenced by the two monetary policies' topics. The second lag of CMP is significant at 10% and the second lag of NMP is significant at 5%. Regarding the Construction and Materials (SXOP) in Tables A199-A200, the two topics related to financial issues are affecting negatively the returns sector. The second lag of FSBS is negative and significant at 5% and the second lag of FIPS is negative and significant at 5%.

Financial Services (SXFP) in Tables A201-A202 are positively affected by the EMUG's second lag topic and significant at 10%. The returns of the sectors Food and Beverage (SX3P) in Tables A203-A204 and Health Care (SXDP) in Tables A205-206 are not affected by topic indices.

Industrial Goods (SXDP) in Tables A207-A208 is definitely affected by the two monetary policies' topics. In particular, CMP's first lag is significant and positive at 10% and the second lag is negative and significant at 10%. NMP's first lag is positive and significant at 5%.

In Tables A209-A210 we can observe the results of the Insurance (SXIP) sector. It is not affected by any topics in the estimations with factors. Instead, in Tables A211-A212 we can observe that FSBS and FIPS 's first lags have positive and significant effects respectively at 5% and 1% on the Media (SXMP) sector's returns. Oil and Gas (SXEP) is not affected by any topic in the estimations in Tables A213-A214. Personal

and Household Goods (SXQP)'s returns in Tables A215-A216 are influenced negatively by the two monetary policies' topics at lag 1 (CMP and NMP). The significance is at 10%.

The Real Estate (SX86P), in Tables A217-218, and Retail (SXRP) in Tables A219-A220 are not affected by any topic when factors are introduced. The returns of the Technology (SX8P) sector are influenced by lag 1 of EMUG topic negatively and significant at 5%. Moreover, CMP and NMP's second lags have positive and significant effects on the returns of the sector, at 5% and 10% respectively. The results can be observed in Tables A221-A222. The returns of the Telecommunications (SXKP)'s sector are negatively affected by FSBS's first lag at a 5% level of significance. Furthermore, the two monetary policies' topics at first lag have extremely negative and significant effects at 1% (Tables A223-A224).

Travel and Leisure (SXTP)'s returns are negatively affected by lag 1 of EMUG's topic (Tables A225-A226) at 10% significance. Finally, the Utilities sector (SX6P) has returns influenced by EMUG's topic as well but at a second lag and positively at 10% significance (Tables A227-A228).

Table A191: Topic indices effects with factors on Automobiles and Parts (SXAP) - first lag

SXAP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0704	0,0285	7,9505	4,2969	2,8509	3,3001	3,7950
$factor_t$	-0,0009	0,0074	-0,1339	-0,0837	-0,0243	-0,0608	-0,0734
$fsbs_t$	0,0002	-0,0216	0,0097	0,0159	-0,0215	0,0094	0,0120
cmp_t	-0,0008	0,0474	0,0262	0,0298	-0,0019	-0,0104	0,0748
$fips_t$	0,0000	-0,0050	0,0385	0,0106	0,0056	0,0064	0,0177
$emug_t$	0,0003	0,0215	0,0238	0,0144	0,0174	0,0016	0,0153
nmp_t	0,0006	-0,0674	-0,0193	-0,0008	0,0249	0,0028	-0,0219

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A192: Topic indices effects with factors on Automobiles and Parts (SXAP) - second lag

SXAP	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	0,0690	7,3963	-1,7548	-1,2447	-2,8220	2,3446	-1,2270	0,0066
$factor_t$	-0,0003	-0,0573	0,0103	0,0199	0,0460	-0,0179	0,0134	0,0090
$fsbs_t$	0,0006	0,0380	-0,0552	-0,0554	-0,0327	-0,0475	-0,0449	0,0177
cmp_t	-0,0014	-0,0716	0,1517	0,2266	0,0532	0,1291	0,1621	0,0151
$fips_t$	-0,0005	-0,0180	0,0886	0,0868	0,0263	0,0707	0,0700	0,0416
$emug_t$	0,0004	0,0235	-0,0720	-0,0624	-0,0197	-0,0445	-0,0395	0,0096
nmp_t	0,0005	0,0377	-0,0730	-0,1427	0,0032	-0,0415	-0,0998	0,0146

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A193: Topic indices effects with factors on Banks (SX7P) - first lag

SX7P	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,0418	-2,2511	2,9045	3,8180	-1,0100	1,1584	3,4864
$factor_t$	-0,0003	0,0395	-0,0613	-0,0759	0,0299	-0,0299	-0,0680
$fsbs_t$	0,0001	-0,0167	0,0059	0,0137	-0,0238	0,0100	0,0098
cmp_t	-0,0012	0,0461	0,0226	0,0284	-0,0025	-0,0120	0,0735
$fips_t$	-0,0002	-0,0070	0,0397	0,0116	0,0055	0,0061	0,0188
$emug_t$	0,0006	0,0223	0,0255	0,0152	0,0174	0,0025	0,0161
nmp_t	0,0005	-0,0661	-0,0184	-0,0011	0,0255	0,0034	-0,0222

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A194: Topic indices effects with factors on Banks (SX7P) - second lag

SX7P	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	0,0238	0,4395	4,3971	1,9588	-0,5303	1,4392	2,1484	0,0060
$factor_t$	0,0003	0,0416	-0,0760	-0,0255	0,0137	-0,0048	-0,0343	0,0055
$fsbs_t$	0,0007	0,0374	-0,0522	-0,0544	-0,0307	-0,0468	-0,0440	0,0152
cmp_t	-0,0016	-0,0780	0,1464	0,2278	0,0483	0,1258	0,1634	0,0151
$fips_t$	-0,0006	-0,0196	0,0908	0,0883	0,0268	0,0710	0,0715	0,0406
$emug_t$	0,0003	0,0251	-0,0728	-0,0635	-0,0198	-0,0444	-0,0406	0,0086
nmp_t	0,0009	0,0422	-0,0667	-0,1422	0,0081	-0,0381	-0,0996	0,0148

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A195: Topic indices effects with factors on Basic resources (SXPP) - first lag

SXPP	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	-0,0207	-0,1080	1,8044	2,5064	2,8179	5,3092	2,1745
$factor_t$	0,0000	0,0095	-0,0461	-0,0570	-0,0223	-0,0860	-0,0492
$fsbs_t$	-0,0005	-0,0166	0,0066	0,0137	-0,0246	0,0091	0,0099
cmp_t	0,0009	0,0454	0,0212	0,0277	-0,0040	-0,0152	0,0728
$fips_t$	0,0000	-0,0066	0,0380	0,0104	0,0061	0,0059	0,0176
$emug_t$	0,0001	0,0236	0,0255	0,0128	0,0157	-0,0002	0,0141
nmp_t	-0,0012	-0,0660	-0,0162	0,0003	0,0261	0,0057	-0,0208

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A196: Topic indices effects with factors on Basic Resources (SXPP) - second lag

SXXP	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,0433	-1,1925	-0,4349	2,0335	1,8408	2,7064	1,6058	0,0064
$factor_t$	0,0012	0,0635	-0,0077	-0,0243	-0,0178	-0,0193	-0,0248	0,0054
$fsbs_t$	0,0007	0,0370	-0,0509	-0,0532	-0,0308	-0,0459	-0,0429	0,0137
cmp_t	-0,0030	-0,0724	0,1410	0,2176	0,0469	0,1187	0,1544	0,0154
$fips_t$	0,0002	-0,0196	0,0893	0,0876	0,0272	0,0707	0,0707	0,0424
$emug_t$	0,0007	0,0244	-0,0717	-0,0616	-0,0191	-0,0423	-0,0389	0,0142
nmp_t	0,0023	0,0383	-0,0619	-0,1344	0,0090	-0,0327	-0,0927	0,0147

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A197: Topic indices effects with factors on Chemicals (SX4P) - first lag

SX4P	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	-0,0642	-7,8867	-1,3756	-4,9629	3,4929	1,1534	-3,8029
$factor_t$	0,0002	0,0930	-0,0066	0,0312	-0,0197	-0,0257	0,0228
$fsbs_t$	0,0000	-0,0158	0,0072	0,0148	-0,0243	0,0103	0,0108
cmp_t	0,0005	0,0515	0,0252	0,0343	0,0021	-0,0099	0,0814
$fips_t$	-0,0001	-0,0083	0,0373	0,0088	0,0055	0,0052	0,0158
$emug_t$	0,0001	0,0214	0,0246	0,0135	0,0159	0,0017	0,0137
nmp_t	-0,0006	-0,0709	-0,0189	-0,0043	0,0228	0,0027	-0,0265

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A198: Topic indices effects with factors on Chemicals (SX4P) - second lag

SX4P	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0190	6,3839	1,8173	7,9204	7,3337	2,6876	10,9162	0,0053
$factor_t$	0,0003	-0,0246	-0,0343	-0,0842	-0,0695	-0,0124	-0,1214	0,0073
$fsbs_t$	0,0002	0,0372	-0,0515	-0,0535	-0,0325	-0,0470	-0,0437	0,0133
cmp_t	-0,0006	-0,0744	0,1408	0,2204	0,0495	0,1234	0,1564	0,0156
$fips_t$	-0,0001	-0,0188	0,0898	0,0883	0,0283	0,0710	0,0720	0,0420
$emug_t$	0,0003	0,0232	-0,0724	-0,0636	-0,0200	-0,0442	-0,0407	0,0086
nmp_t	0,0004	0,0413	-0,0615	-0,1349	0,0075	-0,0360	-0,0923	0,0165

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A199: Topic indices effects with factors on Construction and Materials (SXOP) - first lag

SXOP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0359	1,6044	5,5442	1,6929	0,3306	5,7444	1,3833
$factor_t$	0,0006	-0,0114	-0,0878	-0,0433	0,0123	-0,0827	-0,0364
$fsbs_t$	-0,0002	-0,0189	0,0089	0,0141	-0,0211	0,0114	0,0100
cmp_t	0,0003	0,0508	0,0204	0,0289	-0,0077	-0,0136	0,0746
$fips_t$	-0,0001	-0,0053	0,0369	0,0104	0,0042	0,0051	0,0177
$emug_t$	0,0002	0,0194	0,0270	0,0146	0,0209	0,0034	0,0151
nmp_t	-0,0005	-0,0692	-0,0170	-0,0005	0,0278	0,0038	-0,0219

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A200: Topic indices effects with factors on Construction and Materials (SXOP) - second lag

SXOP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,1208	11,6506	-9,3495	0,8104	-14,3474	-5,3230	2,3007	0,0071
$factor_t$	-0,0010	-0,0926	0,0972	-0,0075	0,1783	0,0785	-0,0316	0,0081
$fsbs_t$	0,0005	0,0369	-0,0515	-0,0533	-0,0311	-0,0464	-0,0429	0,0159
cmp_t	-0,0015	-0,0738	0,1426	0,2214	0,0505	0,1252	0,1575	0,0138
$fips_t$	-0,0002	-0,0187	0,0896	0,0875	0,0264	0,0708	0,0708	0,0452
$emug_t$	0,0004	0,0242	-0,0720	-0,0626	-0,0197	-0,0441	-0,0397	0,0098
nmp_t	0,0008	0,0375	-0,0624	-0,1374	0,0083	-0,0372	-0,0952	0,0137

