Media Sentiment and the Cross-Section of Stock Returns[1]

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Abstract: Based on 35,344 news articles published in the Financial Times during a 15-year period that cover 40 companies that have been included in the DJIA, we find some support for the claim that a trading strategy that longs stocks with the most negative news and shorts stocks with the least negative news is profitable. Specifically, Jensen's alpha is significantly positive in the factor spanning regression with the Fama-French five-factor model explaining the sentiment factor in the 2005-09 subsample, which includes the Great Recession, and the 2005-18 full sample. Moreover, we find that the sentiment factor is a significantly priced risk factor in the cross-section of stock returns in five of nine model specifications. In particular, the sentiment factor is a priced risk factor in the augmented market model (the 2005-09, 2010-18, and 2005-18 samples), the augmented Fama-French three-factor model (the 2010-18 sample), and the augmented Fama-French five-factor model (the 2010-18 sample). Finally, in the time-series regressions for individual stocks, the sentiment factor is significant for as many stocks as for the size, value, profitability, and investment factors.

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1. Introduction

The use of automated text analysis in research to better understand financial markets dates back decades. Surveys of the literature include Das (2014), Kearney and Liu (2014), Li (2010a), Loughran and McDonald (2016), Marty et al. (2019), Mitra and Mitra (2011), Nardo et al. (2016), Tetlock (2014), and Xing et al. (2018). One stream of research uses bag-of-words methods in which the grammar and word sequences in a document are ignored but the words are categorized with the use of dictionaries as positive, negative, etc. The number of words in a certain category in a document—for example, the frequency of negative words in a news article in the financial press—could be informative from, say, an investor perspective.[3]

To give a taste of this growing literature, Tetlock (2007) wrote a seminal paper on the content of financial news media and the stock market that examined the influence of a column in the Wall Street Journal (WSJ), "Abreast of the Market," on stock returns. For this purpose, Tetlock (2007) used the Harvard General Inquirer to analyze pessimism in the language tone in the WSJ column and found that the column contained information that could be used to predict short-term stock returns. Dougal et al. (2012) expanded Tetlock's (2007) research by examining the authorship of the WSJ column and found that journalists with a pessimistic language tone were associated with negative stock returns.

Heston and Sinha (2017) used 900,754 news articles tagged with company identifiers from Thomson Reuters to test whether news predicts stock returns and found that daily news predicts stock returns one to two days ahead. Positive news quickly increased stock returns, whereas negative news spurred a delayed reaction. García (2013) analyzed two columns in the New York Times (NYT) published over a century (1905-2005), using the frequencies of both positive and negative words in the columns in the text analysis, and found that the language tone in the columns was associated with future stock returns, especially during recessions.

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[3] Dictionaries that are used in research include Diction (https://www.dictionsoftware.com), the Harvard General Inquirer (http://www.wjh.harvard.edu/~inquirer), Henry (2008), and Loughran and McDonald (2011).

Chen et al. (2014) analyzed 97,070 articles and 459,679 commentaries written in response to these articles published on Seeking Alpha[4], a social media platform for investors, and found that the language tone in the articles and the commentaries was associated with future stock returns based on the frequency of negative words in the text analysis. Finally, Huang et al. (2014a) examined 363,952 analyst reports and found that investors reacted more strongly to negative than to positive text, where the opinion in the reports was measured as the difference between the frequencies of positive and negative words.

The cited research forms the inspiration for our own research because it offers applications of useful methods for examining the language tone in articles in financial news media.[5] However, the aim of the present paper is not to provide the research community with yet another study on news and the predictability of stock returns per se. Instead, we ask two questions in the paper: (i) is a trading strategy that longs stocks with the most negative language tone in news articles in the Financial Times (FT) and shorts stocks with the least negative language tone in news articles in the same publication profitable?; and (ii) is a negative language tone in news articles in the FT—that is, a negative market sentiment—a priced risk factor in the cross-section of stock returns?

Fang and Peress (2009) were, to the best of our knowledge, the first to study the relationship between media coverage (the NYT, USA Today, the WSJ, and the Washington Post) and the cross-section of stock returns using a factor model. After controlling for market, size, value, and momentum factors, they found that stocks with no media coverage earned higher returns than stocks with high media coverage. Specifically, zero-investment portfolios sorted by media coverage (no, low, and high media coverage) that longs stocks with no media coverage and

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[4] See https://seekingalpha.com.

[5] Other examples of research that use bag-of-words methods include Ahern and Sosyura (2014), Davis et al. (2015), Davis et al. (2012), Davis and Tama-Sweet (2012), Doran et al. (2012), Feldman et al. (2010), Ferris et al. (2013), Gurun and Butler (2012), Hanley and Hoberg (2010), Huang et al. (2014b), Kothari et al. (2009), Li (2010b), Liu and McConnell (2013), Loughran and McDonald (2013, 2015), Mayew and Venkatachalam (2012), McKay Price et al. (2012), Rogers et al. (2011), Solomon (2012), Solomon et al. (2014), Tetlock et al. (2008), and Twedt and Rees (2012).

shorts stocks with high media coverage were formed, where their results were driven by the long legs in the portfolios.

Should Fang and Peress (2009) have expected a media premium in the cross-section of stock returns? There are at least two reasons—no market frictions and well-informed investors— why the answer is negative. First, a media premium might reflect a mispricing of stocks due to market frictions that prevent arbitrageurs from exploiting the mispricing, which is the impediments-to-trade hypothesis by Fang and Peress (2009). Second, a media premium might reflect compensation for imperfect diversification because investors are not well informed about all companies, which is the investor-recognition hypothesis by Merton (1987). Hence, Fang's and Peress's (2009) finding suggests that there are either stock market frictions or investors who are not well informed or both.

In this paper, the sentiment factor is not about stocks being covered or not covered by media. Instead, we take the analysis in Fang and Peress (2009) one step further by concentrating the analysis on only stocks that have been covered by media. Specifically, when constructing the sentiment factor, we form zero-investment portfolios that long stocks with the most negative news and short stocks with the least negative news. We focus on the negativism in the language tone when constructing the sentiment factor because earlier research has shown that a negative language tone matters more for stock returns than, for example, a positive language tone (see, e.g., Huang et al., 2014a).

We adopt the two-stage approach in Fama and French (1993) to estimate three well-known factor models, with and without the sentiment factor, to answer the question of whether a negative market sentiment is a priced risk factor in the cross-section of stock returns. We use 35,344 articles published in the FT during a 15-year period that cover 40 companies that have been included in the DJIA to construct the sentiment factor. For example, adding this factor to the Fama-French (2015) five-factor model results in the following six-factor model:

(1) $R_{i,t} - R_{F,t} = a_i + b_i(R_{M,t} - R_{F,t}) + n_i NMP_t +$

$$s_i SMB_t + h_i HML_t + r_i RMW_t + c_i CMA_t + e_{i,t}$$

where $R_{i,t}$ is the return on stock i, $R_{F,t}$ is the risk-free return, $R_{M,t}$ is the return on the market portfolio, NMP_t is the return on the sentiment factor, SMB_t is the return on the size factor, HML_t

is the return on the value factor, RMW_t is the return on the profitability factor, CMA_t is the return on the investment factor, $e_{i,t}$ is the error term, where the subscript t denotes time, a_i is Jensen's alpha, and b_i, n_i, s_i, h_i, r_i and c_i are factor loadings.

SMB_t equals the difference between the returns on portfolios of stocks of firms with small and large market capitalization ("small minus big"), HML_t equals the difference between the returns on portfolios of stocks of firms with high and low book-to-market ratio ("high minus low"), RMW_t equals the difference between the returns on portfolios of stocks of firms with robust and weak profitability ("robust minus weak"), and CMA_t equals the difference between the returns on portfolios of stocks of low and high investment firms, respectively referred to as conservative and aggressive firms ("conservative minus aggressive").

The new factor in the six-factor model in (1) is the sentiment factor, NMP_t, which equals the difference between the returns on portfolios of stocks with negative and positive market sentiment ("negative minus positive"). In this paper, we analyze the negativism in the language tone in news articles in the FT, and the sentiment factor equals the difference between the returns on portfolios of stocks of firms receiving the most negative news and those with the least negative news.

Because we are interested in learning whether a negative market sentiment is a priced risk factor in the cross-section of stock returns, the factor loadings from the time-series regressions in (1), with one time-series regression for each stock in the sample, are used as explanatory variables for the stocks' mean excess returns in a single cross-sectional regression (Fama and French, 1993):

(2) $\qquad \bar{R}_i - \bar{R}_F = \lambda_a \hat{a}_i + \lambda_b \hat{b}_i + \lambda_n \hat{n}_i + \lambda_s \hat{s}_i + \lambda_h \hat{h}_i + \lambda_r \hat{r}_i + \lambda_c \hat{c}_i + e_i$

where the bar symbol denotes the variable's mean and the hat symbol denotes the estimated value of the parameter. The mean return is a proxy for the stock's expected return. If a negative market sentiment is a priced risk factor in the cross-section of stock returns, then $\lambda_n \neq 0$.

As a complement to the two-stage approach in Fama and French (1993), where the time-series regression in (1) is the first stage and the cross-sectional regression in (2) is the second stage, we also run the following factor spanning regression:

$$(3) \qquad NMP_t = a + b\big(R_{M,t} - R_{F,t}\big) + s \cdot SMB_t + h \cdot HML_t + r \cdot RMW_t + c \cdot CMA_t + e_{i,t}$$

If a trading strategy that longs stocks subject to the most negative language tone in news articles and shorts stocks receiving the least negative language tone is profitable, after controlling for well-known risk factors such as the size, value, profitability, and investment factors, then $a > 0$.

To summarize our main results, we find some support for the claim that a trading strategy that longs stocks with the most negative news and shorts stocks with the least negative news is profitable. Specifically, Jensen's alpha is significantly positive in the factor spanning regression with the Fama-French five-factor model explaining the sentiment factor in the 2005-09 subsample, which includes the Great Recession, and the 2005-18 full sample. Moreover, we find that the sentiment factor is a significantly priced risk factor in the cross-section of stock returns in five of nine model specifications. In particular, the sentiment factor is a priced risk factor in the augmented market model (the 2005-09, 2010-18, and 2005-18 samples), the augmented Fama-French three-factor model (the 2010-18 sample), and the augmented Fama-French five-factor model (the 2010-18 sample). Finally, in the time-series regressions for individual stocks, the sentiment factor is significant for as many stocks as for the size, value, profitability, and investment factors.

The rest of the paper is organized as follows: The data set is presented in Section 2, and the empirical analyses are found in Section 3. Section 4 concludes the paper.

2. Data set

We use the FT as our source of news coverage and use articles that were published during the period 2004-18 covering companies that have been included in the DJIA. See Table 1 for companies included in the DJIA, their ticker symbols, and the periods they are included in the DJIA.[6]

[Table 1 about here.]

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[6] Kraft Foods is not included in the sample due to missing data, although the company was included in the DJIA between September 22, 2008 and September 23, 2012.

Our choice of time period means that the Great Recession, which started in the U.S. in 2007 and thereafter spread with devastating effects to the rest of the industrialized world, is covered in the analysis. For this reason, we estimate the asset-pricing models not only using the full sample but also for a subsample that includes the Great Recession and another subsample that excludes this period of economic downturn. See Table 2 for time periods, the number of articles associated with each time period, and the number of trading days in the data set, including the initiation sample for the construction of the sentiment factor.

[Table 2 about here.]

The daily stock price and index data, the latter being the S&P 500, have been downloaded from Yahoo Finance[7], and the daily data on the factors in the Fama-French (2015) five-factor model have been downloaded from Ken French's Data Library[8]. We adjust stock price and index data for both dividends and splits.

3. Empirical analyses

The construction of the sentiment factor is explained in Section 3.1. In Section 3.2, we examine whether the negativism in the language tone in financial news media, represented by the FT, is a priced risk factor, and in Section 3.3, we investigate whether a trading strategy that longs stocks with the most negative news and shorts stocks with the least negative news is profitable.

3.1. Sentiment factor

The return on the sentiment factor equals the difference between the returns on stocks of firms receiving the most negative and the least negative news in the FT, where the stocks included in the long and short legs of the sentiment portfolio—or sentiment factor—are updated on a yearly basis on the first trading day in July. Hence, the sentiment factor is updated with the same frequency and on the same date as the other factors in the factor models.

An article in the FT is attributed to a company included in the sample, say, American Express (including versions of the company name; e.g., Amex), if (i) the company is mentioned at least twice in the article and (ii) no other company is mentioned more often in the article. If two

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[7] See https://finance.yahoo.com.

[8] See http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

or more companies are mentioned an equal number of times in the article and more often than other companies, the article is attributed to those companies. After having attributed all articles in the data set to companies included in the sample, the fractions of negative words in the articles are determined using the Loughran-McDonald Sentiment Word List.[9]

For each year starting on the first trading day in July and ending on the last trading day in June of the following year, we calculate the average fraction of negative words in the articles for each company in the sample that are included in the DJIA on July 1. Thereafter, we sort the companies on the average fractions of negative words during the year and construct a 30%-40%-30% zero-investment portfolio. The long leg in the portfolio contains the stocks of the top 30% of companies with the most negative news, and the short leg contains the stocks of the top 30% of companies with the least negative news. The return on the portfolio is calculated on a daily basis as the difference between the returns on the equally weighted long and short legs. News articles, stock prices and index data for the period July 1, 2004, through June 30, 2005, are used to initiate the sentiment factor.

The correlation matrixes for the factors in the models are found in Tables 3a-c. For the first and second subsamples, the sentiment factor has the strongest correlation with the value factor and the weakest with the size factor (Tables 3a-b). For the full subsample, the strongest correlation is again with the value factor, but the weakest is with the investment factor (Table 3c).

[Tables 3a-c about here.]

3.2. Is the sentiment factor a priced risk factor?

We adopt the two-stage approach in Fama and French (1993) to examine whether the sentiment factor is a priced risk factor in the cross-section of stock returns.

In the first stage (Section 3.2.1), a time-series regression is run separately for each stock in the sample.[10] The parameter estimates, or factor loadings, from these regressions are then used in the second stage (Section 3.2.2) as explanatory variables for the stocks' mean returns in a cross-

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[9] See https://sraf.nd.edu/textual-analysis/resources/#LM%20Sentiment%20Word%20Lists. The dictionary is described in Loughran and McDonald (2011).

[10] That is, 40 stocks $\times$ 3 periods $\times$ 6 factor models = 720 regressions are run.

sectional regression.[11] The parameter estimates in the latter regression are interpreted as risk premia for the factors, and we are interested in learning whether there exists a risk premium for the sentiment factor.

3.2.1. First-stage regressions

In addition to estimating the six-factor model in (1) for each stock using daily data, we also estimate the two-factor model with the market $(R_{M,t} - R_{F,t})$ and sentiment factors,

$$(4) \qquad R_{i,t} - R_{F,t} = a_i + b_i(R_{M,t} - R_{F,t}) + n_i NMP_t + e_{i,t}$$

and the four-factor model with the market, sentiment, size, and value factors,

$$(5) \qquad R_{i,t} - R_{F,t} = a_i + b_i(R_{M,t} - R_{F,t}) + n_i NMP_t + s_i SMB_t + h_i HML_t + e_{i,t}$$

for the same stocks using daily data. For comparison, we also estimate the factor models in (1) and (4)-(5) without the sentiment factor to better understand how the inclusion of this factor affects the estimation results. The estimation results from the time-series regressions using the full sample and the two subsamples are found in the Appendix.[12] See Table 4 for a summary of the significant results from the first-stage regressions.

[Table 4 about here.]

Two general results apply for all factor models. First, the market factor is significant at the 0.001 level for at least 39 of 40 stocks in the full sample and the two subsamples. Second, Jensen's alpha is infrequently a significant intercept in the regressions. Indeed, Jensen's alpha is not significant at the 0.001 level for any stock in any sample for any factor model. Focusing on the factor models with the sentiment factor and the most generous significance level, Jensen's alpha is significant in the full sample at the 0.05 level for seven (two-factor model), five (four-factor model) and six stocks (six-factor model). In the first subsample, covering the Great Recession, the corresponding figures are four, four and four stocks, and in the second subsample, they are six, five and three stocks. Since Jensen's alpha should be indistinguishable from zero in a well-specified asset-pricing model, these findings are encouraging.