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A201: Topic indices effects with factors on Financial Services (SXFP) - first lag

SXFP	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,0538	2,5322	5,2263	1,4031	5,1966	1,1649	1,5209
$factor_t$	-0,0002	-0,0216	-0,0832	-0,0398	-0,0454	-0,0283	-0,0379
$fsbs_t$	-0,0002	-0,0162	0,0073	0,0140	-0,0237	0,0097	0,0102
cmp_t	-0,0003	0,0456	0,0227	0,0287	-0,0037	-0,0107	0,0738
$fips_t$	-0,0001	-0,0068	0,0370	0,0097	0,0052	0,0045	0,0170
$emug_t$	0,0003	0,0229	0,0262	0,0152	0,0188	0,0026	0,0161
nmp_t	-0,0001	-0,0666	-0,0181	-0,0004	0,0251	0,0029	-0,0216

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A202: Topic indices effects with factors on Financial Services (SXFP) - second lag

SXFP	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,0287	-3,0123	-0,8980	2,6491	-0,8371	7,0992	2,3180	0,0061
$factor_t$	0,0009	0,0820	-0,0056	-0,0294	0,0141	-0,0689	-0,0317	0,0055
$fsbs_t$	0,0004	0,0365	-0,0516	-0,0532	-0,0311	-0,0462	-0,0429	0,0139
cmp_t	-0,0010	-0,0714	0,1452	0,2215	0,0544	0,1230	0,1578	0,0139
$fips_t$	-0,0004	-0,0189	0,0896	0,0869	0,0271	0,0694	0,0701	0,0412
$emug_t$	0,0002	0,0237	-0,0724	-0,0619	-0,0203	-0,0423	-0,0391	0,0097
nmp_t	0,0008	0,0375	-0,0657	-0,1378	0,0029	-0,0372	-0,0957	0,0137

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A203: Topic indices effects with factors on Food and Beverage (SX3P) - first lag

SX3P	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,0419	-4,3426	-4,8145	-5,4626	1,4084	-3,7934	-5,2865
$factor_t$	-0,0003	0,0393	0,0147	0,0186	0,0057	0,0151	0,0203
$fsbs_t$	-0,0002	-0,0189	0,0070	0,0149	-0,0233	0,0110	0,0106
cmp_t	0,0010	0,0491	0,0258	0,0305	-0,0033	-0,0103	0,0758
$fips_t$	0,0000	-0,0028	0,0391	0,0109	0,0047	0,0057	0,0186
$emug_t$	0,0002	0,0201	0,0234	0,0136	0,0182	0,0015	0,0143
nmp_t	-0,0012	-0,0712	-0,0209	-0,0029	0,0266	0,0018	-0,0243

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A204: Topic indices effects with factors on Food and Beverage (SX3P) - second lag

SX3P	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,1374	-11,6807	-2,3404	0,4744	3,5057	1,1388	-1,3759	0,0132
$factor_t$	0,0013	0,1362	0,0035	-0,0011	-0,0205	0,0068	0,0067	0,0102
$fsbs_t$	0,0004	0,0378	-0,0515	-0,0537	-0,0313	-0,0468	-0,0431	0,0141
cmp_t	-0,0004	-0,0672	0,1447	0,2240	0,0480	0,1255	0,1608	0,0146
$fips_t$	-0,0001	-0,0175	0,0899	0,0873	0,0265	0,0704	0,0708	0,0410
$emug_t$	0,0003	0,0218	-0,0726	-0,0623	-0,0193	-0,0438	-0,0398	0,0088
nmp_t	0,0001	0,0305	-0,0661	-0,1399	0,0094	-0,0380	-0,0986	0,0145

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A205: Topic indices effects with factors on Health Care (SXDP) - first lag

SXDP	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,0530	-4,6879	-4,7741	-4,9553	4,1779	-5,0746	-5,0636
$factor_t$	-0,0005	0,0423	0,0158	0,0154	-0,0174	0,0253	0,0193
$fsbs_t$	-0,0004	-0,0194	0,0076	0,0143	-0,0253	0,0104	0,0102
cmp_t	0,0018	0,0514	0,0235	0,0290	-0,0008	-0,0111	0,0747
$fips_t$	0,0000	-0,0007	0,0392	0,0125	0,0057	0,0078	0,0201
$emug_t$	-0,0001	0,0182	0,0242	0,0136	0,0172	0,0010	0,0141
nmp_t	-0,0018	-0,0720	-0,0179	-0,0009	0,0238	0,0027	-0,0226

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A206: Topic indices effects with factors on Health Care (SXDP) - second lag

SXDP	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,0713	-10,8606	-0,2170	-1,8365	-2,7095	-2,1078	-2,9155	0,0078
$factor_t$	0,0008	0,1318	-0,0131	0,0163	0,0278	0,0313	0,0185	0,0111
$fsbs_t$	0,0003	0,0374	-0,0523	-0,0539	-0,0299	-0,0471	-0,0435	0,0141
cmp_t	0,0000	-0,0688	0,1471	0,2272	0,0445	0,1300	0,1634	0,0149
$fips_t$	0,0001	-0,0159	0,0898	0,0881	0,0277	0,0714	0,0716	0,0415
$emug_t$	-0,0002	0,0220	-0,0733	-0,0639	-0,0195	-0,0456	-0,0412	0,0097
nmp_t	0,0002	0,0341	-0,0674	-0,1424	0,0115	-0,0420	-0,1003	0,0150

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A207: Topic indices effects with factors on Industrial Goods and Services (SXNP) - first lag

SXNP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0627	-2,8759	3,8175	10,3957	3,3415	9,1705	13,0298
$factor_t$	0,0011	0,0410	-0,0656	-0,1424	-0,0226	-0,1191	-0,1692
$fsbs_t$	-0,0002	-0,0168	0,0067	0,0141	-0,0241	0,0105	0,0105
cmp_t	0,0002	0,0468	0,0177	0,0211	-0,0063	-0,0163	0,0663
$fips_t$	-0,0002	-0,0065	0,0376	0,0096	0,0057	0,0048	0,0166
$emug_t$	0,0004	0,0220	0,0272	0,0182	0,0190	0,0046	0,0193
nmp_t	-0,0005	-0,0669	-0,0108	0,0083	0,0296	0,0088	-0,0130

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A208: Topic indices effects with factors on Industrial Goods and Services (SXNP) - second lag

SXNP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0353	-1,3010	-10,7224	-9,7113	-6,1171	-4,5017	-8,0534	0,0072
$factor_t$	0,0009	0,0630	0,1077	0,1111	0,0754	0,0647	0,0853	0,0053
$fsbs_t$	0,0004	0,0366	-0,0519	-0,0536	-0,0312	-0,0465	-0,0432	0,0150
cmp_t	-0,0011	-0,0745	0,1449	0,2264	0,0527	0,1274	0,1630	0,0167
$fips_t$	-0,0002	-0,0196	0,0910	0,0896	0,0280	0,0721	0,0730	0,0413
$emug_t$	0,0005	0,0246	-0,0745	-0,0655	-0,0215	-0,0460	-0,0426	0,0099
nmp_t	0,0005	0,0397	-0,0661	-0,1423	0,0040	-0,0399	-0,1003	0,0170

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A209: Topic indices effects with factors on Insurance (SXIP) - first lag

SXIP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,1166	3,9386	-3,7343	3,8224	-5,6551	0,2259	3,3206
$factor_t$	-0,0008	-0,0410	0,0240	-0,0705	0,0858	-0,0171	-0,0611
$fsbs_t$	0,0000	-0,0158	0,0075	0,0149	-0,0244	0,0108	0,0112
cmp_t	-0,0002	0,0441	0,0229	0,0264	-0,0008	-0,0129	0,0714
$fips_t$	-0,0001	-0,0067	0,0387	0,0101	0,0064	0,0057	0,0175
$emug_t$	0,0004	0,0229	0,0248	0,0154	0,0170	0,0025	0,0162
nmp_t	-0,0003	-0,0656	-0,0177	0,0010	0,0242	0,0042	-0,0202

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A210: Topic indices effects with factors on Insurance (SXIP) - second lag

SXIP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0635	3,1678	3,0809	2,5703	-1,1435	2,2261	3,0749	0,0112
$factor_t$	-0,0001	0,0061	-0,0502	-0,0314	0,0235	-0,0122	-0,0436	0,0060
$fsbs_t$	0,0003	0,0363	-0,0507	-0,0537	-0,0302	-0,0463	-0,0433	0,0138
cmp_t	-0,0014	-0,0719	0,1377	0,2231	0,0463	0,1234	0,1589	0,0144
$fips_t$	-0,0003	-0,0198	0,0889	0,0871	0,0270	0,0702	0,0701	0,0416
$emug_t$	0,0004	0,0243	-0,0715	-0,0628	-0,0195	-0,0440	-0,0398	0,0085
nmp_t	0,0012	0,0378	-0,0596	-0,1383	0,0094	-0,0360	-0,0958	0,0142

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A211: Topic indices effects with factors on Media (SXMP) - first lag

SXMP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0700	11,5211	8,3713	0,2307	11,0519	1,9925	-0,2984
$factor_t$	-0,0003	-0,1022	-0,1018	-0,0230	-0,0892	-0,0317	-0,0150
$fsbs_t$	0,0000	-0,0132	0,0095	0,0154	-0,0203	0,0117	0,0113
cmp_t	0,0014	0,0414	0,0201	0,0281	-0,0077	-0,0128	0,0735
$fips_t$	-0,0001	-0,0049	0,0389	0,0121	0,0082	0,0068	0,0189
$emug_t$	0,0001	0,0243	0,0263	0,0147	0,0194	0,0026	0,0155
nmp_t	-0,0017	-0,0647	-0,0164	-0,0008	0,0270	0,0035	-0,0219

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A212: Topic indices effects with factors on Media (SXMP) - second lag

SXMP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,1032	-4,8498	-3,1854	-5,3771	-6,2821	-4,1009	-4,2959	0,0110
$factor_t$	0,0014	0,0912	0,0143	0,0547	0,0641	0,0547	0,0381	0,0105
$fsbs_t$	0,0002	0,0350	-0,0527	-0,0544	-0,0330	-0,0474	-0,0438	0,0159
cmp_t	-0,0010	-0,0835	0,1340	0,2228	0,0417	0,1233	0,1591	0,0147
$fips_t$	-0,0002	-0,0192	0,0897	0,0873	0,0272	0,0705	0,0705	0,0462
$emug_t$	0,0001	0,0254	-0,0715	-0,0636	-0,0196	-0,0447	-0,0406	0,0091

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A213: Topic indices effects with factors on Oil and Gas (SXEP) - first lag