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[11] That is, 3 periods $\times$ 6 factor models = 18 regressions are run.

[12] The Appendix is available on request from the corresponding author.

Market model   The market model is

$$(6) \qquad R_{i,t} - R_{F,t} = a_i + b_i(R_{M,t} - R_{F,t}) + e_{i,t}$$

Two-factor model   Adding the sentiment factor to the market model in (6) results in the model in (4), where the sentiment factor is significant at the 0.001 level for 30 stocks, significant at the 0.01 level for 32 stocks, and significant at the 0.05 level for 32 stocks in the full sample. Hence, it is significant for more than three-fourths of the stocks. Except in one case, the sentiment factor is significant in fewer cases in the subsamples compared with in the full sample.

Three-factor model   In the Fama-French (1992) three-factor model,

$$(7) \qquad R_{i,t} - R_{F,t} = a_i + b_i(R_{M,t} - R_{F,t}) + s_i SMB_t + h_i HML_t + e_{i,t}$$

there is strong support for the size and value factors in the regressions. Both factors are significant at the 0.001 level for almost two-thirds of the stocks in the full sample, where the support is somewhat stronger for the size factor than for the value factor. There is also strong support for the size and value factors in the subsamples. Specifically, in the full sample, the factors are significant at the 0.001 level for 26 and 23 stocks, respectively. The corresponding figures for the subsamples are, respectively, 20 and 25 stocks, and 28 and 24 stocks.

Four-factor model   Adding the sentiment factor to the Fama-French (1992) three-factor model in (7) results in the model in (5), where the sentiment factor is significant at the 0.001 level for 27 stocks, significant at the 0.01 level for 29 stocks, and significant at the 0.05 level for 32 stocks in the full sample. Thus, the sentiment factor is significant for almost as many stocks in the four-factor model as it is in the two-factor model. The sentiment factor is significant in fewer cases in the subsamples compared with the full sample.

There is again strong support for the size and value factors in the regressions. Both factors are significant at the 0.001 level for approximately the same number of stocks in the full sample as in the Fama-French (1992) three-factor model, where the support is somewhat stronger for the size factor than for the value factor. There is also strong support for the size and value factors in the subsamples. Specifically, in the full sample, the factors are significant at the 0.001 level for 26 and 21 stocks, respectively. The corresponding figures for the subsamples are, respectively, 20 and 21 stocks, and 27 and 24 stocks.

Five-factor model In the Fama-French (2015) five-factor model,

$$(8) \qquad R_{i,t} - R_{F,t} = a_i + b_i\left(R_{M,t} - R_{F,t}\right) + s_i SMB_t + h_i HML_t + r_i RMW_t + c_i CMA_t + e_{i,t}$$

the support for the size, value, profitability, and investment factors in the regressions is strong. In the full sample, the factors are significant at the 0.001 level for 27, 23, 20 and 29 stocks, respectively. The corresponding figures for the subsamples are, respectively, 20, 21, 9 and 26 stocks, and 23, 23, 23 and 26 stocks. Hence, all factors are significant at the most conservative level, except the profitability factor in the first subsample, for more than half of the stocks in each of the samples.

Six-factor model Finally, adding the sentiment factor to the Fama-French (2015) five-factor model in (8) results in the model in (1). In the full sample, the sentiment factor is significant at the 0.001 level for 30 stocks, significant at the 0.01 level for 32 stocks, and significant at the 0.05 level for 34 stocks. Thus, the sentiment factor is significant for at least as many stocks in the six-factor model as it is in the other two factor models with the sentiment factor. This factor is again significant in fewer cases in the subsamples compared with the full sample.

The support for the size, value, profitability, and investment factors in the regressions is again strong. In the full sample, the factors are significant at the 0.001 level for 27, 20, 21 and 30 stocks, respectively. The corresponding figures for the subsamples are, respectively, 20, 21, 9 and 25 stocks, and 23, 21, 23 and 26 stocks. These figures are more or less the same as those for the Fama-French (2015) five-factor model. Hence, all factors are significant at the most conservative level, except the profitability factor in the first subsample, for more than half of the stocks in each of the samples.

Summary First, the market factor is significant at the 0.001 level for at least 39 of 40 stocks in the full sample and the two subsamples and for all factor models. Second, the sentiment factor is significant at the 0.05 level for 32-34 of 40 stocks in the full sample and for all factor models with the sentiment factor. Third, the size and value factors are significant at the 0.05 level for 33-35 and 29-31 of 40 stocks in the full sample and for all factor models including those factors. Fourth, the profitability and investment factors are significant at the 0.05 level for 28-29 and 32-

34 of 40 stocks in the full sample and for all factor models including those factors. Fifth, Jensen's alpha is not significant at the 0.001 level (and only in a few cases at the 0.01 and 0.05 levels) for any stock in any period and for any factor model.

Last, it is worth noting that the loading for the size factor in the time-series regressions is, in most cases, negative. This is not surprising given that the DJIA only includes companies with large market capitalizations. Moreover, the loading for the value factor in the time-series regressions is more often negative than positive, which means that growth stocks are in the majority in the sample. There is also overweighting with firms with robust profitability and/or a conservative investment style. That is, the loadings for the profitability and investment factors in the time-series regressions are more often positive than negative.

3.2.2. Second-stage regressions

The factor loadings from the time-series regressions are next used in cross-sectional regressions, where the dependent variable in the cross-sectional regressions is the mean excess returns for the stocks. Specifically, for each factor model, there is a corresponding cross-sectional regression model. For example, the cross-sectional regression model in (2) corresponds to the six-factor model in (1).

In addition to estimating the model in (2), we also run the following regressions:

(9) $\quad \bar{R}_i - \bar{R}_F = \lambda_a \hat{a}_i + \lambda_b \hat{b}_i + \lambda_n \hat{n}_i + e_i$

(10) $\quad \bar{R}_i - \bar{R}_F = \lambda_a \hat{a}_i + \lambda_b \hat{b}_i + \lambda_n \hat{n}_i + \lambda_s \hat{s}_i + \lambda_h \hat{h}_i + e_i$

where $\lambda_n \neq 0$ if a negative market sentiment is a priced risk factor in the cross-section of stock returns. For the sake of completeness, we also run the following regressions in which the loading for the sentiment factor, n_i, has been excluded from the models in (2) and (9)-(10):

(11) $\quad \bar{R}_i - \bar{R}_F = \lambda_a \hat{a}_i + \lambda_b \hat{b}_i + e_i$

(12) $\quad \bar{R}_i - \bar{R}_F = \lambda_a \hat{a}_i + \lambda_b \hat{b}_i + \lambda_s \hat{s}_i + \lambda_h \hat{h}_i + e_i$

(13) $\quad \bar{R}_i - \bar{R}_F = \lambda_a \hat{a}_i + \lambda_b \hat{b}_i + \lambda_s \hat{s}_i + \lambda_h \hat{h}_i + \lambda_r \hat{r}_i + \lambda_c \hat{c}_i + e_i$

Estimation results from the cross-sectional regressions using the full sample and the two subsamples are found in Tables 5-10.

[Tables 5-10 about here.]

First, the market factor is significant at the 0.05 level in all factor models in the full sample and the two subsamples, except in the second subsample in the two-factor model. Thus, the market factor is significant in the cross-section of stock returns in 17 of 18 model specifications. In addition, the market factor is significant at the 0.001 level in 10 of 18 model specifications.

Market model   The regression model in (11) corresponds to the market model in (6).

Two-factor model   The regression model in (9) corresponds to the market model augmented with the sentiment factor in (4). In the two subsamples, the sentiment factor is significant at the 0.001 level, and in the full sample, it is significant at the 0.01 level (Table 6).

Three-factor model   The regression model in (12) corresponds to the Fama-French (1992) three-factor model in (7). In the full sample, the size and value factors are significant, whereas in the two subsamples, only the value factor is significant (Table 7).

Four-factor model   The regression model in (10) corresponds to the Fama-French (1992) three-factor model augmented with the sentiment factor in (5). First, the sentiment factor is significant at the 0.01 level in the second subsample but not significant in the full sample or in the first subsample. Second, in the full sample, the size and value factors are significant, whereas in the first subsample, only the value factor is significant. In the second subsample, only the market and sentiment factors are significant (Table 8).

Five-factor model   The regression model in (13) corresponds to the Fama-French (2015) five-factor model in (8). In the full sample, the size, profitability, and investment factors are significant but not the value factor, and in the first subsample, the profitability and investment factors are significant but not the size and value factors. In the second subsample, only the market and sentiment factors are significant (Table 9).

Six-factor model   The regression model in (2) corresponds to the Fama-French (2015) five-factor model augmented with the sentiment factor in (1). First, the sentiment factor is significant at

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the 0.01 level in the second subsample but not significant in the full sample or in the first sub-sample. Second, in the full sample, the size, profitability, and investment factors are significant but not the value factor, and in the first subsample, the profitability and investment factors are significant but not the size and value factors. In the second subsample, only the market and senti-ment factors are significant (Table 10).

Summary The sentiment factor is a priced risk factor in the cross-section of stock returns in five of nine model specifications. Specifically, it is a priced risk factor in the augmented market model (the full sample and the two subsamples), the augmented Fama-French three-factor model (the second subsample), and the augmented Fama-French five-factor model (the second subsample). For comparison, the size and value factors are priced risk factors in the cross-section of stock returns in four and five of the twelve model specifications, respectively, and the profitability and investment factors are priced risk factors in four and four of the six model specifications, respectively.

3.3. Is identifying negative market sentiment useful from an investor perspective?

The idea behind the regression model in (3) is that one cannot make systematic profits from buy-ing the sentiment portfolio, NMP_t, if Jensen's alpha is equal to zero, $a = 0$, under the assump-tion that the Fama-French (2015) five-factor model, on average, correctly describes stock re-turns. Hence, if Jensen's alpha is positive, $a > 0$, one is able to make systematic profits by buy-ing the costless sentiment portfolio. That is, by shorting stocks with the least negative news and going long in stocks with the most negative news.

The corresponding regression models if stock returns are instead described by the market model or the Fama-French (1992) three-factor model are, respectively,

$$(14) \quad NMP_t = a + b\left(R_{M,t} - R_{F,t}\right) + e_{i,t}$$

and

$$(15) \quad NMP_t = a + b\left(R_{M,t} - R_{F,t}\right) + s \cdot SMB_t + h \cdot HML_t + e_{i,t}$$

The estimation results using the full sample and the two subsamples are found in Table 11.

[Table 11 about here.]

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We find some support for the claim that a trading strategy that longs stocks with the most negative news and shorts stocks with the least negative news is profitable. Specifically, Jensen's alpha is significantly positive at the 0.05 level in the factor spanning regression with the Fama-French five-factor model explaining the sentiment factor in the 2005-09 subsample, which includes the Great Recession, and the 2005-18 full sample.

4. Conclusions

Without prior knowledge of the findings in Fang and Peress (2009), one would expect that markets function well enough and investors are informed enough that there is no premium for investing in stocks with no media coverage, let alone investing in stocks associated with negative news instead of stocks associated with not-so-negative news. However, because Fang and Peress (2009) showed that there actually is a premium for investing in stocks with no media coverage, it became interesting to ask whether the same holds for stocks associated with negative news.

For this reason, we studied 35,344 news articles published in the FT and found that a trading strategy that longs stocks with the most negative news and shorts stocks with the least negative news actually was profitable in the 2005-09 subsample, which includes the Great Recession, and the 2005-18 full sample after controlling for market, size, value, profitability, and investment factors. Moreover, in the time-series regressions, the sentiment factor was significant for as many stocks as for the size, value, profitability, and investment factors. To give some numbers, the sentiment, size, value, profitability, and investment factors were significant in the full sample for at least 32, 33, 29, 28 and 32 of 40 stocks, respectively. Finally, the sentiment factor was a significantly priced risk factor in the cross-section of stock returns in five of nine model specifications.

The overall conclusion from the exercise in this paper is, therefore, that a more thorough investigation of the impact of financial news media on the cross-section of stock returns is warranted. For example, by extending the data set to include not only more stocks but also stocks from different regions in the world, as well as other financial media outlets than the FT. At the same time, in regard to extending the data set with more stocks, one should have in mind the findings in Fang and Peress (2009). They found that more than 25% of NYSE stocks and more than 50% of NASDAQ stocks were not featured in the examined newspapers (the NYT, USA Today, the WSJ, and the Washington Post) in a typical year. We noted a similar pattern in our

data set; a small number of firms received high coverage in the FT, whereas other firms were not mentioned at all in some years. Thus, it is better to first and foremost extend the data set to include stocks from different regions in the world, together with relevant financial media outlets.

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Company	Ticker symbol	Period
3M	MMM	July 1, 2004 – December 31, 2018
Alcoa	AA	July 1, 2004 – September 19, 2013
Altria Group	MO	July 1, 2004 – February 18, 2008
American Express	AXP	July 1, 2004 – December 31, 2018
American International Group	AIG	July 1, 2004 – September 21, 2008
Apple	AAPL	March 19, 2015 – December 31, 2018
AT&T	T	July 1, 2004 – March 18, 2015
Bank of America	BAC	February 19, 2008 – September 19, 2013
Boeing	BA	July 1, 2004 – December 31, 2018
Caterpillar	CAT	July 1, 2004 – December 31, 2018
Chevron	CVX	February 19, 2008 – December 31, 2018
Cisco Systems	CSCO	June 8, 2009 – December 31, 2018
Citigroup	C	July 1, 2004 – June 7, 2009
The Coca-Cola Company	KO	July 1, 2004 – December 31, 2018
DuPont / DowDuPont	DD / DWDP	July 1, 2004 – August 31, 2017 September 1, 2017 – December 31, 2018
ExxonMobil	XOM	July 1, 2004 – December 31, 2018
General Electric	GE	July 1, 2004 – June 25, 2018
General Motors	GM	July 1, 2004 – June 7, 2009
Goldman Sachs	GS	September 20, 2013 – December 31, 2018
Hewlett-Packard	HPQ	July 1, 2004 – September 19, 2013
The Home Depot	HD	July 1, 2004 – December 31, 2018
Honeywell	HON	July 1, 2004 – February 18, 2008
IBM	IBM	July 1, 2004 – December 31, 2018
Intel	INTC	July 1, 2004 – December 31, 2018
Johnson & Johnson	JNJ	July 1, 2004 – December 31, 2018
JPMorgan Chase	JPM	July 1, 2004 – December 31, 2018
McDonald's	MCD	July 1, 2004 – December 31, 2018
Merck	MRK	July 1, 2004 – December 31, 2018
Microsoft	MSFT	July 1, 2004 – December 31, 2018
Nike	NKE	September 20, 2013 – December 31, 2018
Pfizer	PFE	July 1, 2004 – December 31, 2018
Procter & Gamble	PG	July 1, 2004 – December 31, 2018
The Travelers Companies	TRV	June 8, 2009 – December 31, 2018
UnitedHealth Group	UNH	September 24, 2012 – December 31, 2018
United Technologies	UTX	July 1, 2004 – December 31, 2018
Verizon	VZ	July 1, 2004 – December 31, 2018
Visa	V	September 20, 2013 – December 31, 2018
Walgreens Boots Alliance	WBA	June 26, 2018 – December 31, 2018
Walmart	WMT	July 1, 2004 – December 31, 2018
The Walt Disney Company	DIS	July 1, 2004 – December 31, 2018

Table 1: Companies, their ticker symbols, and the periods they are included in the DJIA.

Time period	Dates	Number of articles	Number of trading days
Initiation sample	July 1, 2004 – June 30, 2005	1,802	253
First subsample	July 1, 2005 – December 31, 2009	11,268	1,138
Second subsample	January 1, 2010 – December 31, 2018	24,076	2,225
Full sample	July 1, 2005 – December 31, 2018	35,344	3,363

Table 2: Dates for time periods, number of articles associated with each time period, and number of trading days.

Note: The number of articles for the full sample equals the number of articles for the two subsamples, not including the initiation sample, and the number of trading days for the full sample equals the number of trading days for the two subsamples, not including the initiation sample.

	$R_M - R_F$	NMP	SMB	HML	RMW	CMA
$R_M - R_F$	1.000	0.520	0.178	0.478	-0.295	-0.279
NMP	0.520	1.000	0.137	0.731	-0.453	-0.299
SMB	0.178	0.137	1.000	0.152	-0.178	-0.026
HML	0.478	0.731	0.152	1.000	-0.583	-0.039
RMW	-0.295	-0.453	-0.178	-0.583	1.000	0.078
CMA	-0.279	-0.299	-0.026	-0.039	0.078	1.000

Table 3a: Correlation matrix for the factors in the factor models for the first subsample.

	$R_M - R_F$	NMP	SMB	HML	RMW	CMA
$R_M - R_F$	1.000	0.403	0.355	0.165	-0.471	-0.069
NMP	0.403	1.000	0.181	0.447	-0.431	0.208
SMB	0.355	0.181	1.000	0.032	-0.372	0.006
HML	0.165	0.447	0.032	1.000	-0.241	0.591
RMW	-0.471	-0.431	-0.372	-0.241	1.000	-0.037
CMA	-0.069	0.208	0.006	0.591	-0.037	1.000

Table 3b: Correlation matrix for the factors in the factor models for the second subsample.

	$R_M - R_F$	NMP	SMB	HML	RMW	CMA
$R_M - R_F$	1.000	0.474	0.262	0.353	-0.379	-0.163
NMP	0.474	1.000	0.152	0.630	-0.428	-0.050
SMB	0.262	0.152	1.000	0.095	-0.289	-0.007
HML	0.353	0.630	0.095	1.000	-0.407	0.269
RMW	-0.379	-0.428	-0.289	-0.407	1.000	0.007
CMA	-0.163	-0.050	-0.007	0.269	0.007	1.000

Table 3c: Correlation matrix for the factors in the factor models for the full sample.

(pre/post/full)	Jensen's alpha	Market	NMP	SMB	HML	RMW	CMA
1-factor model	Intercept	Market	Sentiment	Size	Value	Profitability	Investment
0.001 level	0/0/0	40/39/39	-	-	-	-	-
0.01 level	1/2/2	40/39/39	-	-	-	-	-
0.05 level	3/5/5	40/40/40	-	-	-	-	-
2-factor model	Intercept	Market	Sentiment	Size	Value	Profitability	Investment
0.001 level	0/0/0	40/39/39	24/28/30	-	-	-	-
0.01 level	1/3/3	40/39/39	26/31/32	-	-	-	-
0.05 level	4/6/7	40/39/40	32/33/32	-	-	-	-
3-factor model	Intercept	Market	Sentiment	Size	Value	Profitability	Investment
0.001 level	0/0/0	40/39/39	-	20/28/26	25/24/23	-	-
0.01 level	1/2/2	40/39/39	-	23/30/30	29/27/26	-	-
0.05 level	4/4/5	40/40/40	-	24/32/35	33/28/30	-	-
4-factor model	Intercept	Market	Sentiment	Size	Value	Profitability	Investment
0.001 level	0/0/0	40/39/39	22/25/27	20/27/26	21/24/21	-	-
0.01 level	1/2/2	40/39/39	27/27/29	23/30/32	25/26/26	-	-
0.05 level	4/5/5	40/39/40	31/28/32	24/33/34	28/30/29	-	-
5-factor model	Intercept	Market	Sentiment	Size	Value	Profitability	Investment
0.001 level	0/0/0	40/39/39	-	20/23/27	21/23/23	9/23/20	26/26/29
0.01 level	1/1/2	40/39/39	-	22/28/31	22/26/27	15/29/27	30/28/34
0.05 level	3/4/5	40/39/40	-	25/32/33	27/27/30	20/33/29	32/31/34
6-factor model	Intercept	Market	Sentiment	Size	Value	Profitability	Investment
0.001 level	0/0/0	40/39/39	18/22/30	20/23/27	21/21/20	9/23/21	25/26/30
0.01 level	1/0/1	40/39/39	22/28/32	23/28/31	27/25/22	14/24/24	28/28/31
0.05 level	4/3/6	40/39/40	29/31/34	25/32/33	29/29/31	21/28/28	30/31/32

Table 4: Significant results in the time-series regressions.

a	b
First subsample	
0.0098	0.0158
(0.795)	(0.018)*
Second subsample	
0.3769	0.0090
(<0.001)***	(0.055)
Full sample	
-0.0293	0.0198
(0.287)	(0.005)**

Table 5: Cross-sectional regression in (11), where the factor loading from the market model is the explanatory variable for the stocks' mean excess returns.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

a	b	n
First subsample		
-0.0707	0.0302	-0.0535
(0.043)*	(<0.001)***	(<0.001)***
Second subsample		
0.2986	0.0205	-0.0316
(<0.001)***	(<0.001)***	(<0.001)***
Full sample		
-0.0732	0.0271	-0.0527
(0.009)**	(<0.001)***	(0.002)**

Table 6: Cross-sectional regression in (9), where the factor loadings from the market model augmented with the sentiment factor are the explanatory variables for the stocks' mean excess returns.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

a	b	s	h
	First subsample		
-0.0823	0.0290	-0.0178	-0.0372
(0.068)	(<0.001)***	(0.520)	(<0.001)***
	Second subsample		
0.2685	0.0253	0.0293	-0.0130
(<0.001)***	(<0.001)***	(0.064)	(0.024)*
	Full sample		
-0.1196	0.0232	-0.0706	-0.0406
(0.007)**	(0.003)**	(0.006)**	(0.002)**

Table 7: Cross-sectional regression in (12), where the factor loadings from the Fama-French (1992) three-factor model are the explanatory variables for the stocks' mean excess returns.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

a	b	n	s	h
		First subsample		
-0.0751	0.0291	-0.0384	-0.0126	-0.0308
(0.104)	(<0.001)***	(0.112)	(0.661)	(0.016)*
		Second subsample		
0.3184	0.0220	-0.0399	0.0209	-0.0061
(<0.001)***	(<0.001)***	(0.004)**	(0.150)	(0.280)
		Full sample		
-0.1581	0.0233	0.0148	-0.0912	-0.0532
(0.001)**	(0.002)**	(0.417)	(0.001)**	(<0.001)***

Table 8: Cross-sectional regression in (10), where the factor loadings from the Fama-French (1992) three-factor model augmented with the sentiment factor are the explanatory variables for the stocks' mean excess returns.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

	a	b	s	h	r	c
			First subsample			
	0.1836	0.0227	-0.0188	-0.0164	0.0786	-0.0388
	(0.004)**	(<0.001)***	(0.362)	(0.163)	(<0.001)***	(<0.001)***
			Second subsample			
	0.2740	0.0246	0.0293	-0.0074	0.0063	0.0038
	(<0.001)***	(<0.001)***	(0.073)	(0.360)	(0.396)	(0.581)
			Full sample			
	0.0030	0.0186	-0.0630	-0.0158	0.0423	-0.0222
	(0.969)	(0.019)*	(0.017)*	(0.409)	(0.018)*	(0.042)*

Table 9: Cross-sectional regression in (13), where the factor loadings from the Fama-French (2015) five-factor model are the explanatory variables for the stocks' mean excess returns.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

a	b	n	s	h	r	c
			First subsample			
0.1826	0.0229	-0.0133	-0.0179	-0.0162	0.0783	-0.0387
(0.005)**	(0.001)**	(0.497)	(0.404)	(0.191)	(<0.001)***	(0.001)**
			Second subsample			
0.2970	0.0230	-0.0381	0.0204	-0.0035	0.0108	0.0032
(<0.001)***	(<0.001)***	(0.008)**	(0.180)	(0.640)	(0.129)	(0.611)
			Full sample			
0.0045	0.0162	0.0308	-0.0853	-0.0195	0.0561	-0.0264
(0.948)	(0.023)*	(0.088)	(<0.001)***	(0.253)	(0.001)**	(0.008)**

Table 10: Cross-sectional regression in (2), where the factor loadings from the Fama-French (2015) five-factor model augmented with the sentiment factor are the explanatory variables for the stocks' mean excess returns.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

a	$R_M - R_F$	SMB	HML	RMW	CMA
			First subsample		
0.0104	0.3362				
(0.435)	(<0.001)***				
0.0167	0.1936	0.0516	0.6842		
(0.128)	(<0.001)***	(0.010)**	(<0.001)***		
0.0226	0.1387	0.0197	0.7109	-0.3007	-0.4741
(0.032)*	(<0.001)***	(0.317)	(<0.001)***	(<0.001)***	(<0.001)***
			Second subsample		
0.0094	0.3907				
(0.753)	(<0.001)***				
0.0079	0.1658	0.0042	0.8267		
(0.732)	(<0.001)***	(0.906)	(<0.001)***		
0.0085	0.1060	0.0081	0.8515	-0.0506	-0.8804
(0.694)	(<0.001)***	(0.812)	(<0.001)***	(0.456)	(<0.001)***
			Full sample		
0.0149	0.2568				
(0.217)	(<0.001)***				
0.0206	0.1953	0.0830	0.4747		
(0.059)	(<0.001)***	(<0.001)***	(<0.001)***		
0.0254	0.1378	0.0013	0.3895	-0.4844	0.0600
(0.015)*	(<0.001)***	(0.954)	(<0.001)***	(<0.001)***	(0.188)

Table 11: Factor spanning regressions, where Jensen's alpha and the market model in (14), Jensen's alpha and the Fama-French (1992) three-factor model in (15), and Jensen's alpha and the Fama-French (2015) five-factor model in (3) are the explanatory variables for the sentiment factor.

Note: p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

Appendix Tables

ticker	(Intercept)_pre	Mkt_RF_pre	(Intercept)_post	Mkt_RF_post	(Intercept)_full	Mkt_RF_full
AA	0.0217	1.6643	−0.0549	1.473	−0.0327	1.5831
	(0.76)	(<0.001)***	(0.169)	(<0.001)***	(0.359)	(<0.001)***
AAPL	0.1784	1.0045	−0.0125	0.9318	0.055	0.9747
	(0.008)**	(<0.001)***	(0.682)	(<0.001)***	(0.077)	(<0.001)***
AIG	−0.073	2.0311	−0.025	1.3207	−0.0547	1.7295
	(0.682)	(<0.001)***	(0.436)	(<0.001)***	(0.394)	(<0.001)***
AXP	0.0375	1.6667	−1e−04	1.0778	0.0022	1.4147
	(0.533)	(<0.001)***	(0.996)	(<0.001)***	(0.93)	(<0.001)***
BA	0.0177	0.9304	0.0571	1.0905	0.0466	0.9973
	(0.704)	(<0.001)***	(0.018)*	(<0.001)***	(0.039)*	(<0.001)***
BAC	0.0288	2.0737	−0.0287	1.5749	−0.0182	1.8585
	(0.78)	(<0.001)***	(0.377)	(<0.001)***	(0.662)	(<0.001)***
C	−0.1559	1.9743	−0.0261	1.5742	−0.0753	1.7943
	(0.185)	(<0.001)***	(0.368)	(<0.001)***	(0.085)	(<0.001)***
CAT	0.0453	1.1952	−0.0091	1.3118	0.0115	1.2438
	(0.361)	(<0.001)***	(0.709)	(<0.001)***	(0.622)	(<0.001)***
CSCO	0.0384	1.0704	−0.0032	1.036	0.0101	1.0554
	(0.361)	(<0.001)***	(0.902)	(<0.001)***	(0.652)	(<0.001)***
CVX	0.0597	1.068	−0.0106	0.9891	0.0121	1.0342
	(0.133)	(<0.001)***	(0.602)	(<0.001)***	(0.526)	(<0.001)***
DD	0.0018	1.2358	−0.0083	1.4092	−0.0016	1.3105
	(0.975)	(<0.001)***	(0.75)	(<0.001)***	(0.952)	(<0.001)***
DIS	0.0386	1.08	0.0186	0.9717	0.0233	1.0343
	(0.314)	(<0.001)***	(0.356)	(<0.001)***	(0.211)	(<0.001)***
GE	−0.0318	1.1482	−0.0416	1.0062	−0.0411	1.0877
	(0.531)	(<0.001)***	(0.078)	(<0.001)***	(0.077)	(<0.001)***
GM	−0.2157	1.4802	1.8363	4.3753	1.2013	2.7379
	(0.112)	(<0.001)***	(0.371)	(0.04)*	(0.377)	(0.016)*
GS	0.0995	1.4905	−0.0455	1.2555	0.0015	1.3854
	(0.137)	(<0.001)***	(0.08)	(<0.001)***	(0.96)	(<0.001)***

Table A.1: The first (pre), second (post) and full samples are used in the time-series regressions of the market model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	(Intercept)_post	Mkt_RF_post	(Intercept)_full	Mkt_RF_full
HD	−0.0017	1.0189	0.0537	0.8638	0.0322	0.9532
	(0.969)	(<0.001)***	(0.007)**	(<0.001)***	(0.102)	(<0.001)***
HON	0.0349	1.0151	0.0196	1.1197	0.0268	1.0592
	(0.355)	(<0.001)***	(0.21)	(<0.001)***	(0.104)	(<0.001)***
HPQ	0.0902	0.8902	−0.0384	1.1105	0.009	0.9827
	(0.05)	(<0.001)***	(0.275)	(<0.001)***	(0.748)	(<0.001)***
IBM	0.0591	0.7414	−0.0329	0.7889	−0.001	0.761
	(0.071)	(<0.001)***	(0.111)	(<0.001)***	(0.955)	(<0.001)***
INTC	−0.0015	1.0739	0.0088	1.023	0.0043	1.0522
	(0.974)	(<0.001)***	(0.726)	(<0.001)***	(0.849)	(<0.001)***
JNJ	0.0122	0.5041	0.018	0.6027	0.0179	0.5458
	(0.643)	(<0.001)***	(0.225)	(<0.001)***	(0.177)	(<0.001)***
JPM	0.1346	1.7364	0.0072	1.3129	0.045	1.554
	(0.062)	(<0.001)***	(0.761)	(<0.001)***	(0.134)	(<0.001)***
KO	0.0571	0.5553	0.0154	0.5449	0.0294	0.5506
	(0.08)	(<0.001)***	(0.344)	(<0.001)***	(0.057)	(<0.001)***
MCD	0.0852	0.606	0.0375	0.5423	0.0524	0.5787
	(0.022)*	(<0.001)***	(0.038)*	(<0.001)***	(0.002)**	(<0.001)***
MMM	0.028	0.7865	0.0073	0.923	0.0163	0.8463
	(0.395)	(<0.001)***	(0.658)	(<0.001)***	(0.298)	(<0.001)***
MO	0.054	0.5311	0.0503	0.5154	0.0512	0.5244
	(0.147)	(<0.001)***	(0.01)*	(<0.001)***	(0.005)**	(<0.001)***
MRK	0.044	0.7836	0.0111	0.7305	0.0211	0.7609
	(0.393)	(<0.001)***	(0.596)	(<0.001)***	(0.341)	(<0.001)***
MSFT	0.0376	0.9472	0.0158	0.9983	0.0238	0.9688
	(0.426)	(<0.001)***	(0.506)	(<0.001)***	(0.287)	(<0.001)***
NKE	0.0954	0.9018	0.0398	0.8887	0.0583	0.8959
	(0.035)*	(<0.001)***	(0.132)	(<0.001)***	(0.012)*	(<0.001)***
PFE	0.0048	0.7595	0.0278	0.7623	0.0201	0.7608
	(0.896)	(<0.001)***	(0.144)	(<0.001)***	(0.26)	(<0.001)***