SXEP	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	0,1390	2,3229	-1,7545	0,0209	-3,2719	0,6123	0,0720
$factor_t$	-0,0014	-0,0223	0,0007	-0,0235	0,0574	-0,0224	-0,0208
$fsbs_t$	-0,0001	-0,0171	0,0077	0,0143	-0,0227	0,0104	0,0105
cmp_t	0,0011	0,0458	0,0248	0,0287	-0,0007	-0,0116	0,0738
$fips_t$	-0,0002	-0,0053	0,0377	0,0105	0,0059	0,0063	0,0176
$emug_t$	0,0002	0,0212	0,0248	0,0146	0,0175	0,0016	0,0156
nmp_t	-0,0013	-0,0654	-0,0195	-0,0002	0,0224	0,0038	-0,0213

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A214: Topic indices effects with factors on Oil and Gas (SXEP) - second lag

SXEP	r_{t-2}^{st}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r_t^{st}	-0,0430	2,8352	0,9590	0,8476	1,7295	2,4052	0,5236	0,0128
$factor_t$	0,0013	0,0104	-0,0261	-0,0084	-0,0151	-0,0156	-0,0105	0,0065
$fsbs_t$	0,0003	0,0355	-0,0515	-0,0536	-0,0310	-0,0473	-0,0432	0,0135
cmp_t	-0,0010	-0,0764	0,1413	0,2206	0,0509	0,1223	0,1569	0,0138
$fips_t$	0,0002	-0,0188	0,0895	0,0875	0,0270	0,0709	0,0706	0,0417
$emug_t$	0,0007	0,0243	-0,0725	-0,0627	-0,0206	-0,0444	-0,0397	0,0090
nmp_t	0,0004	0,0425	-0,0620	-0,1361	0,0065	-0,0342	-0,0942	0,0136

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A215: Topic indices effects with factors on Personal and Household Goods (SXQP) - first lag

SXQP	r_{t-1}^{st}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r_t^{st}	-0,0261	-5,6609	-0,5196	-7,1209	-3,1191	-5,4010	-7,5043
$factor_t$	0,0002	0,0594	-0,0173	0,0421	0,0452	0,0358	0,0487
$fsbs_t$	-0,0004	-0,0166	0,0075	0,0138	-0,0247	0,0098	0,0101
cmp_t	0,0013	0,0473	0,0242	0,0291	-0,0027	-0,0114	0,0744
$fips_t$	0,0001	-0,0066	0,0377	0,0103	0,0058	0,0054	0,0175
$emug_t$	0,0002	0,0211	0,0245	0,0137	0,0175	0,0017	0,0145
nmp_t	-0,0014	-0,0681	-0,0189	-0,0008	0,0263	0,0038	-0,0222

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A216: Topic indices effects with factors on Personal and Household Goods (SXQP) - second lag

SXQP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0796	-6,3201	-3,8720	-4,4781	3,0715	-0,7978	-5,5538	0,0089
$factor_t$	0,0011	0,1051	0,0214	0,0429	-0,0226	0,0221	0,0466	0,0070
$fsbs_t$	0,0004	0,0347	-0,0520	-0,0554	-0,0313	-0,0478	-0,0453	0,0135
cmp_t	-0,0006	-0,0696	0,1413	0,2265	0,0526	0,1279	0,1630	0,0156
$fips_t$	-0,0002	-0,0183	0,0896	0,0888	0,0277	0,0716	0,0720	0,0410
$emug_t$	0,0003	0,0241	-0,0725	-0,0628	-0,0197	-0,0441	-0,0400	0,0091
nmp_t	0,0003	0,0357	-0,0619	-0,1418	0,0039	-0,0404	-0,0998	0,0158

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A217: Topic indices effects with factors on Real Estate (SX86P) - first lag

SX86P	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0685	5,7080	1,8271	-1,3778	-2,3490	-2,3208	-1,3603
$factor_t$	-0,0001	-0,0431	-0,0375	-0,0100	0,0366	0,0070	-0,0065
$fsbs_t$	-0,0002	-0,0183	0,0068	0,0152	-0,0236	0,0112	0,0117
cmp_t	0,0006	0,0543	0,0264	0,0268	-0,0057	-0,0148	0,0721
$fips_t$	-0,0001	-0,0058	0,0377	0,0096	0,0057	0,0049	0,0166
$emug_t$	0,0004	0,0207	0,0242	0,0150	0,0183	0,0029	0,0157
nmp_t	-0,0009	-0,0730	-0,0201	0,0011	0,0280	0,0061	-0,0203

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A218: Topic indices effects with factors on Real Estate (SX86P) - second lag

SX86P	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0556	3,7400	0,1157	-2,8030	-0,3081	-1,9269	-4,0174	0,0111
$factor_t$	-0,0001	0,0121	-0,0161	0,0276	0,0099	0,0333	0,0320	0,0077
$fsbs_t$	0,0006	0,0365	-0,0514	-0,0531	-0,0310	-0,0464	-0,0426	0,0133
cmp_t	-0,0006	-0,0689	0,1411	0,2170	0,0498	0,1210	0,1515	0,0142
$fips_t$	-0,0003	-0,0187	0,0897	0,0872	0,0268	0,0703	0,0703	0,0408
$emug_t$	0,0002	0,0217	-0,0727	-0,0612	-0,0194	-0,0429	-0,0379	0,0089
nmp_t	0,0003	0,0361	-0,0617	-0,1337	0,0066	-0,0344	-0,0900	0,0145

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A219: Topic indices effects with factors on Retail (SXRP) - first lag

SXRP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0524	-2,4223	2,3968	-1,8754	2,7934	-2,9106	-1,6101
$factor_t$	0,0010	0,0313	-0,0446	-0,0052	-0,0109	0,0139	-0,0045
$fsbs_t$	-0,0002	-0,0168	0,0074	0,0144	-0,0237	0,0103	0,0107
cmp_t	0,0011	0,0455	0,0250	0,0277	-0,0012	-0,0130	0,0730
$fips_t$	-0,0002	-0,0069	0,0380	0,0105	0,0061	0,0053	0,0178
$emug_t$	0,0002	0,0225	0,0244	0,0145	0,0172	0,0024	0,0152
nmp_t	-0,0013	-0,0660	-0,0189	0,0003	0,0243	0,0046	-0,0210

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A220: Topic indices effects with factors on Retail (SXRP) - second lag

SXRP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0432	0,2493	-1,8321	-3,2191	-0,6756	-0,6217	-3,7568	0,0087
$factor_t$	0,0009	0,0459	0,0024	0,0340	0,0116	0,0224	0,0328	0,0053
$fsbs_t$	0,0004	0,0366	-0,0515	-0,0537	-0,0309	-0,0466	-0,0434	0,0135
cmp_t	-0,0010	-0,0723	0,1385	0,2207	0,0479	0,1254	0,1565	0,0141
$fips_t$	-0,0002	-0,0198	0,0899	0,0869	0,0275	0,0700	0,0701	0,0408
$emug_t$	0,0002	0,0244	-0,0720	-0,0624	-0,0199	-0,0442	-0,0395	0,0087
nmp_t	0,0007	0,0376	-0,0597	-0,1370	0,0088	-0,0381	-0,0944	0,0141

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A221: Topic indices effects with factors on Technology (SX8P) - first lag

SX8P	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0136	1,1810	-3,1195	-1,3692	-5,7653	-5,6224	0,3636
$factor_t$	0,0000	-0,0050	0,0131	-0,0080	0,0800	0,0484	-0,0240
$fsbs_t$	-0,0001	-0,0164	0,0065	0,0138	-0,0250	0,0093	0,0103
cmp_t	0,0004	0,0469	0,0231	0,0301	-0,0044	-0,0128	0,0755
$fips_t$	0,0000	-0,0068	0,0380	0,0121	0,0061	0,0063	0,0189
$emug_t$	0,0000	0,0224	0,0246	0,0163	0,0167	0,0021	0,0171
nmp_t	-0,0005	-0,0675	-0,0164	-0,0027	0,0288	0,0060	-0,0243

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A222: Topic indices effects with factors on Technology (SX8P) - second lag

SX8P	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0119	0,1046	-0,0450	6,3259	-1,5348	0,7137	5,5508	0,0034
$factor_t$	0,0002	0,0465	-0,0147	-0,0681	0,0216	0,0059	-0,0653	0,0052
$fsbs_t$	0,0004	0,0366	-0,0512	-0,0520	-0,0307	-0,0458	-0,0420	0,0136
cmp_t	-0,0005	-0,0739	0,1406	0,2225	0,0490	0,1232	0,1587	0,0158
$fips_t$	-0,0004	-0,0195	0,0899	0,0869	0,0278	0,0711	0,0699	0,0422
$emug_t$	0,0000	0,0248	-0,0729	-0,0625	-0,0215	-0,0454	-0,0392	0,0099
nmp_t	0,0002	0,0391	-0,0613	-0,1397	0,0086	-0,0356	-0,0974	0,0150

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A223: Topic indices effects with factors on Telecommunications (SXKP) - first lag

SXKP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0087	-7,2309	-6,2984	-8,5047	-4,3809	-3,9786	-8,0781
$factor_t$	0,0000	0,0765	0,0396	0,0579	0,0591	0,0233	0,0569
$fsbs_t$	-0,0002	-0,0170	0,0071	0,0139	-0,0237	0,0101	0,0100
cmp_t	0,0005	0,0434	0,0234	0,0254	-0,0017	-0,0141	0,0703
$fips_t$	-0,0002	-0,0074	0,0374	0,0094	0,0058	0,0049	0,0166
$emug_t$	0,0003	0,0225	0,0244	0,0150	0,0168	0,0026	0,0159
nmp_t	-0,0008	-0,0640	-0,0159	0,0031	0,0265	0,0053	-0,0182

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A224: Topic indices effects with factors on Telecommunications (SXKP) - second lag

SXKP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	-0,0125	-0,6902	4,2626	0,3732	5,1965	-1,7694	-0,3881	0,0046
$factor_t$	0,0005	0,0531	-0,0555	-0,0021	-0,0437	0,0317	-0,0011	0,0074
$fsbs_t$	0,0004	0,0364	-0,0515	-0,0537	-0,0309	-0,0467	-0,0434	0,0155
cmp_t	-0,0005	-0,0744	0,1423	0,2210	0,0518	0,1230	0,1569	0,0168
$fips_t$	-0,0003	-0,0205	0,0890	0,0862	0,0269	0,0698	0,0694	0,0424
$emug_t$	0,0002	0,0251	-0,0718	-0,0619	-0,0199	-0,0438	-0,0390	0,0092
nmp_t	0,0003	0,0386	-0,0641	-0,1381	0,0045	-0,0362	-0,0956	0,0164

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A225: Topic indices effects with factors on Travel and Leisure (SXTP) - first lag

SXTP	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	0,0785	4,3971	2,6678	0,3360	0,0143	-3,7735	0,7995
$factor_t$	0,0002	-0,0444	-0,0527	-0,0268	0,0167	0,0297	-0,0284
$fsbs_t$	-0,0003	-0,0174	0,0071	0,0143	-0,0233	0,0101	0,0109
cmp_t	0,0004	0,0435	0,0227	0,0285	-0,0015	-0,0104	0,0741
$fips_t$	-0,0001	-0,0073	0,0374	0,0102	0,0059	0,0057	0,0174
$emug_t$	0,0005	0,0262	0,0263	0,0149	0,0161	0,0010	0,0152
nmp_t	-0,0008	-0,0662	-0,0178	-0,0001	0,0248	0,0037	-0,0216

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A226: Topic indices effects with factors on Travel and Leisure (SXTP) - second lag

SXTP	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0707	4,1711	1,0024	-0,0635	-2,2760	-0,2642	-1,2592	0,0160
$factor_t$	-0,0002	-0,0053	-0,0286	0,0028	0,0325	0,0222	0,0100	0,0082
$fsbs_t$	0,0003	0,0376	-0,0511	-0,0533	-0,0313	-0,0468	-0,0431	0,0138
cmp_t	-0,0018	-0,0748	0,1408	0,2210	0,0506	0,1236	0,1574	0,0137
$fips_t$	-0,0002	-0,0198	0,0895	0,0874	0,0273	0,0705	0,0707	0,0410
$emug_t$	0,0006	0,0251	-0,0723	-0,0626	-0,0208	-0,0436	-0,0402	0,0095
nmp_t	0,0011	0,0393	-0,0618	-0,1368	0,0069	-0,0365	-0,0944	0,0137

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A227: Topic indices effects with factors on Utilities (SX6P) - first lag

SX6P	r^{st}_{t-1}	$factor_{t-1}$	$fsbs_{t-1}$	cmp_{t-1}	$fips_{t-1}$	$emug_{t-1}$	nmp_{t-1}
r^{st}_t	-0,0272	-3,6724	1,3917	-2,2445	-1,1128	-2,1756	-2,7692
$factor_t$	0,0003	0,0420	-0,0335	-0,0022	0,0260	0,0064	0,0055
$fsbs_t$	-0,0003	-0,0186	0,0068	0,0130	-0,0243	0,0089	0,0095
cmp_t	0,0008	0,0431	0,0240	0,0264	-0,0033	-0,0141	0,0716
$fips_t$	0,0002	-0,0049	0,0376	0,0113	0,0062	0,0067	0,0185
$emug_t$	0,0003	0,0236	0,0249	0,0157	0,0178	0,0033	0,0165
nmp_t	-0,0012	-0,0632	-0,0177	0,0022	0,0260	0,0063	-0,0193

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A228: Topic indices effects with factors on Utilities (SX6P) - second lag

SX6P	r^{st}_{t-2}	$factor_{t-2}$	$fsbs_{t-2}$	cmp_{t-2}	$fips_{t-2}$	$emug_{t-2}$	nmp_{t-2}	R^2
r^{st}_t	0,0902	5,7943	2,4468	3,7299	0,6651	5,0276	2,2563	0,0089
$factor_t$	-0,0005	-0,0047	-0,0362	-0,0311	0,0002	-0,0297	-0,0241	0,0073
$fsbs_t$	0,0004	0,0371	-0,0509	-0,0531	-0,0310	-0,0460	-0,0431	0,0135
cmp_t	0,0006	-0,0693	0,1418	0,2240	0,0509	0,1274	0,1595	0,0146
$fips_t$	-0,0002	-0,0200	0,0886	0,0869	0,0271	0,0698	0,0706	0,0406
$emug_t$	0,0001	0,0239	-0,0728	-0,0630	-0,0200	-0,0448	-0,0397	0,0098
nmp_t	-0,0009	0,0346	-0,0621	-0,1398	0,0057	-0,0398	-0,0973	0,0141

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (LM) with factors - Polarity and Subjectivity - Results

Automobiles and parts (SXAP) in Table A229, Banks (S7XP) in Table A230, and Basic Resources (SXPP) in Table A231 are not affected by any polarity or subjectivity sentiment indices when factors are introduced. In the Chemicals (SX4P) in Table A232 sector's results, we can observe how the second lag of subjectivity is positive and significant at 10%. The returns of Construction and materials (SXOP) in Table A233, Financial Services (SXFP) in Table A234, and Food and Beverage (SX3P) in Table A235 are not affected by the polarity or subjectivity sentiment indices.

Health Care (SXDP) is influenced by the first lag of polarity positively and significantly at 5% (Table A236). The returns of Industrial Goods and Services (SXNP) are affected negatively by the second lag of the polarity index with significance at 10% (Table A237).

The results of Insurance (SXIP) in Table A238, Media (SXMP) in Table A239, and Oil and Gas (SXEP) in Table A240 do not show any effects of polarity or subjectivity indices.

Polarity sentiment index at lag 2 is affecting positively and significantly at 10% the returns of Personal and Household Goods (SXQP). The results can be seen in Table A241. The Real Estate (SX86P) shows to be influenced negatively and significantly at 1% by the subjectivity index's lag one (Table A242). For what concerns Retail (SXRP), it can be noticed that the returns are affected by the second lag of polarity positively

and significantly at 5% (Table A243).

The Technology (SX8P) sector's returns are not influenced by any polarity or subjectivity indices (Table A244). Telecommunications (SXKP)'s results in Table A245 show negative and significant effects of subjectivity's lag 1 at 5%. Finally, Travel and Leisure (SXTP) in Table A246 and Utilities (SX6P) in Table A247 do not indicate any relevance to polarity or subjectivity indices.

Table A229: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Automobiles and Parts (SXAP)

SXAP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0746	0,3989	-0,4388	0,1572	0,0699	7,2865	0,0397	-0,0386	0,0065
$factor_t$	-0,0009	0,0014	0,0083	-0,0027	-0,0004	-0,0554	0,0012	0,0001	0,0078
pol_t	0,0022	0,2141	-0,0081	0,0029	0,0034	0,1750	-0,0030	-0,0051	0,0230
sub_t	0,0129	0,2098	-0,2514	0,1337	-0,0041	-0,0327	-0,1801	0,0904	0,0346

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A230: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Banks (SX7P)

SX7P	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0456	-2,0928	-0,0250	0,0539	0,0230	0,3897	-0,1155	0,0303	0,0043
$factor_t$	-0,0004	0,0367	0,0024	-0,0012	0,0003	0,0425	0,0034	-0,0009	0,0043
pol_t	0,0040	0,2052	-0,0078	0,0028	0,0031	0,1713	-0,0027	-0,0053	0,0224
sub_t	0,0084	0,2518	-0,2480	0,1322	-0,0008	-0,0653	-0,1839	0,0918	0,0339

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A231: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0235	-0,1871	-0,1753	0,1228	-0,0452	-1,1600	-0,1128	0,0412	0,0038
$factor_t$	0,0000	0,0100	0,0045	-0,0022	0,0012	0,0633	0,0032	-0,0010	0,0042
pol_t	0,0049	0,2052	-0,0076	0,0027	0,0001	0,1702	-0,0022	-0,0055	0,0227
sub_t	0,0102	0,2577	-0,2465	0,1316	0,0013	-0,0688	-0,1830	0,0912	0,0351

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A232: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Chemicals (SX4P)

SX4P	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0606	-7,5413	0,7164	-0,2302	0,0182	6,4070	-0,8441	0,3403	0,0053
$factor_t$	0,0002	0,0887	-0,0057	0,0020	0,0003	-0,0245	0,0111	-0,0042	0,0061
pol_t	0,0011	0,2024	-0,0074	0,0026	0,0020	0,1613	-0,0020	-0,0054	0,0237
sub_t	0,0028	0,2422	-0,2485	0,1327	-0,0018	-0,0629	-0,1857	0,0926	0,0356

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A233: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Construction (SXOP)

SXOP	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0377	1,4120	-0,1788	0,0615	0,1195	11,5534	0,1373	-0,2592	0,0052
$factor_t$	0,0007	-0,0097	0,0042	-0,0012	-0,0009	-0,0912	0,0001	0,0026	0,0070
pol_t	0,0023	0,2057	-0,0076	0,0027	0,0013	0,1607	-0,0028	-0,0050	0,0224
sub_t	0,0014	0,2353	-0,2480	0,1325	-0,0035	-0,0976	-0,1851	0,0929	0,0345

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A234: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Financial Services (SXFP)

SXFP	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0529	2,3135	-0,3185	-0,0764	-0,0285	-3,0626	0,5871	-0,1544	0,0053
$factor_t$	-0,0002	-0,0196	0,0058	0,0004	0,0009	0,0829	-0,0051	0,0014	0,0044
pol_t	0,0031	0,2033	-0,0074	0,0027	0,0010	0,1680	-0,0026	-0,0052	0,0229
sub_t	0,0032	0,2202	-0,2446	0,1328	-0,0017	-0,0485	-0,1892	0,0933	0,0341

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A235: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Food and Beverage (SX3P)

SX3P	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0425	-4,4918	0,5294	-0,1965	-0,1377	-11,6940	0,4395	0,0661	0,0102
$factor_t$	-0,0003	0,0398	-0,0018	0,0010	0,0013	0,1366	-0,0016	-0,0010	0,0092
pol_t	0,0012	0,2175	-0,0085	0,0029	0,0016	0,1762	-0,0028	-0,0054	0,0231
sub_t	-0,0046	0,2121	-0,2469	0,1325	0,0047	-0,1037	-0,1815	0,0912	0,0344

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A236: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Health Care (SXDP)

SXDP	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0499	-5,0313	1,0239	-0,1110	-0,0687	-10,8872	0,4787	-0,1734	0,0045
$factor_t$	-0,0005	0,0443	-0,0058	0,0003	0,0007	0,1323	-0,0019	0,0009	0,0102
pol_t	0,0015	0,2280	-0,0087	0,0031	0,0014	0,1678	-0,0023	-0,0053	0,0251
sub_t	-0,0042	0,2440	-0,2492	0,1325	0,0009	-0,0925	-0,1788	0,0917	0,0347

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A237: Sentiment indices LM(2011) - Polarity and Subjectivity effects on with factors Industrial Goods and Services (SXNP)

SXNP	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	-0,0592	-2,6128	0,1232	-0,1989	-0,0398	-1,7767	-0,9155	-0,4638	0,0053
$factor_t$	0,0010	0,0374	0,0007	0,0018	0,0010	0,0686	0,0122	0,0049	0,0041
pol_t	0,0019	0,2063	-0,0078	0,0029	0,0018	0,1679	-0,0023	-0,0052	0,0230
sub_t	0,0043	0,2416	-0,2493	0,1319	-0,0036	-0,0696	-0,1848	0,0924	0,0355

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A238: Sentiment indices LM(2011) - Polarity and Subjectivity effects on with factors Insurance (SXIP)

SXIP	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,1166	3,9772	-0,3805	-0,0883	0,0632	3,3497	0,3438	-0,0266	0,0107
$factor_t$	-0,0008	-0,0420	0,0067	0,0006	-0,0001	0,0040	-0,0023	-0,0001	0,0049
pol_t	0,0040	0,2073	-0,0074	0,0028	0,0011	0,1621	-0,0022	-0,0051	0,0227
sub_t	0,0056	0,2257	-0,2448	0,1330	0,0019	-0,1083	-0,1859	0,0926	0,0339

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A239: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Media (SXMP)