Table A.1 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the market model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	(Intercept)_post	Mkt_RF_post	(Intercept)_full	Mkt_RF_full
PG	0.0258	0.5931	0.0099	0.4794	0.013	0.5447
	(0.37)	(<0.001)***	(0.557)	(<0.001)***	(0.378)	(<0.001)***
T	0.0467	0.8536	−0.0018	0.5844	0.0091	0.7405
	(0.206)	(<0.001)***	(0.925)	(<0.001)***	(0.608)	(<0.001)***
TRV	0.0531	1.1563	0.0144	0.7867	0.0204	0.999
	(0.303)	(<0.001)***	(0.413)	(<0.001)***	(0.338)	(<0.001)***
UNH	−0.0103	0.9911	0.0689	0.8673	0.0398	0.9391
	(0.884)	(<0.001)***	(0.005)**	(<0.001)***	(0.167)	(<0.001)***
UTX	0.044	0.937	−0.0055	0.9741	0.0119	0.9524
	(0.16)	(<0.001)***	(0.74)	(<0.001)***	(0.435)	(<0.001)***
V	0.165	0.9502	0.0494	1.0061	0.0702	0.9764
	(0.16)	(<0.001)***	(0.051)	(<0.001)***	(0.016)*	(<0.001)***
VZ	0.0365	0.771	0.0231	0.5559	0.0238	0.6805
	(0.316)	(<0.001)***	(0.236)	(<0.001)***	(0.186)	(<0.001)***
WBA	−0.0047	0.7318	0.0133	0.7869	0.0083	0.7553
	(0.915)	(<0.001)***	(0.651)	(<0.001)***	(0.734)	(<0.001)***
WMT	0.0235	0.5723	0.0254	0.4709	0.0231	0.5296
	(0.516)	(<0.001)***	(0.229)	(<0.001)***	(0.213)	(<0.001)***
XOM	0.0347	0.9737	−0.0225	0.8622	−0.0054	0.9265
	(0.371)	(<0.001)***	(0.189)	(<0.001)***	(0.758)	(<0.001)***

Table A.1 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the market model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	(Intercept)_post	Mkt_RF_post	NMP_post	(Intercept)_full	Mkt_RF_full	NMP_full
AA	0.0222	1.6868	−0.0575	−0.0624	1.3141	0.6388	−0.0345	1.5124	0.213
	(0.754)	(<0.001)***	(0.415)	(0.112)	(<0.001)***	(<0.001)***	(0.333)	(<0.001)***	(<0.001)***
AAPL	0.1793	1.0652	−0.1685	−0.0094	0.9929	−0.2505	0.0565	1.0347	−0.1906
	(0.008)**	(<0.001)***	(0.012)*	(0.756)	(<0.001)***	(<0.001)***	(0.068)	(<0.001)***	(<0.001)***
AIG	−0.0871	1.4439	1.5028	−0.0299	1.2218	0.3947	−0.0648	1.3499	1.1464
	(0.614)	(<0.001)***	(<0.001)***	(0.346)	(<0.001)***	(<0.001)***	(0.299)	(<0.001)***	(<0.001)***
AXP	0.0289	1.4756	0.5039	−0.0042	0.9971	0.3204	−0.0036	1.2589	0.4798
	(0.62)	(<0.001)***	(<0.001)***	(0.844)	(<0.001)***	(<0.001)***	(0.886)	(<0.001)***	(<0.001)***
BA	0.0164	0.876	0.1407	0.0534	0.9999	0.3612	0.0451	0.9302	0.2031
	(0.725)	(<0.001)***	(0.002)**	(0.024)*	(<0.001)***	(<0.001)***	(0.044)*	(<0.001)***	(<0.001)***
BAC	0.0046	1.3305	1.9374	−0.0371	1.3021	1.0992	−0.0294	1.3199	1.6562
	(0.957)	(<0.001)***	(<0.001)***	(0.212)	(<0.001)***	(<0.001)***	(0.408)	(<0.001)***	(<0.001)***
C	−0.1689	1.3558	1.7791	−0.0301	1.395	0.7347	−0.0816	1.3731	1.4
	(0.1)	(<0.001)***	(<0.001)***	(0.274)	(<0.001)***	(<0.001)***	(0.038)*	(<0.001)***	(<0.001)***
CAT	0.0447	1.1646	0.0784	−0.0138	1.224	0.3524	0.0101	1.189	0.1655
	(0.366)	(<0.001)***	(0.111)	(0.566)	(<0.001)***	(<0.001)***	(0.664)	(<0.001)***	(<0.001)***
CSCO	0.0403	1.145	−0.1925	8e−04	1.1329	−0.386	0.0122	1.1401	−0.2569
	(0.333)	(<0.001)***	(<0.001)***	(0.976)	(<0.001)***	(<0.001)***	(0.585)	(<0.001)***	(<0.001)***
CVX	0.0604	1.0984	−0.0789	−0.0134	0.9395	0.1967	0.0118	1.0249	0.0282
	(0.128)	(<0.001)***	(0.046)*	(0.507)	(<0.001)***	(<0.001)***	(0.536)	(<0.001)***	(0.272)
DD	−5e−04	1.1572	0.2037	−0.012	1.3337	0.3	−0.0037	1.2378	0.2215
	(0.993)	(<0.001)***	(<0.001)***	(0.641)	(<0.001)***	(<0.001)***	(0.886)	(<0.001)***	(<0.001)***
DIS	0.0405	1.1436	−0.1695	0.0232	1.0476	−0.3064	0.0256	1.1016	−0.2093
	(0.286)	(<0.001)***	(<0.001)***	(0.242)	(<0.001)***	(<0.001)***	(0.164)	(<0.001)***	(<0.001)***
GE	−0.0367	0.9702	0.4571	−0.0435	0.9722	0.1361	−0.0446	0.9727	0.3481
	(0.453)	(<0.001)***	(<0.001)***	(0.065)	(<0.001)***	(0.002)**	(0.051)	(<0.001)***	(<0.001)***
GM	−0.2128	1.5838	−0.2704	1.8473	4.5671	−0.766	1.2086	2.9662	−0.6997
	(0.116)	(<0.001)***	(0.046)*	(0.368)	(0.05)	(0.838)	(0.374)	(0.021)*	(0.706)
GS	0.0899	1.3311	0.4136	−0.0509	1.1086	0.6139	−0.0046	1.224	0.5043
	(0.171)	(<0.001)***	(<0.001)***	(0.041)*	(<0.001)***	(<0.001)***	(0.868)	(<0.001)***	(<0.001)***

Table A.2: The first (pre), second (post) and full samples are used in the time-series regressions of the market model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	(Intercept)_post	Mkt_RF_post	NMP_post	(Intercept)_full	Mkt_RF_full	NMP_full
HD	−0.0019	1.0107	0.0209	0.054	0.868	−0.0167	0.032	0.9462	0.0209
	(0.966)	(<0.001)***	(0.629)	(0.007)**	(<0.001)***	(0.645)	(0.104)	(<0.001)***	(0.432)
HON	0.0342	0.9855	0.0759	0.0188	1.1048	0.0595	0.0262	1.0395	0.0596
	(0.364)	(<0.001)***	(0.043)*	(0.23)	(<0.001)***	(0.037)*	(0.11)	(<0.001)***	(0.007)**
HPQ	0.0921	1.0014	−0.284	−0.0323	1.2292	−0.4724	0.0121	1.1052	−0.3689
	(0.042)*	(<0.001)***	(<0.001)***	(0.352)	(<0.001)***	(<0.001)***	(0.662)	(<0.001)***	(<0.001)***
IBM	0.0614	0.82	−0.2044	−0.0285	0.8683	−0.3174	0.0016	0.8417	−0.2467
	(0.056)	(<0.001)***	(<0.001)***	(0.16)	(<0.001)***	(<0.001)***	(0.928)	(<0.001)***	(<0.001)***
INTC	0.001	1.1987	−0.3278	0.0149	1.1639	−0.5703	0.0072	1.1843	−0.4081
	(0.982)	(<0.001)***	(<0.001)***	(0.539)	(<0.001)***	(<0.001)***	(0.745)	(<0.001)***	(<0.001)***
JNJ	0.0142	0.5765	−0.1851	0.0207	0.6504	−0.1913	0.0199	0.6101	−0.1939
	(0.581)	(<0.001)***	(<0.001)***	(0.159)	(<0.001)***	(<0.001)***	(0.127)	(<0.001)***	(<0.001)***
JPM	0.1052	1.2914	1.1883	2e−04	1.1208	0.7778	0.0319	1.2145	1.062
	(0.092)	(<0.001)***	(<0.001)***	(0.992)	(<0.001)***	(<0.001)***	(0.228)	(<0.001)***	(<0.001)***
KO	0.0573	0.6665	−0.2931	0.0181	0.6139	−0.2681	0.0307	0.6426	−0.2805
	(0.068)	(<0.001)***	(<0.001)***	(0.256)	(<0.001)***	(<0.001)***	(0.041)*	(<0.001)***	(<0.001)***
MCD	0.0867	0.676	−0.1785	0.0395	0.5807	−0.1529	0.0537	0.6323	−0.1612
	(0.018)*	(<0.001)***	(<0.001)***	(0.028)*	(<0.001)***	(<0.001)***	(0.002)**	(<0.001)***	(<0.001)***
MMM	0.0286	0.803	−0.044	0.0074	0.9242	−0.005	0.0168	0.8591	−0.0401
	(0.385)	(<0.001)***	(0.177)	(0.654)	(<0.001)***	(0.868)	(0.283)	(<0.001)***	(0.057)
MO	0.0556	0.5948	−0.163	0.0532	0.5723	−0.2273	0.0529	0.585	−0.1828
	(0.133)	(<0.001)***	(<0.001)***	(0.006)**	(<0.001)***	(<0.001)***	(0.003)**	(<0.001)***	(<0.001)***
MRK	0.044	0.7846	−0.0026	0.0126	0.76	−0.1177	0.0214	0.774	−0.0397
	(0.393)	(<0.001)***	(0.96)	(0.548)	(<0.001)***	(0.002)**	(0.334)	(<0.001)***	(0.185)
MSFT	0.0407	1.0701	−0.3285	0.0199	1.108	−0.4473	0.0266	1.0878	−0.3725
	(0.377)	(<0.001)***	(<0.001)***	(0.389)	(<0.001)***	(<0.001)***	(0.222)	(<0.001)***	(<0.001)***
NKE	0.0961	0.9392	−0.0962	0.0439	0.9618	−0.2958	0.0598	0.9504	−0.1658
	(0.034)*	(<0.001)***	(0.031)*	(0.094)	(<0.001)***	(<0.001)***	(0.01)**	(<0.001)***	(<0.001)***
PFE	0.0051	0.7791	−0.0502	0.0275	0.7538	0.0339	0.0202	0.7673	−0.0195
	(0.891)	(<0.001)***	(0.174)	(0.149)	(<0.001)***	(0.33)	(0.257)	(<0.001)***	(0.417)

Table A.2 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the market model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	(Intercept)_post	Mkt_RF_post	NMP_post	(Intercept)_full	Mkt_RF_full	NMP_full
PG	0.0285	0.6717	−0.2013	0.0136	0.5504	−0.2842	0.0153	0.6169	−0.2185
	(0.311)	(<0.001)***	(<0.001)***	(0.409)	(<0.001)***	(<0.001)***	(0.291)	(<0.001)***	(<0.001)***
T	0.0489	0.9733	−0.3093	−5e−04	0.6167	−0.127	0.0105	0.8123	−0.2168
	(0.172)	(<0.001)***	(<0.001)***	(0.978)	(<0.001)***	(<0.001)***	(0.551)	(<0.001)***	(<0.001)***
TRV	0.0521	1.1145	0.1069	0.0141	0.7803	0.0256	0.0194	0.9627	0.1095
	(0.311)	(<0.001)***	(0.037)*	(0.424)	(<0.001)***	(0.427)	(0.361)	(<0.001)***	(<0.001)***
UNH	−0.0098	1.0124	−0.0546	0.0689	0.8668	0.0024	0.04	0.9464	−0.0221
	(0.89)	(<0.001)***	(0.438)	(0.005)**	(<0.001)***	(0.958)	(0.165)	(<0.001)***	(0.571)
UTX	0.044	0.9368	6e−04	−0.0061	0.9628	0.0451	0.0118	0.948	0.0134
	(0.16)	(<0.001)***	(0.984)	(0.713)	(<0.001)***	(0.138)	(0.44)	(<0.001)***	(0.516)
V	0.1573	0.844	0.2215	0.0477	0.9779	0.1147	0.068	0.9172	0.1608
	(0.178)	(<0.001)***	(0.009)**	(0.06)	(<0.001)***	(0.014)*	(0.019)*	(<0.001)***	(<0.001)***
VZ	0.0396	0.8947	−0.321	0.0256	0.6032	−0.188	0.0262	0.763	−0.2507
	(0.259)	(<0.001)***	(<0.001)***	(0.186)	(<0.001)***	(<0.001)***	(0.138)	(<0.001)***	(<0.001)***
WBA	−0.0031	0.7981	−0.1696	0.0153	0.823	−0.1445	0.0098	0.8094	−0.1634
	(0.944)	(<0.001)***	(<0.001)***	(0.602)	(<0.001)***	(0.007)**	(0.685)	(<0.001)***	(<0.001)***
WMT	0.0261	0.6743	−0.2705	0.0274	0.516	−0.1823	0.0251	0.6028	−0.2271
	(0.458)	(<0.001)***	(<0.001)***	(0.191)	(<0.001)***	(<0.001)***	(0.171)	(<0.001)***	(<0.001)***
XOM	0.0372	1.0466	−0.1862	−0.024	0.8334	0.1151	−0.0047	0.948	−0.065
	(0.333)	(<0.001)***	(<0.001)***	(0.162)	(<0.001)***	(<0.001)***	(0.787)	(<0.001)***	(0.006)**

Table A.2 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the market model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	SMB_pre	HML_pre	(Intercept)_post	Mkt_RF_post	SMB_post	HML_post	(Intercept)_full	Mkt_RF_full	SMB_full	HML_full
AA	0.024	1.7885	−0.195	−0.4035	−0.0451	1.3483	0.3768	0.6453	−0.032	1.5645	0.0513	0.064
	(0.733)	(<0.001)***	(0.075)	(<0.001)***	(0.25)	(<0.001)***	(<0.001)***	(<0.001)***	(0.369)	(<0.001)***	(0.431)	(0.274)
AAPL	0.1775	1.0946	−0.0072	−0.357	−0.0161	1.0218	−0.2486	−0.6128	0.0527	1.0679	−0.1341	−0.4297
	(0.008)**	(<0.001)***	(0.945)	(<0.001)***	(0.586)	(<0.001)***	(<0.001)***	(<0.001)***	(0.086)	(<0.001)***	(0.016)*	(<0.001)***
AIG	−0.068	1.4995	−1.1582	2.2727	−0.015	1.2262	0.1402	0.8076	−0.0377	1.4676	−0.4809	1.678
	(0.688)	(<0.001)***	(<0.001)***	(<0.001)***	(0.629)	(<0.001)***	(0.028)*	(<0.001)***	(0.539)	(<0.001)***	(<0.001)***	(<0.001)***
AXP	0.0323	1.407	−0.2107	1.0417	0.0041	1.0581	−0.0819	0.4267	0.0094	1.2789	−0.1842	0.8506
	(0.557)	(<0.001)***	(0.014)*	(<0.001)***	(0.848)	(<0.001)***	(0.064)	(<0.001)***	(0.695)	(<0.001)***	(<0.001)***	(<0.001)***
BA	0.0189	0.9958	−0.1905	−0.191	0.0568	1.1152	−0.1592	0.077	0.0457	1.0376	−0.157	−0.1095
	(0.684)	(<0.001)***	(0.008)**	(0.001)**	(0.018)*	(<0.001)***	(0.001)**	(0.123)	(0.042)*	(<0.001)***	(<0.001)***	(0.003)**
BAC	0.0079	1.2923	−0.826	3.2387	−0.0132	1.4339	0.0443	1.623	−0.0011	1.4324	−0.3147	2.527
	(0.91)	(<0.001)***	(<0.001)***	(<0.001)***	(0.634)	(<0.001)***	(0.439)	(<0.001)***	(0.971)	(<0.001)***	(<0.001)***	(<0.001)***
C	−0.1549	1.3558	−0.8655	2.8778	−0.0137	1.4744	0.0014	1.3121	−0.0582	1.4823	−0.3474	2.1501
	(0.098)	(<0.001)***	(<0.001)***	(<0.001)***	(0.587)	(<0.001)***	(0.979)	(<0.001)***	(0.111)	(<0.001)***	(<0.001)***	(<0.001)***
CAT	0.043	1.2213	0.3363	−0.1868	−0.0022	1.2357	0.2204	0.4174	0.0119	1.1999	0.2726	0.0545
	(0.38)	(<0.001)***	(<0.001)***	(0.003)**	(0.928)	(<0.001)***	(<0.001)***	(<0.001)***	(0.606)	(<0.001)***	(<0.001)***	(0.15)
CSCO	0.0403	1.1493	−0.0528	−0.2783	−0.0063	1.0827	−0.1758	−0.1556	0.0081	1.1118	−0.1293	−0.2114
	(0.332)	(<0.001)***	(0.415)	(<0.001)***	(0.809)	(<0.001)***	(0.001)**	(0.005)**	(0.718)	(<0.001)***	(0.002)**	(<0.001)***
CVX	0.0638	1.2245	−0.6543	−0.4087	−0.0076	0.9945	−0.2483	0.5303	0.0123	1.0956	−0.47	−0.0177
	(0.078)	(<0.001)***	(<0.001)***	(<0.001)***	(0.693)	(<0.001)***	(<0.001)***	(<0.001)***	(0.507)	(<0.001)***	(<0.001)***	(0.559)
DD	−0.0012	1.168	0.2832	0.1772	−0.0041	1.376	0.0013	0.3938	6e−04	1.2457	0.1582	0.24
	(0.984)	(<0.001)***	(0.002)**	(0.017)*	(0.873)	(<0.001)***	(0.98)	(<0.001)***	(0.981)	(<0.001)***	(<0.001)***	(<0.001)***
DIS	0.0405	1.106	−0.1895	−0.0428	0.0177	0.9963	−0.1544	0.0559	0.0231	1.0546	−0.1851	0.0143
	(0.289)	(<0.001)***	(0.001)**	(0.386)	(0.378)	(<0.001)***	(<0.001)***	(0.181)	(0.212)	(<0.001)***	(<0.001)***	(0.639)
GE	−0.0332	0.9751	−0.0593	0.6559	−0.0383	1.0033	−0.2045	0.5033	−0.0357	0.9902	−0.1338	0.5974
	(0.493)	(<0.001)***	(0.432)	(<0.001)***	(0.096)	(<0.001)***	(<0.001)***	(<0.001)***	(0.11)	(<0.001)***	(0.001)**	(<0.001)***
GM	−0.2188	1.3154	−0.1938	0.667	1.8031	4.6301	0.1304	−3.4272	1.1885	2.9817	0.4628	−1.5998
	(0.104)	(<0.001)***	(0.359)	(<0.001)***	(0.38)	(0.045)*	(0.975)	(0.422)	(0.382)	(0.017)*	(0.852)	(0.474)
GS	0.0872	1.2669	−0.3656	0.9626	−0.0358	1.1788	−0.0228	1.0391	0.0045	1.2277	−0.1891	0.996
	(0.165)	(<0.001)***	(<0.001)***	(<0.001)***	(0.126)	(<0.001)***	(0.639)	(<0.001)***	(0.866)	(<0.001)***	(<0.001)***	(<0.001)***

Table A.3: The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (1992) three-factor model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	SMB_pre	HML_pre	(Intercept)_post	Mkt_RF_post	SMB_post	HML_post	(Intercept)_full	Mkt_RF_full	SMB_full	HML_full
HD	−0.0037	0.9548	0.2791	0.1611	0.0511	0.9056	−0.1576	−0.1373	0.0329	0.9353	0.0342	0.0714
	(0.931)	(<0.001)***	(<0.001)***	(0.003)**	(0.01)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.095)	(<0.001)***	(0.341)	(0.027)*
HON	0.035	1.0429	0.0098	−0.1049	0.0196	1.1287	−0.0722	0.0599	0.0263	1.072	−0.0236	−0.051
	(0.353)	(<0.001)***	(0.868)	(0.03)*	(0.209)	(<0.001)***	(0.025)*	(0.066)	(0.11)	(<0.001)***	(0.431)	(0.059)
HPQ	0.0916	0.9768	−0.1297	−0.283	−0.0376	1.1132	−0.0815	0.1555	0.0076	1.0193	−0.0842	−0.1361
	(0.044)*	(<0.001)***	(0.067)	(<0.001)***	(0.285)	(<0.001)***	(0.262)	(0.034)*	(0.788)	(<0.001)***	(0.1)	(0.003)**
IBM	0.0607	0.788	−0.0682	−0.158	−0.0342	0.836	−0.2203	−0.0522	−0.0015	0.8004	−0.1442	−0.1152
	(0.062)	(<0.001)***	(0.178)	(<0.001)***	(0.095)	(<0.001)***	(<0.001)***	(0.22)	(0.932)	(<0.001)***	(<0.001)***	(<0.001)***
INTC	7e−04	1.1754	0.0584	−0.4025	0.0054	1.0787	−0.1962	−0.2308	0.0021	1.1209	−0.0955	−0.3042
	(0.987)	(<0.001)***	(0.413)	(<0.001)***	(0.829)	(<0.001)***	(<0.001)***	(<0.001)***	(0.926)	(<0.001)***	(0.021)*	(<0.001)***
JNJ	0.0158	0.586	−0.359	−0.2031	0.0133	0.684	−0.3677	−0.1363	0.0158	0.6262	−0.3507	−0.1938
	(0.523)	(<0.001)***	(<0.001)***	(<0.001)***	(0.351)	(<0.001)***	(<0.001)***	(<0.001)***	(0.211)	(<0.001)***	(<0.001)***	(<0.001)***
JPM	0.0984	1.1851	−0.0488	2.1293	0.0091	1.2538	−0.1836	1.2384	0.0425	1.2497	−0.1026	1.7562
	(0.063)	(<0.001)***	(0.566)	(<0.001)***	(0.635)	(<0.001)***	(<0.001)***	(<0.001)***	(0.064)	(<0.001)***	(0.016)*	(<0.001)***
KO	0.0572	0.6384	−0.1962	−0.2583	0.0108	0.6279	−0.4086	−0.0565	0.027	0.621	−0.3135	−0.1664
	(0.072)	(<0.001)***	(<0.001)***	(<0.001)***	(0.491)	(<0.001)***	(<0.001)***	(0.086)	(0.073)	(<0.001)***	(<0.001)***	(<0.001)***
MCD	0.0863	0.6486	0.0056	−0.1601	0.0334	0.6079	−0.2822	−0.1408	0.0508	0.623	−0.1569	−0.1306
	(0.02)*	(<0.001)***	(0.923)	(<0.001)***	(0.06)	(<0.001)***	(<0.001)***	(<0.001)***	(0.003)**	(<0.001)***	(<0.001)***	(<0.001)***
MMM	0.0281	0.7983	−0.0514	−0.0285	0.0065	0.9542	−0.167	0.0239	0.0159	0.8639	−0.0942	−0.0273
	(0.394)	(<0.001)***	(0.325)	(0.506)	(0.691)	(<0.001)***	(<0.001)***	(0.481)	(0.308)	(<0.001)***	(0.001)**	(0.289)
MO	0.0574	0.6449	−0.374	−0.3165	0.0463	0.599	−0.4099	−0.0573	0.0489	0.6133	−0.401	−0.2036
	(0.109)	(<0.001)***	(<0.001)***	(<0.001)***	(0.016)*	(<0.001)***	(<0.001)***	(0.151)	(0.005)**	(<0.001)***	(<0.001)***	(<0.001)***
MRK	0.0484	0.9062	−0.3748	−0.3531	0.0081	0.8048	−0.3498	−0.0819	0.0195	0.851	−0.3771	−0.2274
	(0.335)	(<0.001)***	(<0.001)***	(<0.001)***	(0.695)	(<0.001)***	(<0.001)***	(0.057)	(0.368)	(<0.001)***	(<0.001)***	(<0.001)***
MSFT	0.0475	1.0868	−0.3412	−0.4466	0.0109	1.1127	−0.4321	−0.4413	0.0236	1.0956	−0.387	−0.4435
	(0.294)	(<0.001)***	(<0.001)***	(<0.001)***	(0.632)	(<0.001)***	(<0.001)***	(<0.001)***	(0.271)	(<0.001)***	(<0.001)***	(<0.001)***
NKE	0.0926	0.888	0.2848	−0.0266	0.0357	0.9329	−0.0895	−0.3244	0.0566	0.9106	0.0897	−0.1341
	(0.04)*	(<0.001)***	(<0.001)***	(0.646)	(0.173)	(<0.001)***	(0.098)	(<0.001)***	(0.015)*	(<0.001)***	(0.034)*	(<0.001)***
PFE	0.0079	0.7952	−0.3911	−0.0254	0.0244	0.8274	−0.288	−0.1266	0.0193	0.8159	−0.3307	−0.0761
	(0.829)	(<0.001)***	(<0.001)***	(0.586)	(0.195)	(<0.001)***	(<0.001)***	(0.001)**	(0.27)	(<0.001)***	(<0.001)***	(0.008)**

Table A.3 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (1992) three-factor model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	SMB_pre	HML_pre	(Intercept)_post	Mkt_RF_post	SMB_post	HML_post	(Intercept)_full	Mkt_RF_full	SMB_full	HML_full
PG	0.0283	0.6426	−0.2783	−0.1055	0.0057	0.5685	−0.4599	−0.0101	0.0123	0.6016	−0.3871	−0.0458
	(0.314)	(<0.001)***	(<0.001)***	(0.004)**	(0.724)	(<0.001)***	(<0.001)***	(0.762)	(0.392)	(<0.001)***	(<0.001)***	(0.051)
T	0.05	0.9085	−0.4477	−0.0809	−0.002	0.6318	−0.3281	0.1922	0.0099	0.7789	−0.4218	0.0722
	(0.163)	(<0.001)***	(<0.001)***	(0.079)	(0.915)	(<0.001)***	(<0.001)***	(<0.001)***	(0.568)	(<0.001)***	(<0.001)***	(0.011)*
TRV	0.0549	1.054	−0.362	0.4755	0.0165	0.8067	−0.2739	0.3904	0.0251	0.9497	−0.3474	0.4822
	(0.272)	(<0.001)***	(<0.001)***	(<0.001)***	(0.332)	(<0.001)***	(<0.001)***	(<0.001)***	(0.219)	(<0.001)***	(<0.001)***	(<0.001)***
UNH	−0.0067	1.0589	−0.4554	−0.1253	0.065	0.9357	−0.2944	−0.1406	0.0383	1.0095	−0.3851	−0.1178
	(0.923)	(<0.001)***	(<0.001)***	(0.164)	(0.007)**	(<0.001)***	(<0.001)***	(0.005)**	(0.18)	(<0.001)***	(<0.001)***	(0.012)*
UTX	0.0444	0.9654	−0.0309	−0.096	−0.0059	0.9919	−0.1144	0.0492	0.0115	0.9689	−0.0731	−0.0387
	(0.155)	(<0.001)***	(0.526)	(0.017)*	(0.72)	(<0.001)***	(<0.001)***	(0.154)	(0.45)	(<0.001)***	(0.009)**	(0.121)
V	0.1638	0.8775	−0.0157	0.2178	0.046	1.0807	−0.2642	−0.3169	0.0705	0.9974	−0.1199	−0.0379
	(0.162)	(<0.001)***	(0.909)	(0.04)*	(0.065)	(<0.001)***	(<0.001)***	(<0.001)***	(0.015)*	(<0.001)***	(0.018)*	(0.39)
VZ	0.0389	0.8144	−0.3323	−0.0684	0.0228	0.6019	−0.3042	0.1608	0.0243	0.713	−0.3482	0.059
	(0.278)	(<0.001)***	(<0.001)***	(0.137)	(0.233)	(<0.001)***	(<0.001)***	(<0.001)***	(0.168)	(<0.001)***	(<0.001)***	(0.042)*
WBA	−0.004	0.7877	−0.0382	−0.1952	0.0084	0.8653	−0.3064	−0.2248	0.0061	0.8169	−0.1728	−0.2081
	(0.926)	(<0.001)***	(0.573)	(<0.001)***	(0.773)	(<0.001)***	(<0.001)***	(<0.001)***	(0.802)	(<0.001)***	(<0.001)***	(<0.001)***
WMT	0.0235	0.6404	−0.0498	−0.2417	0.0224	0.5366	−0.315	−0.064	0.0218	0.5816	−0.2088	−0.1411
	(0.511)	(<0.001)***	(0.37)	(<0.001)***	(0.283)	(<0.001)***	(<0.001)***	(0.14)	(0.236)	(<0.001)***	(<0.001)***	(<0.001)***
XOM	0.0408	1.1629	−0.5624	−0.5422	−0.0199	0.8898	−0.3068	0.4025	−0.0062	1.0096	−0.4646	−0.1322
	(0.24)	(<0.001)***	(<0.001)***	(<0.001)***	(0.223)	(<0.001)***	(<0.001)***	(<0.001)***	(0.711)	(<0.001)***	(<0.001)***	(<0.001)***

Table A.3 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (1992) three-factor model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	SMB_pre	HML_pre	(Intercept)_post	Mkt_RF_post	NMP_post	SMB_post	HML_post	(Intercept)_full	Mkt_RF_full	NMP_full	SMB_full	HML_full
AA	0.0222	1.7452	0.259	−0.196	−0.6176	−0.0533	1.2556	0.4698	0.3475	0.4185	−0.036	1.5122	0.2669	0.0403	−0.1181
	(0.75)	(<0.001)***	(0.004)**	(0.073)	(<0.001)***	(0.171)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.312)	(<0.001)***	(<0.001)***	(0.535)	(0.094)
AAPL	0.1774	1.0923	0.015	−0.0073	−0.3695	−0.0158	1.0254	−0.0182	−0.2476	−0.6039	0.0525	1.0647	0.0173	−0.1349	−0.4416
	(0.008)**	(<0.001)***	(0.863)	(0.944)	(0.001)**	(0.593)	(<0.001)***	(0.759)	(<0.001)***	(<0.001)***	(0.088)	(<0.001)***	(0.729)	(0.016)*	(<0.001)***
AIG	−0.0735	1.3847	0.6927	−1.1611	1.7	−0.017	1.2043	0.1102	0.1333	0.7546	−0.0466	1.3587	0.5569	−0.5043	1.2989
	(0.663)	(<0.001)***	(0.002)**	(<0.001)***	(<0.001)***	(0.583)	(<0.001)***	(0.078)	(0.037)*	(<0.001)***	(0.447)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
AXP	0.0325	1.4089	−0.0116	−0.2106	1.0511	3e−04	1.0177	0.2023	−0.0948	0.3289	0.007	1.2528	0.1351	−0.1904	0.7595
	(0.556)	(<0.001)***	(0.871)	(0.014)*	(<0.001)***	(0.989)	(<0.001)***	(<0.001)***	(0.031)*	(<0.001)***	(0.771)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
BA	0.0153	0.9288	0.4207	−0.1909	−0.5431	0.0509	1.0324	0.4143	−0.1845	−0.1224	0.0407	0.9639	0.3816	−0.1722	−0.3717
	(0.736)	(<0.001)***	(<0.001)***	(0.007)**	(<0.001)***	(0.032)*	(<0.001)***	(<0.001)***	(<0.001)***	(0.024)*	(0.066)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
BAC	0.0044	1.1933	0.6029	−0.8318	2.7398	−0.0208	1.315	0.6051	0.0056	1.3317	−0.0094	1.2928	0.7252	−0.3493	2.0327
	(0.948)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.439)	(<0.001)***	(<0.001)***	(0.92)	(<0.001)***	(0.757)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
C	−0.1576	1.2582	0.6744	−0.8728	2.3119	−0.0169	1.414	0.3066	−0.0157	1.1651	−0.0641	1.3686	0.6259	−0.3785	1.7261
	(0.087)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.5)	(<0.001)***	(<0.001)***	(0.763)	(<0.001)***	(0.073)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
CAT	0.0418	1.1759	0.2746	0.3353	−0.4144	−0.0068	1.1903	0.23	0.2053	0.3055	0.0088	1.1617	0.1959	0.2641	−0.0797
	(0.39)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.775)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.704)	(<0.001)***	(<0.001)***	(<0.001)***	(0.082)
CSCO	0.0408	1.1638	−0.088	−0.0525	−0.2056	2e−04	1.1606	−0.3912	−0.1508	0.0302	0.0113	1.1562	−0.2275	−0.1196	−0.0572
	(0.326)	(<0.001)***	(0.102)	(0.416)	(0.003)**	(0.995)	(<0.001)***	(<0.001)***	(0.005)**	(0.613)	(0.61)	(<0.001)***	(<0.001)***	(0.003)**	(0.194)
CVX	0.0614	1.1834	0.2532	−0.6555	−0.6182	−0.0079	0.9917	0.0135	−0.2491	0.5238	0.0112	1.082	0.07	−0.4727	−0.0655
	(0.086)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.684)	(<0.001)***	(0.728)	(<0.001)***	(<0.001)***	(0.546)	(<0.001)***	(0.02)*	(<0.001)***	(0.074)
DD	−0.0029	1.1384	0.1803	0.2826	0.0284	−0.0074	1.3386	0.188	−0.011	0.3028	−0.0019	1.2155	0.1557	0.1514	0.134
	(0.961)	(<0.001)***	(0.016)*	(0.002)**	(0.769)	(0.77)	(<0.001)***	(<0.001)***	(0.835)	(<0.001)***	(0.942)	(<0.001)***	(<0.001)***	(0.001)**	(0.009)**
DIS	0.0419	1.1442	−0.2377	−0.1882	0.1508	0.0259	1.0744	−0.3934	−0.1314	0.2471	0.0284	1.1133	−0.3064	−0.1725	0.2208
	(0.268)	(<0.001)***	(<0.001)***	(0.001)**	(0.017)*	(0.187)	(<0.001)***	(<0.001)***	(0.001)**	(<0.001)***	(0.12)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
GE	−0.0351	0.9383	0.2238	−0.0598	0.4702	−0.0373	1.0138	−0.0531	−0.2012	0.5289	−0.0375	0.9692	0.1083	−0.1382	0.5235
	(0.466)	(<0.001)***	(<0.001)***	(0.426)	(<0.001)***	(0.105)	(<0.001)***	(0.252)	(<0.001)***	(<0.001)***	(0.093)	(<0.001)***	(0.003)**	(<0.001)***	(<0.001)***
GM	−0.2127	1.4813	−1.025	−0.1846	1.512	1.7911	4.5079	0.6124	0.0934	−3.7209	1.1877	2.9725	0.0473	0.4607	−1.6318
	(0.109)	(<0.001)***	(<0.001)***	(0.375)	(<0.001)***	(0.383)	(0.066)	(0.883)	(0.982)	(0.429)	(0.383)	(0.025)*	(0.983)	(0.853)	(0.546)
GS	0.0878	1.2767	−0.0609	−0.3661	1.0134	−0.0396	1.1252	0.2803	−0.04	0.9042	0.0032	1.211	0.0873	−0.1922	0.9368
	(0.162)	(<0.001)***	(0.458)	(<0.001)***	(<0.001)***	(0.088)	(<0.001)***	(<0.001)***	(0.408)	(<0.001)***	(0.904)	(<0.001)***	(0.044)*	(<0.001)***	(<0.001)***