SXMP	r_{t-1}^{st}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r_t^{st}	0,0692	11,4801	0,0735	-0,0299	-0,1039	-5,0353	0,2766	-0,2202	0,0089
$factor_t$	-0,0003	-0,1022	0,0013	-0,0001	0,0015	0,0932	-0,0010	0,0017	0,0094
pol_t	0,0033	0,2187	-0,0077	0,0028	0,0000	0,1495	-0,0025	-0,0054	0,0225
sub_t	0,0030	0,2694	-0,2481	0,1324	-0,0039	-0,0900	-0,1838	0,0916	0,0346

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A240: Sentiment indices LM(2011) - Polarity and Subjectivity effects on with factors Oil and Gas (SXEP)

SXEP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,1401	2,3380	-0,4187	0,0034	-0,0408	3,0427	-0,3881	0,1223	0,0111
$factor_t$	-0,0014	-0,0232	0,0076	-0,0006	0,0012	0,0080	0,0068	-0,0020	0,0055
pol_t	0,0024	0,2096	-0,0081	0,0031	0,0019	0,1650	-0,0022	-0,0054	0,0240
sub_t	-0,0001	0,2415	-0,2473	0,1328	0,0092	-0,0822	-0,1835	0,0917	0,0344

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A241: Sentiment indices LM(2011) - Polarity and Subjectivity effects on with factors Personal and Household Goods (SXQP)

SXQP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0302	-6,0247	-0,1275	-0,0310	-0,0803	-6,3711	1,2803	-0,1152	0,0060
$factor_t$	0,0002	0,0622	0,0035	-0,0002	0,0011	0,1057	-0,0101	0,0006	0,0060
pol_t	0,0024	0,2054	-0,0077	0,0028	0,0008	0,1715	-0,0025	-0,0052	0,0244
sub_t	0,0004	0,2307	-0,2479	0,1324	-0,0023	-0,0943	-0,1822	0,0919	0,0339

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A242: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Real Estate (SX86P)

SX86P	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0684	5,5329	0,2874	-0,3979	0,0561	3,9351	0,3596	-0,0923	0,0090
$factor_t$	-0,0001	-0,0422	-0,0005	0,0030	-0,0001	0,0107	-0,0015	0,0005	0,0065
pol_t	0,0032	0,2102	-0,0074	0,0026	-0,0010	0,1625	-0,0030	-0,0047	0,0229
sub_t	0,0010	0,2717	-0,2450	0,1330	-0,0053	-0,0793	-0,1856	0,0916	0,0384

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A243: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Retail (SXRP)

SXRP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0520	-2,4008	-0,8567	-0,0888	-0,0428	0,4819	1,3681	-0,2699	0,0062
$factor_t$	0,0009	0,0305	0,0104	0,0003	0,0009	0,0438	-0,0110	0,0022	0,0042
pol_t	0,0028	0,2021	-0,0066	0,0021	-0,0002	0,1720	0,0005	-0,0056	0,0268
sub_t	-0,0013	0,2362	-0,2462	0,1309	-0,0020	-0,0777	-0,1801	0,0905	0,0351

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A244: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Technology (SX8P)

SX8P	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0125	1,1989	-0,2925	-0,0145	0,0117	0,0313	-0,1441	0,0928	0,0042
$factor_t$	-0,0001	-0,0058	0,0054	-0,0003	0,0002	0,0475	0,0033	-0,0015	0,0041
pol_t	0,0020	0,2070	-0,0083	0,0029	0,0022	0,1695	-0,0030	-0,0051	0,0226
sub_t	0,0045	0,2466	-0,2490	0,1326	-0,0076	-0,0739	-0,1844	0,0923	0,0339

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A245: Sentiment indices LM(2011) - Polarity and Subjectivity effects on with factors Telecommunications (SXKP)

SXKP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0078	-7,2376	0,2992	-0,2881	-0,0109	-0,4562	0,4910	-0,0078	0,0030
$factor_t$	0,0000	0,0761	-0,0006	0,0022	0,0005	0,0510	-0,0029	-0,0004	0,0063
pol_t	0,0021	0,1968	-0,0073	0,0024	0,0012	0,1686	-0,0022	-0,0052	0,0231
sub_t	-0,0054	0,2150	-0,2435	0,1314	0,0034	-0,1235	-0,1808	0,0902	0,0355

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A246: Sentiment indices LM(2011) - Polarity and Subjectivity effects with factors on Travel and Leisure (SXTP)

SXTP	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	0,0775	4,3387	0,1056	-0,0944	0,0675	3,9538	0,1407	-0,0961	0,0139
$factor_t$	0,0002	-0,0442	0,0008	0,0006	-0,0002	-0,0025	0,0000	0,0007	0,0069
pol_t	0,0015	0,2045	-0,0078	0,0028	0,0012	0,1726	-0,0026	-0,0053	0,0225
sub_t	0,0000	0,2360	-0,2484	0,1326	-0,0068	-0,0780	-0,1848	0,0923	0,0345

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A247: Sentiment indices LM(2011) - Polarity and Subjectivity effects on with factors Utilities (SX6P)

SX6P	r^{st}_{t-1}	$factor_{t-1}$	pol_{t-1}	sub_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pol_{t-2}	sub_{t-2}	R^2
r^{st}_t	-0,0260	-3,8038	0,3166	-0,0938	0,0880	5,6740	-0,0516	0,1655	0,0049
$factor_t$	0,0003	0,0426	-0,0007	0,0004	-0,0005	-0,0033	0,0022	-0,0019	0,0061
pol_t	0,0025	0,2061	-0,0080	0,0028	0,0010	0,1665	-0,0029	-0,0053	0,0226
sub_t	0,0036	0,2547	-0,2484	0,1328	0,0016	-0,0671	-0,1851	0,0923	0,0346

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (LM) - Positivity and Negativity with factors - Results

Most of the results of these estimations do not show any significant results. Automobiles and parts (SXAP) in Table A248, Banks (SX7P) in Table A249, Basic Resources (SXPP) in Table A250, Chemicals (SX4P) in Table A251, Construction and materials (SXOP) in Table A252, Financial Services (SXFP) in Table A253, Food and Beverage (SX3P) in Table A254, Health Care (SXDP) in Table A255 do not indicate any importance of positivity or negativity sentiment indices once factors are introduced.

Industrial Goods and Services (SXNP)'s returns are negatively and significantly at 5% affected by the positivity's second lag sentiment index (Table A256). Table A257 about Insurance (SXIP) sector, Table A258 about Media (SXMP) sector, Table A259 about the Oil and Gas (SXEP) sector, and Table A260 about Personal Household Goods (SXQP) do not show any relevance of positivity or negativity sentiment indices when factors are introduced.

Real Estate (SX86P) in Table A261 is affected negatively and significantly at 1% by both the first lags of positivity and negativity sentiment indices. The second lag of the negativity index is negatively and significantly influencing the returns of the Retail (SXRP) sector (Table A262). No positive and negative sentiment indices show any effects on Technology (SX8P) in Table A263.

In Table A264, we can observe how the Telecommunications (SXKP) is affected negatively by both the first lags of positivity and negativity respectively at 5% and 10% levels of significance.

For what concerns Travel and Leisure (SXTP) in Table A264 and Utilities (SX6P) in Table A265, we can observe that no sentiment indices are significant in this framework.

Table A248: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Automobiles and Parts (SXAP)

SXAP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0744	0,3865	0,0560	0,1038	0,0701	7,2958	-0,0086	-0,0276	0,0064
$factor_t$	-0,0009	0,0017	-0,0009	-0,0018	-0,0004	-0,0550	0,0000	0,0001	0,0077
pos_t	0,0322	1,8411	0,0881	0,1535	0,0341	2,2781	0,0391	0,0574	0,0311
neg_t	-0,0068	-1,5028	0,0245	0,0230	-0,0399	-2,1391	0,0429	0,0556	0,0359

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A249: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Banks (SX7P)

SX7P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0460	-2,0767	0,0296	0,0231	0,0226	0,3726	0,0126	0,0168	0,0038
$factor_t$	-0,0004	0,0366	-0,0006	-0,0007	0,0003	0,0431	-0,0003	-0,0005	0,0042
pos_t	0,0358	1,7854	0,0869	0,1515	0,0313	2,1604	0,0393	0,0582	0,0307
neg_t	-0,0213	-1,3674	0,0245	0,0229	-0,0316	-2,1007	0,0437	0,0568	0,0349

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A250: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0236	-0,1881	0,0516	0,0694	-0,0454	-1,1708	0,0150	0,0257	0,0034
$factor_t$	0,0000	0,0101	-0,0008	-0,0013	0,0012	0,0639	-0,0003	-0,0006	0,0041
pos_t	0,0513	1,7974	0,0861	0,1504	0,0077	2,1608	0,0381	0,0564	0,0318
neg_t	-0,0314	-1,3657	0,0248	0,0232	-0,0039	-2,1047	0,0444	0,0579	0,0361

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A251: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Chemicals (SX4P)

SX4P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0610	-7,5436	-0,0584	-0,1652	0,0185	6,4282	0,1368	0,1983	0,0053
$factor_t$	0,0002	0,0888	0,0005	0,0014	0,0003	-0,0243	-0,0016	-0,0025	0,0060
pos_t	0,0127	1,6809	0,0855	0,1490	0,0206	2,1334	0,0400	0,0587	0,0318
neg_t	-0,0073	-1,3002	0,0261	0,0253	-0,0228	-2,0545	0,0438	0,0576	0,0369

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A252: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Construction and Materials (SXOP)

SXOP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0373	1,4469	0,0177	0,0422	0,1196	11,5629	-0,1053	-0,1554	0,0051
$factor_t$	0,0007	-0,0100	-0,0004	-0,0008	-0,0009	-0,0909	0,0011	0,0016	0,0068
pos_t	0,0191	1,7959	0,0867	0,1510	0,0138	2,0430	0,0406	0,0601	0,0312
neg_t	-0,0169	-1,4043	0,0250	0,0236	-0,0194	-2,0459	0,0432	0,0562	0,0356

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A253: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Financial Services (SXFP)

SXFP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0519	2,2351	-0,0526	-0,0283	-0,0290	-3,1373	-0,0420	-0,1105	0,0052
$factor_t$	-0,0001	-0,0185	0,0005	0,0000	0,0009	0,0842	0,0004	0,0010	0,0042
pos_t	0,0320	1,7278	0,0875	0,1512	0,0141	2,1612	0,0407	0,0603	0,0309
neg_t	-0,0251	-1,3743	0,0250	0,0235	-0,0156	-2,0639	0,0433	0,0569	0,0353

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A254: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Food and Beverage (SX3P)

SX3P	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0419	-4,5376	-0,0843	-0,1144	-0,1377	-11,6565	0,0429	0,0215	0,0106
$factor_t$	-0,0003	0,0402	0,0005	0,0005	0,0013	0,1368	-0,0005	-0,0005	0,0090
pos_t	0,0089	1,8103	0,0880	0,1530	0,0288	2,2442	0,0390	0,0580	0,0312
neg_t	-0,0175	-1,4838	0,0239	0,0219	-0,0166	-2,2411	0,0436	0,0564	0,0354

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A255: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Health Care (SXDP)