Table A.4: The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (1992) three-factor model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	SMB_pre	HML_pre	(Intercept)_post	Mkt_RF_post	NMP_post	SMB_post	HML_post	(Intercept)_full	Mkt_RF_full	NMP_full	SMB_full	HML_full
HD	−0.0029	0.9746	−0.1183	0.2798	0.2588	0.0502	0.8959	0.049	−0.1607	−0.1609	0.0332	0.9391	−0.0191	0.035	0.0844
	(0.946)	(<0.001)***	(0.034)*	(<0.001)***	(<0.001)***	(0.011)*	(<0.001)***	(0.219)	(<0.001)***	(<0.001)***	(0.092)	(<0.001)***	(0.555)	(0.33)	(0.031)*
HON	0.0334	1.0067	0.2181	0.0089	−0.2851	0.0187	1.119	0.049	−0.0753	0.0364	0.0243	1.048	0.1225	−0.0288	−0.1344
	(0.371)	(<0.001)***	(<0.001)***	(0.878)	(<0.001)***	(0.232)	(<0.001)***	(0.12)	(0.019)*	(0.31)	(0.138)	(<0.001)***	(<0.001)***	(0.335)	(<0.001)***
HPQ	0.093	1.0158	−0.2346	−0.1279	−0.0895	−0.0257	1.241	−0.6418	−0.0432	0.4653	0.0143	1.1064	−0.4448	−0.0657	0.1672
	(0.04)*	(<0.001)***	(<0.001)***	(0.069)	(0.236)	(0.456)	(<0.001)***	(<0.001)***	(0.546)	(<0.001)***	(0.606)	(<0.001)***	(<0.001)***	(0.193)	(0.002)**
IBM	0.0619	0.8226	−0.2126	−0.0693	0.0212	−0.0277	0.906	−0.3527	−0.1976	0.1172	0.0027	0.8545	−0.2783	−0.1331	0.076
	(0.054)	(<0.001)***	(<0.001)***	(0.166)	(0.696)	(0.169)	(<0.001)***	(<0.001)***	(<0.001)***	(0.011)*	(0.873)	(<0.001)***	(<0.001)***	(<0.001)***	(0.027)*
INTC	0.0012	1.2112	−0.2187	0.0604	−0.2236	0.0144	1.1941	−0.582	−0.1635	0.0467	0.0068	1.1953	−0.385	−0.0789	−0.045
	(0.978)	(<0.001)***	(<0.001)***	(0.394)	(0.003)**	(0.552)	(<0.001)***	(<0.001)***	(0.001)**	(0.4)	(0.76)	(<0.001)***	(<0.001)***	(0.053)	(0.305)
JNJ	0.0168	0.6064	−0.1225	−0.3586	−0.1017	0.0162	0.7146	−0.1546	−0.3581	−0.0623	0.0181	0.6536	−0.1402	−0.3449	−0.0983
	(0.496)	(<0.001)***	(<0.001)***	(<0.001)***	(0.014)*	(0.253)	(<0.001)***	(<0.001)***	(<0.001)***	(0.056)	(0.151)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
JPM	0.0951	1.1353	0.3064	−0.0505	1.8817	0.0052	1.177	0.3843	−0.2054	1.0538	0.038	1.1727	0.3977	−0.1186	1.4924
	(0.07)	(<0.001)***	(<0.001)***	(0.549)	(<0.001)***	(0.782)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.092)	(<0.001)***	(<0.001)***	(0.005)**	(<0.001)***
KO	0.0584	0.6814	−0.2643	−0.1935	−0.0433	0.0151	0.6842	−0.2829	−0.3887	0.0829	0.0304	0.6754	−0.2834	−0.2994	0.0257
	(0.062)	(<0.001)***	(<0.001)***	(<0.001)***	(0.406)	(0.327)	(<0.001)***	(<0.001)***	(<0.001)***	(0.021)*	(0.039)*	(<0.001)***	(<0.001)***	(<0.001)***	(0.381)
MCD	0.0867	0.6769	−0.1698	0.0069	−0.0179	0.0355	0.6294	−0.1089	−0.2751	−0.0876	0.0529	0.6507	−0.1419	−0.1504	−0.0327
	(0.018)*	(<0.001)***	(<0.001)***	(0.904)	(0.773)	(0.046)*	(<0.001)***	(0.002)**	(<0.001)***	(0.032)*	(0.002)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.339)
MMM	0.0286	0.8057	−0.0478	−0.0514	0.0121	0.0067	0.9561	−0.0097	−0.1664	0.0286	0.0165	0.8707	−0.0362	−0.0927	−0.0024
	(0.386)	(<0.001)***	(0.266)	(0.325)	(0.83)	(0.683)	(<0.001)***	(0.768)	(<0.001)***	(0.446)	(0.29)	(<0.001)***	(0.156)	(0.001)**	(0.938)
MO	0.0573	0.6428	0.013	−0.374	−0.3273	0.0507	0.6449	−0.2319	−0.3953	0.0543	0.0507	0.6358	−0.1151	−0.3961	−0.1253
	(0.11)	(<0.001)***	(0.779)	(<0.001)***	(<0.001)***	(0.008)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.214)	(0.004)**	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
MRK	0.0477	0.8531	0.3186	−0.3755	−0.6177	0.0097	0.8223	−0.0896	−0.344	−0.0383	0.0181	0.8293	0.1112	−0.3819	−0.3034
	(0.337)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.639)	(<0.001)***	(0.032)*	(<0.001)***	(0.42)	(0.405)	(<0.001)***	(0.002)**	(<0.001)***	(<0.001)***
MSFT	0.0471	1.1107	−0.1549	−0.3398	−0.3151	0.0151	1.1773	−0.3275	−0.4139	−0.282	0.0256	1.1386	−0.2272	−0.3768	−0.2867
	(0.298)	(<0.001)***	(0.008)**	(<0.001)***	(<0.001)***	(0.504)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.229)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
NKE	0.0944	0.9136	−0.1585	0.2848	0.1056	0.0398	0.9738	−0.2101	−0.0764	−0.2225	0.0593	0.9404	−0.1555	0.096	−0.0274
	(0.035)*	(<0.001)***	(0.006)**	(<0.001)***	(0.16)	(0.128)	(<0.001)***	(<0.001)***	(0.156)	(<0.001)***	(0.01)*	(<0.001)***	(<0.001)***	(0.023)*	(0.551)
PFE	0.008	0.8017	−0.039	−0.3908	0.0067	0.0228	0.8056	0.1098	−0.2939	−0.1795	0.0189	0.8091	0.0349	−0.3321	−0.0999
	(0.827)	(<0.001)***	(0.409)	(<0.001)***	(0.912)	(0.224)	(<0.001)***	(0.004)**	(<0.001)***	(<0.001)***	(0.28)	(<0.001)***	(0.222)	(<0.001)***	(0.004)**

Table A.4 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (1992) three-factor model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	SMB_pre	HML_pre	(Intercept)_post	Mkt_RF_post	NMP_post	SMB_post	HML_post	(Intercept)_full	Mkt_RF_full	NMP_full	SMB_full	HML_full
PG	0.0308	0.6817	−0.2377	−0.2774	0.0912	0.0115	0.6315	−0.3196	−0.4399	0.1436	0.0168	0.6549	−0.2748	−0.3758	0.1414
	(0.263)	(<0.001)***	(<0.001)***	(<0.001)***	(0.048)*	(0.464)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.23)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
T	0.0536	0.9784	−0.4289	−0.4444	0.2747	0.0018	0.677	−0.2247	−0.3133	0.2999	0.0151	0.8467	−0.3471	−0.4058	0.3082
	(0.12)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.923)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.373)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
TRV	0.0565	1.0875	−0.2017	−0.3612	0.6422	0.0189	0.8329	−0.1319	−0.2656	0.4538	0.0276	0.9798	−0.1541	−0.3409	0.5871
	(0.257)	(<0.001)***	(0.002)**	(<0.001)***	(<0.001)***	(0.263)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.175)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
UNH	−0.0071	1.0524	0.0396	−0.4556	−0.158	0.0635	0.9198	0.0802	−0.2994	−0.1792	0.0373	0.9976	0.0611	−0.3877	−0.1594
	(0.92)	(<0.001)***	(0.664)	(<0.001)***	(0.179)	(0.008)**	(<0.001)***	(0.1)	(<0.001)***	(0.001)**	(0.191)	(<0.001)***	(0.191)	(<0.001)***	(0.005)**
UTX	0.0436	0.9514	0.0847	−0.0312	−0.1661	−0.0066	0.9843	0.0383	−0.1169	0.0308	0.0107	0.9594	0.0485	−0.0752	−0.0718
	(0.162)	(<0.001)***	(0.037)*	(0.521)	(0.002)**	(0.689)	(<0.001)***	(0.252)	(<0.001)***	(0.419)	(0.482)	(<0.001)***	(0.052)	(0.007)**	(0.018)*
V	0.1585	0.8408	0.1947	−0.0211	0.0499	0.0407	1.0236	0.2867	−0.2797	−0.4523	0.0646	0.9361	0.2855	−0.1349	−0.236
	(0.176)	(<0.001)***	(0.105)	(0.878)	(0.736)	(0.101)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.025)*	(<0.001)***	(<0.001)***	(0.007)**	(<0.001)***
VZ	0.0432	0.8903	−0.4649	−0.3301	0.3156	0.0285	0.659	−0.2854	−0.2872	0.2963	0.0311	0.789	−0.3899	−0.3319	0.323
	(0.205)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.133)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.069)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
WBA	−0.0031	0.8077	−0.1206	−0.0377	−0.0955	0.0096	0.8769	−0.0591	−0.3025	−0.1962	0.0076	0.8347	−0.0915	−0.1689	−0.1456
	(0.944)	(<0.001)***	(0.032)*	(0.577)	(0.188)	(0.742)	(<0.001)***	(0.317)	(<0.001)***	(0.003)**	(0.754)	(<0.001)***	(0.021)*	(<0.001)***	(0.002)**
WMT	0.0264	0.6797	−0.2502	−0.0467	−0.0364	0.0254	0.5724	−0.1808	−0.3054	0.0232	0.0254	0.6248	−0.2279	−0.1993	0.0135
	(0.454)	(<0.001)***	(<0.001)***	(0.394)	(0.533)	(0.222)	(<0.001)***	(<0.001)***	(<0.001)***	(0.626)	(0.164)	(<0.001)***	(<0.001)***	(<0.001)***	(0.707)
XOM	0.0384	1.1329	0.181	−0.5629	−0.6924	−0.0194	0.8952	−0.027	−0.3051	0.4155	−0.0064	1.0073	0.0115	−0.465	−0.1401
	(0.266)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.236)	(<0.001)***	(0.414)	(<0.001)***	(<0.001)***	(0.702)	(<0.001)***	(0.675)	(<0.001)***	(<0.001)***

Table A.4 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (1992) three-factor model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	SMB_pre	HML_pre	RMW_pre	CMA_pre	(Intercept)_post	Mkt_RF_post	SMB_post	HML_post	RMW_post	CMA_post	(Intercept)_full	Mkt_RF_full	SMB_full	HML_full	RMW_full	CMA_full
AA	0.0126	1.7352	−0.1619	−0.2431	0.5021	−0.7973	−0.0445	1.3358	0.3252	0.4814	−0.2587	0.3494	−0.0347	1.5918	0.0697	0.0591	0.1758	0.2049
	(0.857)	(<0.001)***	(0.139)	(0.022)*	(0.022)*	(<0.001)***	(0.256)	(<0.001)***	(<0.001)***	(<0.001)***	(0.06)	(0.037)*	(0.331)	(<0.001)***	(0.298)	(0.371)	(0.129)	(0.11)
AAPL	0.1839	1.0102	−0.0432	−0.5461	−0.9634	−1.4045	−0.0081	1.028	−0.1167	−0.0597	0.6019	−1.2634	0.0576	0.9775	−0.1095	−0.202	0.0353	−1.2885
	(0.005)**	(<0.001)***	(0.668)	(<0.001)***	(<0.001)***	(<0.001)***	(0.775)	(<0.001)***	(0.059)	(0.434)	(<0.001)***	(<0.001)***	(0.055)	(<0.001)***	(0.05)	(<0.001)***	(0.718)	(<0.001)***
AIG	−0.0184	1.4572	−1.2806	1.7196	−2.2944	−0.5469	−0.0055	1.1207	0.0442	0.8522	−0.6746	−0.335	−0.0181	1.308	−0.6291	1.6223	−1.3015	−0.9753
	(0.913)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.334)	(0.858)	(<0.001)***	(0.501)	(<0.001)***	(<0.001)***	(0.011)*	(0.766)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
AXP	0.0361	1.4063	−0.2211	0.9961	−0.1824	−0.0067	0.0058	1.0391	−0.1053	0.4078	−0.1483	0.0015	0.0108	1.2502	−0.1815	0.9096	−0.0291	−0.3583
	(0.513)	(<0.001)***	(0.011)*	(<0.001)***	(0.291)	(0.972)	(0.786)	(<0.001)***	(0.022)*	(<0.001)***	(0.049)*	(0.987)	(0.652)	(<0.001)***	(<0.001)***	(<0.001)***	(0.708)	(<0.001)***
BA	0.0168	1.0142	−0.1846	−0.166	0.1395	0.2707	0.0521	1.1677	−0.1286	−0.0342	0.2497	0.3713	0.0427	1.0796	−0.1462	−0.1586	0.1416	0.4332
	(0.718)	(<0.001)***	(0.011)*	(0.018)*	(0.336)	(0.084)	(0.03)*	(<0.001)***	(0.012)*	(0.596)	(0.003)**	(<0.001)***	(0.057)	(<0.001)***	(<0.001)***	(<0.001)***	(0.05)	(<0.001)***
BAC	0.0104	1.1508	−0.8454	3.2212	−0.4915	−2.2059	0.0071	1.1772	−0.1432	1.9247	−1.4373	−1.2729	0.0164	1.2106	−0.4403	2.6753	−1.1927	−2.0128
	(0.876)	(<0.001)***	(<0.001)***	(<0.001)***	(0.019)*	(<0.001)***	(0.779)	(<0.001)***	(0.008)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.571)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
C	−0.1644	1.2415	−0.9638	2.4498	−2.0489	−2.3769	0.0013	1.2677	−0.1628	1.5222	−1.1764	−0.9464	−0.0486	1.2604	−0.5384	2.2144	−1.5771	−1.862
	(0.064)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.954)	(<0.001)***	(0.001)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.152)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
CAT	0.0393	1.2114	0.347	−0.1371	0.1727	−0.1528	−0.0087	1.2985	0.2444	0.2441	0.2508	0.5337	0.0073	1.2488	0.2942	0.0186	0.2325	0.4398
	(0.423)	(<0.001)***	(<0.001)***	(0.065)	(0.26)	(0.354)	(0.714)	(<0.001)***	(<0.001)***	(<0.001)***	(0.003)**	(<0.001)***	(0.752)	(<0.001)***	(<0.001)***	(0.662)	(0.002)**	(<0.001)***
CSCO	0.0536	1.18	−0.0894	−0.4468	−0.5865	0.4794	−0.008	1.1067	−0.133	−0.0783	0.2476	−0.1251	0.0079	1.1211	−0.1354	−0.2408	−0.0247	0.1439
	(0.192)	(<0.001)***	(0.164)	(<0.001)***	(<0.001)***	(<0.001)***	(0.761)	(<0.001)***	(0.018)*	(0.268)	(0.007)**	(0.265)	(0.724)	(<0.001)***	(0.001)**	(<0.001)***	(0.734)	(0.074)
CVX	0.0364	1.1819	−0.5772	−0.0602	1.2792	−0.6563	−0.0099	1.0085	−0.2793	0.3437	−0.0997	0.459	0.0067	1.1511	−0.4151	0.011	0.4831	0.3173
	(0.281)	(<0.001)***	(<0.001)***	(0.24)	(<0.001)***	(<0.001)***	(0.608)	(<0.001)***	(<0.001)***	(<0.001)***	(0.141)	(<0.001)***	(0.716)	(<0.001)***	(<0.001)***	(0.745)	(<0.001)***	(<0.001)***
DD	−0.0024	1.2118	0.2819	0.1698	0.0805	0.6451	−0.0076	1.4054	−0.0099	0.219	0.0145	0.4655	−0.0017	1.2911	0.1451	0.1334	−0.0099	0.6039
	(0.967)	(<0.001)***	(0.002)**	(0.053)	(0.656)	(<0.001)***	(0.766)	(<0.001)***	(0.856)	(0.001)**	(0.871)	(<0.001)***	(0.947)	(<0.001)***	(0.003)**	(0.006)**	(0.906)	(<0.001)***
DIS	0.041	1.1629	−0.1922	−0.0804	0.0394	0.8678	0.0153	1.0184	−0.1563	−0.048	0.0402	0.2878	0.0207	1.0955	−0.1826	−0.0581	0.0811	0.4774
	(0.274)	(<0.001)***	(0.001)**	(0.164)	(0.738)	(<0.001)***	(0.445)	(<0.001)***	(<0.001)***	(0.372)	(0.565)	(<0.001)***	(0.26)	(<0.001)***	(<0.001)***	(0.093)	(0.174)	(<0.001)***
GE	−0.0291	0.9681	−0.0696	0.6097	−0.2	−0.098	−0.0411	1.0232	−0.2621	0.1793	−0.2089	0.787	−0.0346	0.9981	−0.163	0.5192	−0.1873	0.264
	(0.549)	(<0.001)***	(0.36)	(<0.001)***	(0.188)	(0.547)	(0.07)	(<0.001)***	(<0.001)***	(0.003)**	(0.009)**	(<0.001)***	(0.121)	(<0.001)***	(<0.001)***	(<0.001)***	(0.01)**	(0.001)**
GM	−0.1926	1.3197	−0.2688	0.3534	−1.246	0.1152	1.7959	4.6456	−0.2892	−5.2497	−1.8412	4.2228	1.2194	2.8863	0.0286	−2.3849	−3.1091	1.4459
	(0.152)	(<0.001)***	(0.205)	(0.083)	(0.003)**	(0.801)	(0.382)	(0.066)	(0.948)	(0.34)	(0.797)	(0.63)	(0.371)	(0.03)*	(0.991)	(0.346)	(0.482)	(0.769)
GS	0.0872	1.2007	−0.4245	0.7697	−0.9396	−1.2588	−0.0201	1.0188	−0.1274	1.301	−0.8235	−0.9483	0.0122	1.1145	−0.2824	1.0195	−0.7933	−0.8915
	(0.154)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.366)	(<0.001)***	(0.008)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.633)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***

Table A.5: The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (2015) five-factor model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	SMB_pre	HML_pre	RMW_pre	CMA_pre	(Intercept)_post	Mkt_RF_post	SMB_post	HML_post	RMW_post	CMA_post	(Intercept)_full	Mkt_RF_full	SMB_full	HML_full	RMW_full	CMA_full
HD	−0.0126	1.0087	0.2974	0.2371	0.4332	0.773	0.0412	1.0049	−0.1096	−0.3552	0.4463	0.72	0.0251	1.0016	0.087	0.0758	0.4793	0.4541
	(0.766)	(<0.001)***	(<0.001)***	(<0.001)***	(0.001)**	(<0.001)***	(0.032)*	(<0.001)***	(0.008)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.197)	(<0.001)***	(0.017)*	(0.035)*	(<0.001)***	(<0.001)***
HON	0.03	1.0695	0.0197	−0.0624	0.2342	0.3841	0.015	1.1792	−0.0507	−0.0639	0.214	0.3959	0.0225	1.1164	−0.0082	−0.0921	0.1847	0.4228
	(0.425)	(<0.001)***	(0.738)	(0.273)	(0.047)*	(0.002)**	(0.332)	(<0.001)***	(0.125)	(0.124)	(<0.001)***	(<0.001)***	(0.167)	(<0.001)***	(0.787)	(0.002)**	(<0.001)***	(<0.001)***
HPQ	0.1014	1.0037	−0.157	−0.4101	−0.4358	0.4125	−0.0411	1.1604	0	0.305	0.4786	−0.2353	0.0059	1.0447	−0.0823	−0.1741	0.0596	0.2811
	(0.025)*	(<0.001)***	(0.027)*	(<0.001)***	(0.002)**	(0.007)**	(0.242)	(<0.001)***	(1)	(0.001)**	(<0.001)***	(0.118)	(0.833)	(<0.001)***	(0.117)	(<0.001)***	(0.512)	(0.005)**
IBM	0.0631	0.8055	−0.0798	−0.2078	−0.1517	0.2615	−0.0399	0.9055	−0.1401	−0.0135	0.5185	0.0596	−0.0048	0.8294	−0.1153	−0.1035	0.2447	0.1703
	(0.052)	(<0.001)***	(0.117)	(<0.001)***	(0.137)	(0.016)*	(0.049)*	(<0.001)***	(0.001)**	(0.805)	(<0.001)***	(0.491)	(0.785)	(<0.001)***	(<0.001)***	(0.001)**	(<0.001)***	(0.006)**
INTC	0.0089	1.2263	0.0389	−0.5091	−0.2751	0.7982	0.0019	1.1251	−0.1209	−0.1076	0.4391	−0.1792	−0.0011	1.1535	−0.0692	−0.3071	0.2284	0.2393
	(0.843)	(<0.001)***	(0.583)	(<0.001)***	(0.05)	(<0.001)***	(0.938)	(<0.001)***	(0.023)*	(0.109)	(<0.001)***	(0.092)	(0.961)	(<0.001)***	(0.103)	(<0.001)***	(0.002)**	(0.003)**
JNJ	0.0129	0.6335	−0.3573	−0.2014	0.1233	0.6995	0.0094	0.7237	−0.3572	−0.2602	0.1391	0.3716	0.0127	0.67	−0.3499	−0.266	0.0826	0.5013
	(0.592)	(<0.001)***	(<0.001)***	(<0.001)***	(0.102)	(<0.001)***	(0.507)	(<0.001)***	(<0.001)***	(<0.001)***	(0.005)**	(<0.001)***	(0.308)	(<0.001)***	(<0.001)***	(<0.001)***	(0.041)*	(<0.001)***
JPM	0.0838	1.106	−0.0419	2.2194	0.075	−1.3309	0.0183	1.1167	−0.278	1.4382	−0.7382	−0.7475	0.047	1.1372	−0.1412	1.9119	−0.4136	−1.2238
	(0.106)	(<0.001)***	(0.617)	(<0.001)***	(0.647)	(<0.001)***	(0.311)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.032)*	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
KO	0.0558	0.6807	−0.1985	−0.2871	0.0132	0.6423	0.0021	0.7253	−0.3542	−0.2381	0.4689	0.6373	0.0206	0.6861	−0.285	−0.2198	0.3078	0.6095
	(0.075)	(<0.001)***	(<0.001)***	(<0.001)***	(0.893)	(<0.001)***	(0.892)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.16)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
MCD	0.082	0.6793	0.0136	−0.1288	0.2016	0.4484	0.0286	0.6684	−0.2325	−0.1937	0.3599	0.2605	0.0464	0.6646	−0.1179	−0.1189	0.3344	0.2663
	(0.026)*	(<0.001)***	(0.815)	(0.021)*	(0.08)	(<0.001)***	(0.104)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.007)**	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
MMM	0.0252	0.8284	−0.0298	0.0328	0.324	0.5176	7e−04	1.019	−0.1301	−0.1016	0.3125	0.4233	0.0123	0.911	−0.0669	−0.0655	0.2402	0.4486
	(0.438)	(<0.001)***	(0.566)	(0.51)	(0.002)**	(<0.001)***	(0.965)	(<0.001)***	(<0.001)***	(0.019)*	(<0.001)***	(<0.001)***	(0.424)	(<0.001)***	(0.022)*	(0.023)*	(<0.001)***	(<0.001)***
MO	0.0578	0.6871	−0.379	−0.3447	−0.0064	0.6229	0.0338	0.733	−0.3214	−0.2533	0.7081	0.7453	0.0411	0.6932	−0.359	−0.2464	0.4308	0.6758
	(0.103)	(<0.001)***	(<0.001)***	(<0.001)***	(0.954)	(<0.001)***	(0.065)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.016)*	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
MRK	0.053	0.9687	−0.3942	−0.4414	−0.1995	0.9205	0.0058	0.8142	−0.4015	−0.3358	−0.2104	0.6033	0.018	0.8972	−0.4098	−0.3774	−0.1445	0.7207
	(0.286)	(<0.001)***	(<0.001)***	(<0.001)***	(0.197)	(<0.001)***	(0.777)	(<0.001)***	(<0.001)***	(<0.001)***	(0.004)**	(<0.001)***	(0.402)	(<0.001)***	(<0.001)***	(<0.001)***	(0.039)*	(<0.001)***
MSFT	0.0605	1.1515	−0.3599	−0.5212	−0.145	1.0176	0.0167	1.1241	−0.3424	−0.0581	0.4613	−0.8546	0.0223	1.107	−0.3584	−0.4037	0.2085	−0.0251
	(0.173)	(<0.001)***	(<0.001)***	(<0.001)***	(0.3)	(<0.001)***	(0.453)	(<0.001)***	(<0.001)***	(0.332)	(<0.001)***	(<0.001)***	(0.297)	(<0.001)***	(<0.001)***	(<0.001)***	(0.003)**	(0.745)
NKE	0.0864	0.9031	0.3033	0.0736	0.4191	0.2358	0.0316	0.9967	−0.0204	−0.3034	0.4587	0.0959	0.0527	0.9372	0.1453	−0.0542	0.4354	−0.0143
	(0.054)	(<0.001)***	(<0.001)***	(0.284)	(0.003)**	(0.121)	(0.226)	(<0.001)***	(0.714)	(<0.001)***	(<0.001)***	(0.388)	(0.022)*	(<0.001)***	(<0.001)***	(0.205)	(<0.001)***	(0.863)
PFE	0.0084	0.8629	−0.4044	−0.0911	−0.0922	1.003	0.0219	0.8338	−0.33	−0.3281	−0.1676	0.479	0.0177	0.8504	−0.3635	−0.2043	−0.1591	0.5887
	(0.813)	(<0.001)***	(<0.001)***	(0.088)	(0.405)	(<0.001)***	(0.24)	(<0.001)***	(<0.001)***	(<0.001)***	(0.01)*	(<0.001)***	(0.306)	(<0.001)***	(<0.001)***	(<0.001)***	(0.004)**	(<0.001)***

Table A.5 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (2015) five-factor model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	SMB_pre	HML_pre	RMW_pre	CMA_pre	(Intercept)_post	Mkt_RF_post	SMB_post	HML_post	RMW_post	CMA_post	(Intercept)_full	Mkt_RF_full	SMB_full	HML_full	RMW_full	CMA_full
PG	0.0194	0.6896	−0.2613	−0.0364	0.3904	0.7015	−0.0045	0.6689	−0.411	−0.2424	0.4439	0.7539	0.0038	0.6778	−0.3406	−0.0753	0.4508	0.6208
	(0.475)	(<0.001)***	(<0.001)***	(0.376)	(<0.001)***	(<0.001)***	(0.771)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.781)	(<0.001)***	(<0.001)***	(0.003)**	(<0.001)***	(<0.001)***
T	0.0542	0.9568	−0.4619	−0.1491	−0.1532	0.7193	−0.0108	0.7292	−0.2686	0.0255	0.4856	0.5958	0.0044	0.8454	−0.3893	0.0284	0.3331	0.5867
	(0.125)	(<0.001)***	(<0.001)***	(0.006)**	(0.166)	(<0.001)***	(0.547)	(<0.001)***	(<0.001)***	(0.594)	(<0.001)***	(<0.001)***	(0.794)	(<0.001)***	(<0.001)***	(0.367)	(<0.001)***	(<0.001)***
TRV	0.0615	1.101	−0.3833	0.3727	−0.2897	0.7031	0.0154	0.8167	−0.2776	0.3328	0.007	0.1541	0.0243	0.967	−0.3531	0.4406	−0.0081	0.2318
	(0.216)	(<0.001)***	(<0.001)***	(<0.001)***	(0.063)	(<0.001)***	(0.364)	(<0.001)***	(<0.001)***	(<0.001)***	(0.906)	(0.034)*	(0.233)	(<0.001)***	(<0.001)***	(<0.001)***	(0.903)	(0.002)**
UNH	0.0032	1.0526	−0.4802	−0.2379	−0.4613	−0.0783	0.0634	0.9553	−0.2669	−0.1079	0.1688	−0.0318	0.0392	1.0008	−0.389	−0.1114	−0.0422	−0.0786
	(0.964)	(<0.001)***	(<0.001)***	(0.026)*	(0.036)*	(0.74)	(0.009)**	(<0.001)***	(<0.001)***	(0.096)	(0.046)*	(0.758)	(0.171)	(<0.001)***	(<0.001)***	(0.036)*	(0.649)	(0.444)
UTX	0.0375	0.9864	−0.0149	−0.0244	0.3349	0.299	−0.0113	1.0494	−0.0673	0.004	0.3471	0.229	0.0064	1.0115	−0.0374	−0.0319	0.323	0.2822
	(0.227)	(<0.001)***	(0.76)	(0.604)	(<0.001)***	(0.004)**	(0.491)	(<0.001)***	(0.055)	(0.927)	(<0.001)***	(0.001)**	(0.671)	(<0.001)***	(0.185)	(0.253)	(<0.001)***	(<0.001)***
V	0.1583	0.7916	0.0123	0.2147	−0.089	−1.5074	0.0486	1.0362	−0.3109	−0.332	−0.3159	−0.0642	0.0756	0.9234	−0.148	0.021	−0.3019	−0.6654
	(0.168)	(<0.001)***	(0.927)	(0.108)	(0.766)	(<0.001)***	(0.051)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.546)	(0.008)**	(<0.001)***	(0.004)**	(0.674)	(0.001)**	(<0.001)***
VZ	0.0375	0.8766	−0.3367	−0.0836	0.0951	0.9248	0.0127	0.7142	−0.241	−0.0526	0.5406	0.7328	0.0166	0.7965	−0.3071	0.0076	0.4328	0.7254
	(0.283)	(<0.001)***	(<0.001)***	(0.115)	(0.383)	(<0.001)***	(0.494)	(<0.001)***	(<0.001)***	(0.289)	(<0.001)***	(<0.001)***	(0.332)	(<0.001)***	(<0.001)***	(0.809)	(<0.001)***	(<0.001)***
WBA	−0.0097	0.8154	−0.0262	−0.1437	0.2728	0.3987	0.0036	0.9187	−0.2774	−0.3343	0.2536	0.373	0.0021	0.8568	−0.1476	−0.2203	0.2448	0.3188
	(0.822)	(<0.001)***	(0.699)	(0.029)*	(0.044)*	(0.006)**	(0.902)	(<0.001)***	(<0.001)***	(<0.001)***	(0.013)*	(0.003)**	(0.932)	(<0.001)***	(0.001)**	(<0.001)***	(0.002)**	(<0.001)***
WMT	0.0218	0.6853	−0.0375	−0.1998	0.2863	0.6876	0.0094	0.6638	−0.2266	−0.2275	0.7071	0.6491	0.013	0.6624	−0.1445	−0.1419	0.5881	0.5841
	(0.535)	(<0.001)***	(0.494)	(<0.001)***	(0.009)**	(<0.001)***	(0.64)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.467)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
XOM	0.0091	1.15	−0.478	−0.1632	1.4748	−0.2353	−0.0224	0.9089	−0.3335	0.2113	−0.0756	0.4779	−0.0157	1.084	−0.3973	−0.1094	0.5975	0.465
	(0.775)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.027)*	(0.167)	(<0.001)***	(<0.001)***	(<0.001)***	(0.182)	(<0.001)***	(0.335)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***