SXDP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0500	-5,0326	-0,0028	-0,1064	-0,0684	-10,8391	-0,0639	-0,1154	0,0048
$factor_t$	-0,0005	0,0445	-0,0001	0,0005	0,0008	0,1323	0,0004	0,0006	0,0100
pos_t	0,0071	2,0244	0,0885	0,1543	0,0250	2,1103	0,0397	0,0577	0,0310
neg_t	-0,0161	-1,6088	0,0232	0,0207	-0,0201	-2,1034	0,0437	0,0566	0,0363

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A256: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Industrial Goods and Services (SXNP)

SXNP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0583	-2,5479	-0,0601	-0,1387	-0,0408	-1,8901	-0,2591	-0,2126	0,0053
$factor_t$	0,0010	0,0368	0,0005	0,0012	0,0010	0,0703	0,0028	0,0022	0,0040
pos_t	0,0158	1,8024	0,0888	0,1534	0,0223	2,1316	0,0402	0,0585	0,0331
neg_t	-0,0087	-1,4000	0,0228	0,0211	-0,0269	-2,0797	0,0432	0,0572	0,0361

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A257: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Insurance (SXIP)

SXIP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1162	3,9690	-0,0634	-0,0317	0,0624	3,2774	0,0096	-0,0337	0,0101
$factor_t$	-0,0008	-0,0418	0,0006	0,0001	-0,0001	0,0053	-0,0002	0,0001	0,0048
pos_t	0,0359	1,7626	0,0881	0,1518	0,0174	2,0348	0,0405	0,0595	0,0309
neg_t	-0,0262	-1,4001	0,0247	0,0232	-0,0122	-2,0613	0,0430	0,0566	0,0349

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A258: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Media (SXMP)

SXMP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0677	11,3309	-0,0161	-0,0158	-0,1036	-5,0630	-0,0933	-0,1237	0,0090
$factor_t$	-0,0002	-0,1007	0,0001	-0,0001	0,0015	0,0939	0,0008	0,0009	0,0092
pos_t	0,0385	1,8557	0,0869	0,1515	0,0039	1,8734	0,0393	0,0579	0,0313
neg_t	-0,0309	-1,4172	0,0247	0,0230	-0,0097	-1,8839	0,0437	0,0570	0,0355

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A259: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Oil and Gas (SXEP)

SXEP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1406	2,3687	-0,0184	0,0203	-0,0414	3,0093	0,0383	0,0856	0,0110
$factor_t$	-0,0014	-0,0235	0,0001	-0,0006	0,0013	0,0088	-0,0006	-0,0014	0,0054
pos_t	0,0132	1,8238	0,0885	0,1537	0,0356	2,1027	0,0389	0,0572	0,0309
neg_t	-0,0157	-1,4234	0,0237	0,0213	-0,0148	-2,0731	0,0440	0,0575	0,0359

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A260: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Personal and Household Goods (SXQP)

SXQP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0306	-6,0967	-0,0286	-0,0036	-0,0798	-6,3315	-0,0034	-0,1100	0,0061
$factor_t$	0,0002	0,0629	0,0001	-0,0003	0,0011	0,1058	-0,0001	0,0007	0,0059
pos_t	0,0260	1,7446	0,0870	0,1513	0,0107	2,1763	0,0399	0,0581	0,0306
neg_t	-0,0240	-1,3750	0,0246	0,0232	-0,0137	-2,1637	0,0433	0,0568	0,0352

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A261: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Real Estate (SX86P)

SX86P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0690	5,4716	-0,1802	-0,2189	0,0560	3,9393	-0,0363	-0,0541	0,0094
$factor_t$	-0,0001	-0,0415	0,0014	0,0016	-0,0001	0,0111	0,0003	0,0003	0,0064
pos_t	0,0411	1,8761	0,0858	0,1500	-0,0156	2,0150	0,0439	0,0637	0,0353
neg_t	-0,0359	-1,4092	0,0262	0,0249	0,0045	-1,9985	0,0395	0,0519	0,0388

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A262: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Retail (SXRP)

SXRP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0521	-2,4852	-0,0933	0,0092	-0,0420	0,5167	-0,0762	-0,1815	0,0060
$factor_t$	0,0009	0,0314	0,0007	-0,0004	0,0009	0,0440	0,0006	0,0014	0,0041
pos_t	0,0260	1,7325	0,0822	0,1463	0,0009	2,1837	0,0387	0,0534	0,0317
neg_t	-0,0278	-1,3489	0,0276	0,0265	-0,0038	-2,1417	0,0433	0,0598	0,0364

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A263: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Technology (SX8P)

SX8P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0127	1,1622	-0,0246	0,0138	0,0121	0,0375	0,0433	0,0550	0,0046
$factor_t$	-0,0001	-0,0053	0,0001	-0,0005	0,0002	0,0479	-0,0006	-0,0009	0,0039
pos_t	0,0211	1,8010	0,0874	0,1528	0,0281	2,1433	0,0402	0,0594	0,0309
neg_t	-0,0126	-1,3919	0,0244	0,0222	-0,0390	-2,0990	0,0432	0,0561	0,0350

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A264: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Telecommunications (SXKP)

SXKP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0084	-7,3071	-0,1236	-0,1630	-0,0109	-0,4736	0,0103	-0,0156	0,0032
$factor_t$	0,0000	0,0768	0,0010	0,0012	0,0005	0,0516	-0,0003	-0,0002	0,0062
pos_t	0,0143	1,6906	0,0857	0,1496	0,0239	2,1173	0,0394	0,0580	0,0322
neg_t	-0,0247	-1,3427	0,0253	0,0238	-0,0145	-2,1645	0,0424	0,0553	0,0365

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A265: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Travel and Leisure (SXTP)

SXTP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0770	4,2830	-0,0361	-0,0588	0,0671	3,9133	-0,0389	-0,0584	0,0140
$factor_t$	0,0002	-0,0435	0,0003	0,0004	-0,0001	-0,0015	0,0003	0,0004	0,0067
pos_t	0,0198	1,7022	0,0878	0,1529	0,0083	2,0868	0,0402	0,0593	0,0312
neg_t	-0,0181	-1,3310	0,0242	0,0223	-0,0207	-2,0724	0,0435	0,0565	0,0356

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A266: Sentiment indices LM(2011) - Positivity and Negativity effects with factors on Utilities (SX6P)

SX6P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0260	-3,8029	-0,0413	-0,0551	0,0884	5,7114	0,0644	0,1006	0,0048
$factor_t$	0,0003	0,0427	0,0002	0,0002	-0,0005	-0,0032	-0,0007	-0,0012	0,0060
pos_t	0,0269	1,8351	0,0877	0,1526	0,0157	2,1365	0,0396	0,0583	0,0312
neg_t	-0,0194	-1,4007	0,0244	0,0227	-0,0111	-2,0748	0,0439	0,0572	0,0357

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (HL) - Positivity and Negativity with factors - Results

We can observe the results in Table A267 of Automobiles and parts (SXAP) where the negativity index has negative and significant effects at 1% on the returns' sector. Banks (SX7P) in Table A268, Basic Resources (SXPP) in Table A269, Chemicals in Table A270 (SX4P), Construction and materials (SXOP) in Table A271, and Financial Services (SXFP) in Table A272 are not affected by these positivity and negativity sentiment indices. Food and Beverage (SX3P) sector's returns are influenced by the second lag of negativity sentiment index positively and significantly at 10% (Table A273). The Health care (SXDP) is affected by the second lag of negativity sentiment index positively as well but significantly at 5% (Table A274).

Industrial Goods and Services (SXNP) sector's results (table A275) indicate how the second lag of positivity index has negativity and significant effects at 5% over the sector's returns. Insurance sector (SXIP) is not affected by the sentiment indices (Table A276).

The Media (SXMP)'s returns are negatively influenced by the first lag of negativity index with significance at 10% (Table A277). For what concerns Oil and Gas (SXEP), it is negatively and significantly affected at 10% by the negativity index at lag 2 (Table A278). The effects of the second lag of the negativity index are positive and significant at 10% on the returns of the Personal and Household Goods (SXQP) in Table A279.

Real Estate (SX86P) sector is negatively influenced with significance equal to 5% by the first lag of positivity index (Table A280). Retail (SXRP) in Table A281, Technology in Table A282, Telecommunications (SXKP) in Table A283 do not show any particular significant results. In Table A284, we can observe how the sector Travel and Leisure is affected negatively and significantly at 10% by the second lag of positivity index. Finally, the Utilities sector (SX6P) is not affected by any sentiment indices (Table A285).

Table A267: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Automobiles and Parts (SXAP)

SXAP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0739	0,3100	0,5987	-1,2494	0,0697	7,3488	-0,2395	-0,0321	0,0060
$factor_t$	-0,0009	0,0035	-0,0060	0,0147	-0,0004	-0,0563	-0,0022	-0,0025	0,0074
pos_t	0,0012	0,0147	0,1227	-0,0208	-0,0011	-0,0392	0,0964	-0,0150	0,0320
neg_t	0,0002	0,1292	-0,0137	0,0269	-0,0002	-0,0441	-0,0348	0,0269	0,0088

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A268: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Banks (SX7P)

SX7P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0449	-2,1987	1,0295	0,2883	0,0246	0,4227	1,2523	-0,8891	0,0037
$factor_t$	-0,0003	0,0390	-0,0117	-0,0071	0,0003	0,0419	-0,0232	0,0093	0,0039
pos_t	0,0004	0,0178	0,1211	-0,0200	-0,0011	-0,0421	0,0962	-0,0157	0,0330
neg_t	0,0009	0,1152	-0,0150	0,0265	-0,0010	-0,0446	-0,0370	0,0302	0,0074

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A269: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0224	-0,0909	1,1278	-0,0751	-0,0457	-1,2083	0,5974	0,2178	0,0030
$factor_t$	0,0000	0,0095	-0,0128	-0,0019	0,0012	0,0638	-0,0132	-0,0060	0,0038
pos_t	0,0006	0,0177	0,1222	-0,0204	0,0001	-0,0428	0,0970	-0,0161	0,0334
neg_t	0,0012	0,1117	-0,0112	0,0265	-0,0011	-0,0446	-0,0345	0,0290	0,0062

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A270: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Chemicals (SX4P)

SX4P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0619	-7,6626	-2,3095	0,1110	0,0188	6,4843	1,6918	-0,3855	0,0050
$factor_t$	0,0002	0,0907	0,0273	-0,0042	0,0003	-0,0255	-0,0248	0,0011	0,0057
pos_t	0,0003	0,0168	0,1223	-0,0202	-0,0005	-0,0404	0,0976	-0,0163	0,0329
neg_t	0,0007	0,1111	-0,0132	0,0266	0,0001	-0,0457	-0,0366	0,0287	0,0060

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A271: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Construction and Materials (SXOP)

SXOP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0377	1,3878	1,0994	-0,5193	0,1220	11,7283	-2,5848	0,4502	0,0056
$factor_t$	0,0007	-0,0086	-0,0106	0,0033	-0,0010	-0,0934	0,0253	-0,0084	0,0066
pos_t	0,0000	0,0147	0,1223	-0,0201	-0,0007	-0,0443	0,0979	-0,0165	0,0329
neg_t	0,0015	0,1149	-0,0140	0,0269	-0,0014	-0,0471	-0,0349	0,0286	0,0062

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A272: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Financial Services (SXFP)

SXFP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0529	2,3653	0,6572	0,4022	-0,0303	-3,2040	0,1800	0,0027	0,0051
$factor_t$	-0,0002	-0,0194	-0,0053	-0,0077	0,0009	0,0844	-0,0079	-0,0032	0,0039
pos_t	0,0002	0,0155	0,1219	-0,0204	-0,0005	-0,0405	0,0970	-0,0163	0,0320
neg_t	0,0015	0,1130	-0,0130	0,0266	-0,0007	-0,0435	-0,0358	0,0286	0,0061

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A273: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Food and Beverage (SX3P)

SX3P	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0411	-4,4607	-2,6124	-0,9068	-0,1349	-11,3831	-0,0112	1,5534	0,0104
$factor_t$	-0,0003	0,0402	0,0223	0,0042	0,0013	0,1342	-0,0054	-0,0149	0,0084
pos_t	-0,0003	0,0100	0,1220	-0,0195	0,0005	-0,0439	0,0966	-0,0163	0,0331
neg_t	0,0016	0,1073	-0,0113	0,0282	0,0004	-0,0309	-0,0335	0,0283	0,0084

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A274: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Health Care (SXDP)

SXDP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0498	-5,0737	-2,0628	-0,1313	-0,0679	-10,6088	-1,6254	1,4724	0,0055
$factor_t$	-0,0005	0,0453	0,0182	-0,0016	0,0008	0,1301	0,0070	-0,0146	0,0095
pos_t	-0,0005	0,0118	0,1220	-0,0192	0,0001	-0,0414	0,0965	-0,0168	0,0336
neg_t	0,0022	0,1119	-0,0130	0,0266	0,0005	-0,0354	-0,0329	0,0287	0,0081

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A275: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Industrial Goods and Services (SXNP)

SXNP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0595	-2,5998	1,1701	0,5817	-0,0412	-1,8453	-4,9473	-0,0674	0,0053
$factor_t$	0,0010	0,0380	-0,0110	-0,0096	0,0010	0,0693	0,0508	-0,0024	0,0037
pos_t	0,0003	0,0162	0,1232	-0,0200	-0,0006	-0,0419	0,0960	-0,0164	0,0340
neg_t	0,0014	0,1124	-0,0119	0,0266	-0,0011	-0,0426	-0,0359	0,0286	0,0061

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A276: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Insurance (SXIP)

SXIP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1174	4,0236	-0,2625	-0,0987	0,0631	3,3168	1,4221	-0,6346	0,0099
$factor_t$	-0,0008	-0,0419	0,0055	-0,0016	-0,0001	0,0043	-0,0230	0,0048	0,0044
pos_t	0,0002	0,0141	0,1225	-0,0201	-0,0003	-0,0440	0,0962	-0,0159	0,0322
neg_t	0,0014	0,1117	-0,0127	0,0265	-0,0011	-0,0435	-0,0359	0,0288	0,0063

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A277: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Media (SXMP)

SXMP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0689	11,5540	0,1910	-1,2303	-0,1014	-4,9964	-1,7872	0,1750	0,0089
$factor_t$	-0,0003	-0,1022	0,0014	0,0090	0,0014	0,0927	0,0118	-0,0044	0,0090
pos_t	0,0002	0,0181	0,1224	-0,0203	-0,0004	-0,0433	0,0968	-0,0162	0,0325
neg_t	0,0021	0,1078	-0,0148	0,0267	-0,0007	-0,0558	-0,0360	0,0300	0,0073

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A278: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Oil and Gas (SXEP)

SXEP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,1398	2,3641	-0,2461	0,0331	-0,0411	2,9889	1,0988	-0,9243	0,0108
$factor_t$	-0,0014	-0,0228	0,0054	-0,0031	0,0012	0,0086	-0,0196	0,0088	0,0050
pos_t	-0,0001	0,0164	0,1224	-0,0202	0,0003	-0,0419	0,0969	-0,0162	0,0325
neg_t	0,0006	0,1125	-0,0127	0,0265	-0,0018	-0,0407	-0,0359	0,0287	0,0079

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A279: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Personal and Household Goods (SXQP)

SXQP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0272	-5,7394	-0,0492	-0,6878	-0,0799	-6,4106	-1,5004	1,6318	0,0057
$factor_t$	0,0002	0,0602	0,0027	0,0036	0,0011	0,1060	0,0083	-0,0182	0,0055
pos_t	0,0002	0,0141	0,1223	-0,0204	-0,0004	-0,0439	0,0966	-0,0156	0,0322
neg_t	0,0014	0,1066	-0,0136	0,0269	0,0001	-0,0431	-0,0364	0,0298	0,0079

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A280: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Real Estate (SX86P)

SX86P	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	0,0674	5,6094	-2,6742	0,1797	0,0562	3,8704	-0,2880	0,4537	0,0084
$factor_t$	-0,0001	-0,0421	0,0260	-0,0047	-0,0001	0,0111	-0,0019	-0,0071	0,0061
pos_t	0,0000	0,0189	0,1225	-0,0198	-0,0006	-0,0417	0,0966	-0,0163	0,0341
neg_t	0,0016	0,1119	-0,0131	0,0266	-0,0004	-0,0458	-0,0341	0,0286	0,0063

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A281: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Retail (SXRP)

SXRP	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0485	-2,1785	-1,7921	-1,0063	-0,0460	0,1597	-2,1774	0,3112	0,0070
$factor_t$	0,0009	0,0291	0,0195	0,0067	0,0009	0,0467	0,0159	-0,0057	0,0037
pos_t	0,0000	0,0152	0,1204	-0,0206	-0,0005	-0,0421	0,0958	-0,0161	0,0333
neg_t	0,0021	0,1091	-0,0175	0,0254	-0,0015	-0,0401	-0,0368	0,0302	0,0069

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A282: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Technology (SX8P)

SX8P	r_{t-1}^{st}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r_{t-2}^{st}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r_t^{st}	-0,0141	1,0514	-0,6796	-0,4767	0,0095	-0,0809	0,7350	0,7265	0,0028
$factor_t$	0,0000	-0,0034	0,0100	0,0023	0,0003	0,0486	-0,0139	-0,0112	0,0036
pos_t	0,0003	0,0166	0,1224	-0,0201	-0,0008	-0,0421	0,0972	-0,0162	0,0322
neg_t	0,0000	0,1122	-0,0126	0,0270	-0,0001	-0,0416	-0,0364	0,0283	0,0069

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A283: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Telecommunications (SXKP)

SXKP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0083	-7,2688	-1,5597	0,4569	-0,0112	-0,5631	0,9919	0,8758	0,0039
$factor_t$	0,0000	0,0771	0,0176	-0,0070	0,0005	0,0519	-0,0152	-0,0113	0,0058
pos_t	-0,0005	0,0147	0,1224	-0,0197	0,0003	-0,0461	0,0965	-0,0158	0,0327
neg_t	0,0026	0,1126	-0,0135	0,0261	0,0000	-0,0321	-0,0335	0,0279	0,0071

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A284: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Travel and Leisure (SXTP)

SXTP	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	0,0773	4,3072	0,2198	0,2029	0,0676	3,9523	-1,7581	0,2493	0,0139
$factor_t$	0,0002	-0,0431	0,0007	-0,0054	-0,0002	-0,0025	0,0145	-0,0061	0,0064
pos_t	-0,0001	0,0134	0,1223	-0,0203	-0,0009	-0,0431	0,0983	-0,0164	0,0333
neg_t	0,0010	0,1124	-0,0121	0,0266	-0,0008	-0,0396	-0,0366	0,0289	0,0062

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A285: Sentiment indices HL(2004) - Positivity and Negativity effects with factors on Utilities (SX6P)

SX6P	r^{st}_{t-1}	$factor_{t-1}$	pos_{t-1}	neg_{t-1}	r^{st}_{t-2}	$factor_{t-2}$	pos_{t-2}	neg_{t-2}	R^2
r^{st}_t	-0,0240	-3,6417	-1,3730	0,2306	0,0883	5,7572	2,0940	0,4467	0,0053
$factor_t$	0,0003	0,0419	0,0152	-0,0049	-0,0005	-0,0042	-0,0243	-0,0070	0,0057
pos_t	0,0003	0,0184	0,1230	-0,0200	-0,0003	-0,0416	0,0973	-0,0163	0,0335
neg_t	0,0018	0,1095	-0,0139	0,0266	-0,0008	-0,0380	-0,0339	0,0286	0,0063

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Sentiment Indices (HL) - Effects of number of positive and negative speeches in a given day with factors - Results

Even in the estimations with factors, it can be noticed that the number of negative speeches is very relevant in many sectors. Indeed, the first lag of the number of negative speeches has positive and significant effects at 5% over the Autombiles and parts (SXAP)'s returns (Table A286). The second lag of number of negative speeches has a positive and significant at 10% over Banks (S7XP) sector (Table A287). Estimations on Basic Resources (SXPP) in Table A288 and on Chemicals (SX4P) in Table A289 do not show particular relevance of the number of negative or positive speeches.

The returns of Construction and materials (SXOP) are affected negatively and significantly at 10% by the second lag of the number of positive speeches during a given day (Table A290). Financial Services (SXFP)'s results in table A291 do not indicate any significance of number of positive or negative speeches during a given day. Both Food and Beverage (SX3P) sector (Table A292) and Health Care (Table A293) show a negative effect of the number of negative speeches' second lags in a given day with a significance of 10% and 5% respectively. Industrial Goods and Services (SXNP) is affected negatively and significant at 10% by the number of positive speeches (Table A294) at second lag. The sectors Insurance (SXIP) in Table A295 and Media (SXMP) in Table A296 do not show any effects of the number of speeches.

Oil and Gas (SXEP)'s returns are affected positively and significantly at 10% by the number of negative speeches' second lag (Table A297). In Table A298, we can observe the results over Personal and Household Goods (SXQP)'s estimations. The returns of the sector respond negatively with 10% significance to the number of negative speeches' second lag. Real Estate (SX86P) in Table A299, Retail (SXRP) in Table A300, Technology (SX8P) in Table A301, Telecommunications (SXKP) in Table A302 are not affected by the number of speeches. Table A303 shows the results of the Travel and Leisure sector (SXTP). The returns of the sector are negatively and significantly at 10% influenced by the number of positive speeches' second lag. Finally, the Utilities (SX6P) returns are not responding to any changes of the number of positive and negative speeches (Table A304).

Table A286: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Automobiles and parts (SXAP)

SXAP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0734	0,2798	0,6356	1,3804	0,0712	7,4639	-1,1148	0,0956	0,0062
$factor_t$	-0,0009	0,0036	-0,0133	-0,0168	-0,0004	-0,0572	0,0137	-0,0007	0,0086
$npos_t$	0,0009	0,0156	0,0704	0,0170	-0,0008	-0,0170	0,1289	0,0078	0,0259
$nneg_t$	-0,0011	-0,1976	0,0251	0,0135	0,0002	0,0490	0,0390	0,0142	0,0061

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A287: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Banks (SX7P)

SX7P	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0446	-2,2182	1,2730	-0,5152	0,0224	0,3178	0,7549	1,3550	0,0040
$factor_t$	-0,0004	0,0390	-0,0220	0,0101	0,0003	0,0441	-0,0127	-0,0181	0,0050
$npos_t$	0,0003	0,0170	0,0695	0,0163	-0,0006	-0,0191	0,1294	0,0083	0,0260
$nneg_t$	-0,0021	-0,1848	0,0246	0,0141	0,0005	0,0516	0,0401	0,0177	0,0061

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A288: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Basic Resources (SXPP)

SXPP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0221	-0,0815	1,0948	0,0023	-0,0454	-1,2072	0,8156	-0,0879	0,0037
$factor_t$	0,0000	0,0091	-0,0193	0,0027	0,0012	0,0645	-0,0127	0,0019	0,0049
$npos_t$	0,0002	0,0172	0,0699	0,0166	0,0003	-0,0193	0,1298	0,0086	0,0264
$nneg_t$	-0,0022	-0,1831	0,0217	0,0138	0,0014	0,0521	0,0385	0,0164	0,0035

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A289: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Chemicals (SX4P)

SX4P	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0615	-7,6274	-4,0554	-0,2645	0,0189	6,4737	3,0498	0,4583	0,0057
$factor_t$	0,0002	0,0901	0,0392	0,0056	0,0003	-0,0247	-0,0366	-0,0043	0,0068
$npos_t$	0,0003	0,0164	0,0698	0,0166	-0,0002	-0,0170	0,1306	0,0087	0,0271
$nneg_t$	-0,0017	-0,1820	0,0236	0,0138	0,0000	0,0523	0,0407	0,0164	0,0036

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A290: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Construction and Materials (SXOP)

SXOP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0364	1,4744	0,5210	0,1504	0,1207	11,6646	-4,8718	-0,3502	0,0068
$factor_t$	0,0007	-0,0099	-0,0105	0,0009	-0,0009	-0,0920	0,0564	0,0048	0,0077
$npos_t$	0,0001	0,0160	0,0700	0,0166	-0,0004	-0,0208	0,1304	0,0087	0,0270
$nneg_t$	-0,0024	-0,1837	0,0233	0,0138	0,0014	0,0513	0,0397	0,0163	0,0035

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A291: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Financial Services (SXFP)

SXFP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,1047	0,0498	0,1143	-0,67	0,0165	-0,0032	0,2888	0,7021	0,0059
$factor_t$	-0,0828	-0,0514	-0,5021	1,0561	0,0216	0,036	-0,4878	-0,8066	0,0041
$npos_t$	0,0002	0,0001	0,07	0,0167	-0,0003	-0,0001	0,1295	0,0084	0,0255
$nneg_t$	-0,0022	-0,0021	0,0231	0,0142	0,0007	0,0004	0,0397	0,0163	0,0039

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A292: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Food and Beverage (SX3P)

SX3P	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0390	-4,6819	-2,1230	1,2012	-0,1336	-11,1917	2,4466	-2,0038	0,0119
$factor_t$	-0,0003	0,0417	0,0122	-0,0068	0,0013	0,1334	-0,0206	0,0159	0,0095
$npos_t$	-0,0001	0,0143	0,0706	0,0161	0,0004	-0,0194	0,1293	0,0088	0,0264
$nneg_t$	-0,0021	-0,1808	0,0191	0,0164	-0,0002	0,0336	0,0409	0,0150	0,0066

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A293: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Health Care (SXDP)

SXDP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0505	-5,0799	-1,6253	0,6382	-0,0665	-10,5143	-1,6079	-1,8821	0,0070
$factor_t$	-0,0005	0,0452	0,0079	-0,0028	0,0007	0,1300	0,0104	0,0155	0,0105
$npos_t$	-0,0003	0,0151	0,0701	0,0158	0,0001	-0,0182	0,1293	0,0094	0,0262
$nneg_t$	-0,0025	-0,1796	0,0235	0,0145	-0,0001	0,0427	0,0376	0,0167	0,0064

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A294: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Industrial Goods and Services (SXNP)

SXNP	r_{t-1}^{st}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	-0,0592	-2,5679	1,8767	-0,7248	-0,0425	-1,9274	-5,5029	0,3709	0,0064
$factor_t$	0,0010	0,0374	-0,0260	0,0110	0,0010	0,0709	0,0606	-0,0034	0,0048
$npos_t$	0,0003	0,0165	0,0708	0,0165	-0,0003	-0,0190	0,1287	0,0087	0,0269
$nneg_t$	-0,0022	-0,1832	0,0216	0,0139	0,0010	0,0506	0,0407	0,0162	0,0036

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A295: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Insurance (SXIP)

SXIP	r_{t-1}^{st}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	0,1172	4,0359	-0,1621	-0,1678	0,0621	3,2117	1,1588	1,2922	0,0113
$factor_t$	-0,0008	-0,0422	-0,0026	0,0046	-0,0001	0,0062	-0,0162	-0,0152	0,0055
$npos_t$	0,0003	0,0152	0,0701	0,0166	-0,0001	-0,0205	0,1292	0,0082	0,0257
$nneg_t$	-0,0025	-0,1821	0,0230	0,0138	0,0011	0,0521	0,0399	0,0165	0,0045

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A296: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Media (SXMP)

SXMP	r_{t-1}^{st}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	0,0675	11,5185	2,0264	1,1973	-0,1005	-4,9303	-0,9978	-0,2178	0,0105
$factor_t$	-0,0002	-0,1021	-0,0237	-0,0089	0,0014	0,0928	0,0071	0,0024	0,0101
$npos_t$	0,0002	0,0193	0,0705	0,0168	0,0000	-0,0209	0,1292	0,0085	0,0260
$nneg_t$	-0,0028	-0,1755	0,0244	0,0143	0,0005	0,0621	0,0418	0,0176	0,0044

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A297: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Oil and Gas (SXEP)

SXEP	r_{t-1}^{st}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r_{t-2}^{st}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r_t^{st}	0,1393	2,3782	-0,5903	-0,2692	-0,0408	2,9388	1,3736	1,0461	0,0116
$factor_t$	-0,0014	-0,0232	0,0028	0,0059	0,0012	0,0099	-0,0194	-0,0127	0,0061
$npos_t$	0,0002	0,0172	0,0700	0,0166	0,0004	-0,0188	0,1298	0,0088	0,0261
$nneg_t$	-0,0016	-0,1819	0,0233	0,0140	0,0018	0,0488	0,0404	0,0166	0,0054

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A298: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Personal and Household Goods (SXQP)

SXQP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0274	-5,7375	1,2146	0,9480	-0,0786	-6,2721	-0,4439	-2,2061	0,0062
$factor_t$	0,0002	0,0601	-0,0157	-0,0064	0,0011	0,1054	0,0022	0,0212	0,0065
$npos_t$	0,0002	0,0163	0,0702	0,0169	-0,0001	-0,0199	0,1295	0,0083	0,0257
$nneg_t$	-0,0018	-0,1785	0,0228	0,0143	-0,0001	0,0517	0,0401	0,0171	0,0062

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A299: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Real Estate (SX86P)

SX86P	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0670	5,5825	-1,8570	-0,1113	0,0569	3,8744	-0,2725	-0,8619	0,0097
$factor_t$	-0,0001	-0,0421	0,0120	0,0040	-0,0001	0,0118	0,0012	0,0083	0,0072
$npos_t$	0,0002	0,0166	0,0703	0,0164	-0,0004	-0,0198	0,1296	0,0088	0,0261
$nneg_t$	-0,0023	-0,1807	0,0223	0,0137	0,0006	0,0559	0,0383	0,0160	0,0042

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A300: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Retail (SXRP)

SXRP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0507	-2,1321	-1,0964	1,3154	-0,0443	0,3199	-0,8267	-0,7947	0,0071
$factor_t$	0,0009	0,0285	0,0061	-0,0099	0,0009	0,0459	0,0063	0,0078	0,0048
$npos_t$	-0,0001	0,0158	0,0695	0,0170	-0,0002	-0,0192	0,1291	0,0085	0,0257
$nneg_t$	-0,0020	-0,1813	0,0248	0,0133	0,0014	0,0497	0,0402	0,0174	0,0050

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A301: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Technology (SX8P)

SX8P	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0153	0,9561	-1,8074	0,6764	0,0109	0,0596	1,7849	-0,9788	0,0028
$factor_t$	0,0000	-0,0026	0,0156	-0,0048	0,0003	0,0477	-0,0223	0,0117	0,0047
$npos_t$	0,0000	0,0164	0,0709	0,0162	-0,0005	-0,0189	0,1289	0,0089	0,0264
$nneg_t$	-0,0008	-0,1830	0,0216	0,0145	0,0004	0,0494	0,0421	0,0155	0,0048

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A302: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Telecommunications (SXKP)

SXKP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0080	-7,2173	-1,6114	-0,6728	-0,0120	-0,6087	0,8144	-1,1209	0,0064
$factor_t$	0,0000	0,0763	0,0112	0,0087	0,0005	0,0530	-0,0099	0,0112	0,0069
$npos_t$	-0,0003	0,0156	0,0700	0,0162	0,0003	-0,0219	0,1290	0,0082	0,0259
$nneg_t$	-0,0034	-0,1840	0,0234	0,0130	0,0000	0,0392	0,0374	0,0151	0,0049

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A303: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Travel and Leisure (SXTP)

SXTP	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	0,0770	4,2748	0,6496	-0,5553	0,0668	3,8529	-2,3060	-0,3357	0,0143
$factor_t$	0,0002	-0,0429	-0,0109	0,0093	-0,0001	-0,0007	0,0240	0,0051	0,0074
$npos_t$	-0,0001	0,0142	0,0700	0,0169	-0,0006	-0,0192	0,1308	0,0086	0,0268
$nneg_t$	-0,0018	-0,1794	0,0209	0,0134	0,0005	0,0494	0,0398	0,0165	0,0041

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$

Table A304: Sentiment indices HL(2004) - Effects of number of positive and negative speeches in a given day with factors on Utilities (SX6P)

SX6P	r^{st}_{t-1}	$factor_{t-1}$	$npos_{t-1}$	$nneg_{t-1}$	r^{st}_{t-2}	$factor_{t-2}$	$npos_{t-2}$	$nneg_{t-2}$	R^2
r^{st}_t	-0,0230	-3,5967	-0,9846	0,1425	0,0892	5,8152	1,8176	-0,9132	0,0080
$factor_t$	0,0003	0,0413	0,0047	0,0013	-0,0005	-0,0040	-0,0183	0,0088	0,0068
$npos_t$	0,0004	0,0177	0,0703	0,0164	-0,0002	-0,0189	0,1296	0,0087	0,0261
$nneg_t$	-0,0028	-0,1830	0,0230	0,0139	0,0010	0,0451	0,0382	0,0167	0,0042

Legend: yellow color is * $p < 0.1$; orange color is ** $p < 0.05$; red color is *** $p < 0.01$