Table A.5 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (2015) five-factor model.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	SMB_pre	HML_pre	RMW_pre	CMA_pre	(Intercept)_post	Mkt_RF_post	NMP_post	SMB_post	HML_post	RMW_post	CMA_post	(Intercept)_full	Mkt_RF_full	NMP_full	SMB_full	HML_full	RMW_full	CMA_full
AA	0.0113	1.7154	0.1851	−0.1631	−0.4006	0.5121	−0.6356	−0.0544	1.2689	0.4612	0.327	0.2866	−0.0662	0.3387	−0.041	1.5459	0.3231	0.0652	−0.1707	0.2677	0.3518
	(0.872)	(<0.001)***	(0.055)	(0.136)	(0.003)**	(0.019)*	(0.011)*	(0.162)	(<0.001)***	(<0.001)***	(0.009)**	(0.637)	(0.042)*	(0.249)	(<0.001)***	(<0.001)***	(0.328)	(0.03)*	(0.022)*	(0.007)**	
AAPL	0.1849	1.0311	−0.2101	−0.0409	−0.3693	−0.984	−1.5865	−0.0094	1.0166	0.0785	−0.1156	−0.0921	0.6361	−1.2682	0.0594	0.9921	−0.1076	−0.1084	−0.126	0.0022	−1.335
	(0.004)**	(<0.001)***	(0.019)*	(0.684)	(0.003)**	(<0.001)***	(<0.001)***	(0.741)	(<0.001)***	(0.184)	(0.062)	(0.25)	(<0.001)***	(<0.001)***	(0.048)*	(<0.001)***	(0.033)*	(0.052)	(0.057)	(0.982)	(<0.001)***
AIG	−0.024	1.3877	0.6558	−1.2859	1.1611	−2.2612	0.0306	−0.0059	1.1182	0.0169	0.0443	0.8451	−0.6676	−0.3354	−0.0262	1.2538	0.382	−0.6347	1.3506	−1.1933	−0.8008
	(0.887)	(<0.001)***	(0.005)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.959)	(0.848)	(<0.001)***	(0.791)	(0.5)	(<0.001)***	(<0.001)***	(0.011)*	(0.667)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
AXP	0.0362	1.4082	−0.0176	−0.2209	1.0111	−0.1833	−0.0219	0.0013	1.0106	0.1928	−0.105	0.3262	−0.0686	−0.0034	0.0084	1.2352	0.1056	−0.1834	0.8353	7e−04	−0.3119
	(0.511)	(<0.001)***	(0.817)	(0.011)*	(<0.001)***	(0.289)	(0.912)	(0.952)	(<0.001)***	(<0.001)***	(0.022)*	(<0.001)***	(0.375)	(0.97)	(0.726)	(<0.001)***	(0.009)**	(<0.001)***	(<0.001)***	(0.993)	(<0.001)***
BA	0.0129	0.9622	0.5203	−0.1872	−0.613	0.1638	0.7304	0.0436	1.0962	0.4777	−0.1256	−0.2333	0.4489	0.3553	0.0343	1.0138	0.4692	−0.1514	−0.4945	0.2744	0.6489
	(0.774)	(<0.001)***	(<0.001)***	(0.008)**	(<0.001)***	(0.244)	(<0.001)***	(0.063)	(<0.001)***	(<0.001)***	(0.012)*	(<0.001)***	(<0.001)***	(<0.001)***	(0.116)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
BAC	0.0092	1.1136	0.3473	−0.849	2.9243	−0.4703	−1.8978	2e−04	1.1153	0.4276	−0.1408	1.7491	−1.2539	−1.2926	0.0092	1.1448	0.4646	−0.448	2.3451	−1.0584	−1.8042
	(0.89)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.024)*	(<0.001)***	(0.992)	(<0.001)***	(<0.001)***	(0.008)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.749)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
C	−0.1627	1.2023	0.3892	−0.9672	2.1202	−2.0053	−2.053	−6e−04	1.246	0.1505	−0.1604	1.4615	−1.111	−0.9549	−0.0526	1.2136	0.3471	−0.5422	1.9733	−1.4652	−1.722
	(0.065)	(<0.001)***	(0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.98)	(<0.001)***	(0.002)**	(0.002)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.119)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
CAT	0.0376	1.1805	0.2912	0.3448	−0.3855	0.187	0.1014	−0.0157	1.2573	0.2823	0.2445	0.1224	0.3674	0.5288	0.0013	1.2096	0.277	0.2898	−0.1797	0.3101	0.5663
	(0.44)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.219)	(0.559)	(0.506)	(<0.001)***	(<0.001)***	(<0.001)***	(0.067)	(<0.001)***	(<0.001)***	(0.954)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
CSCO	0.0538	1.1843	−0.0404	−0.0891	−0.4124	−0.5886	0.4437	−2e−04	1.1628	−0.3789	−0.1337	0.0794	0.0909	−0.1161	0.0123	1.1539	−0.2308	−0.1319	−0.0772	−0.0903	0.0386
	(0.19)	(<0.001)***	(0.475)	(0.166)	(<0.001)***	(<0.001)***	(0.003)**	(0.994)	(<0.001)***	(<0.001)***	(0.016)*	(0.28)	(0.334)	(0.295)	(0.58)	(<0.001)***	(<0.001)***	(0.002)**	(0.116)	(0.216)	(0.637)
CVX	0.0347	1.1591	0.2205	−0.5792	−0.2469	1.2954	−0.4611	−0.0099	1.0084	3e−04	−0.2793	0.3436	−0.0995	0.459	0.0036	1.1298	0.151	−0.4168	−0.0962	0.5276	0.3858
	(0.3)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.608)	(<0.001)***	(0.993)	(<0.001)***	(<0.001)***	(0.154)	(<0.001)***	(0.844)	(<0.001)***	(<0.001)***	(<0.001)***	(0.017)*	(<0.001)***	(<0.001)***
DD	−0.0053	1.1802	0.3026	0.2792	−0.0879	0.0946	0.9125	−0.0121	1.3755	0.2022	−0.0098	0.1335	0.0984	0.46	−0.0067	1.2586	0.2303	0.1414	−0.0304	0.055	0.7088
	(0.926)	(<0.001)***	(<0.001)***	(0.002)**	(0.425)	(0.599)	(<0.001)***	(0.635)	(<0.001)***	(<0.001)***	(0.857)	(0.063)	(0.282)	(<0.001)***	(0.796)	(<0.001)***	(<0.001)***	(0.004)**	(0.593)	(0.515)	(<0.001)***
DIS	0.0418	1.1783	−0.1465	−0.1912	0.0435	0.0309	0.7438	0.0253	1.0797	−0.4117	−0.1599	0.1243	−0.1297	0.3042	0.0265	1.1344	−0.2738	−0.1794	0.1332	0.0025	0.3629
	(0.263)	(<0.001)***	(0.004)**	(0.001)**	(0.546)	(0.792)	(<0.001)***	(0.196)	(<0.001)***	(<0.001)***	(<0.001)***	(0.024)*	(0.065)	(<0.001)***	(0.144)	(<0.001)***	(<0.001)***	(<0.001)***	(0.001)**	(0.967)	(<0.001)***
GE	−0.0313	0.9433	0.2347	−0.0711	0.409	−0.1887	0.1078	−0.0391	1.0357	−0.0856	−0.2624	0.2155	−0.2445	0.7891	−0.0373	0.98	0.1284	−0.1649	0.4276	−0.151	0.3225
	(0.518)	(<0.001)***	(<0.001)***	(0.348)	(<0.001)***	(0.212)	(0.532)	(0.084)	(<0.001)***	(0.069)	(<0.001)***	(<0.001)***	(0.003)**	(<0.001)***	(0.094)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.039)*	(<0.001)***
GM	−0.1856	1.4434	−1.1684	−0.2592	1.3439	−1.3228	−0.8883	1.7867	4.5886	0.3865	−0.2869	−5.412	−1.6794	4.2142	1.221	2.8971	−0.0764	0.0296	−2.331	−3.1315	1.4121
	(0.16)	(<0.001)***	(<0.001)***	(0.214)	(<0.001)***	(0.002)**	(0.063)	(0.385)	(0.078)	(0.928)	(0.948)	(0.35)	(0.82)	(0.631)	(0.37)	(0.034)*	(0.974)	(0.991)	(0.44)	(0.484)	(0.779)
GS	0.0881	1.2305	−0.2625	−0.4275	0.9896	−0.9694	−1.4803	−0.0231	0.9944	0.1771	−0.1256	1.2285	−0.7454	−0.957	0.0134	1.1238	−0.0655	−0.2824	1.0653	−0.814	−0.919
	(0.148)	(<0.001)***	(0.002)**	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.297)	(<0.001)***	(<0.001)***	(0.009)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.602)	(<0.001)***	(0.131)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***

Table A.6: The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (2015) five-factor model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	SMB_pre	HML_pre	RMW_pre	CMA_pre	(Intercept)_post	Mkt_RF_post	NMP_post	SMB_post	HML_post	RMW_post	CMA_post	(Intercept)_full	Mkt_RF_full	NMP_full	SMB_full	HML_full	RMW_full	CMA_full
HD	-0.0125	1.0099	-0.0111	0.2975	0.2466	0.4326	0.7633	0.0385	0.9875	0.1183	-0.1092	-0.4049	0.4955	0.7168	0.0237	0.9918	0.0681	0.086	0.0275	0.4986	0.4849
	(0.767)	(<0.001)***	(0.848)	(<0.001)***	(0.002)**	(0.001)**	(<0.001)***	(0.045)*	(<0.001)***	(0.003)**	(0.008)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.223)	(<0.001)***	(0.038)*	(0.018)*	(0.521)	(<0.001)***	(<0.001)***
HON	0.0274	1.0367	0.3092	0.0173	-0.3253	0.2507	0.656	0.013	1.1668	0.0844	-0.0504	-0.0995	0.2493	0.3939	0.0185	1.0891	0.1926	-0.0111	-0.2289	0.2396	0.5109
	(0.459)	(<0.001)***	(<0.001)***	(0.765)	(<0.001)***	(0.03)*	(<0.001)***	(0.398)	(<0.001)***	(0.008)**	(0.126)	(0.022)*	(<0.001)***	(<0.001)***	(0.253)	(<0.001)***	(<0.001)***	(0.713)	(<0.001)***	(<0.001)***	(<0.001)***
HPQ	0.1027	1.0265	-0.2134	-0.1545	-0.229	-0.4475	0.2257	-0.0273	1.2507	-0.6111	-0.0037	0.5607	0.2235	-0.2164	0.0148	1.1077	-0.442	-0.0759	0.14	-0.0654	0.0808
	(0.023)*	(<0.001)***	(<0.001)***	(0.029)*	(0.008)**	(0.002)**	(0.161)	(0.43)	(<0.001)***	(<0.001)***	(0.961)	(<0.001)***	(0.073)	(0.144)	(0.594)	(<0.001)***	(<0.001)***	(0.144)	(0.022)*	(0.471)	(0.428)
IBM	0.0646	0.8264	-0.2055	-0.0797	-0.0297	-0.1645	0.0776	-0.0332	0.9489	-0.2973	-0.1415	0.1093	0.3904	0.0718	6e-04	0.8656	-0.2594	-0.113	0.0825	0.1665	0.0511
	(0.045)*	(<0.001)***	(<0.001)***	(0.114)	(0.633)	(0.104)	(0.499)	(0.098)	(<0.001)***	(<0.001)***	(0.001)**	(0.054)	(<0.001)***	(0.402)	(0.974)	(<0.001)***	(<0.001)***	(<0.001)***	(0.031)*	(0.003)**	(0.419)
INTC	0.009	1.241	-0.1382	0.04	-0.3936	-0.2875	0.6761	0.0129	1.205	-0.5532	-0.1285	0.1188	0.2001	-0.1591	0.005	1.2051	-0.3678	-0.0655	-0.0497	0.1161	0.0752
	(0.84)	(<0.001)***	(0.025)*	(0.572)	(<0.001)***	(0.04)*	(<0.001)***	(0.595)	(<0.001)***	(<0.001)***	(0.013)*	(0.083)	(0.022)*	(0.124)	(0.82)	(<0.001)***	(<0.001)***	(0.117)	(0.311)	(0.111)	(0.359)
JNJ	0.0132	0.6368	-0.0313	-0.3571	-0.1748	0.1216	0.6719	0.0127	0.7444	-0.1433	-0.3581	-0.2009	0.078	0.376	0.0146	0.6827	-0.0896	-0.3488	-0.2024	0.0569	0.4603
	(0.584)	(<0.001)***	(0.346)	(<0.001)***	(<0.001)***	(0.106)	(<0.001)***	(0.369)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.127)	(<0.001)***	(0.239)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.164)	(<0.001)***
JPM	0.0831	1.087	0.1684	-0.042	2.08	0.0901	-1.1889	0.0148	1.0709	0.3064	-0.2747	1.3135	-0.6106	-0.7673	0.0433	1.0971	0.2738	-0.1432	1.7237	-0.3331	-1.1123
	(0.108)	(<0.001)***	(0.018)*	(0.615)	(<0.001)***	(0.581)	(<0.001)***	(0.405)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.047)*	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
KO	0.0572	0.7025	-0.2051	-0.1962	-0.1142	0.0024	0.4663	0.0065	0.7602	-0.2329	-0.3532	-0.1381	0.3742	0.6451	0.0243	0.7167	-0.2158	-0.2803	-0.0678	0.2474	0.5166
	(0.065)	(<0.001)***	(<0.001)***	(<0.001)***	(0.056)	(0.981)	(<0.001)***	(0.662)	(<0.001)***	(<0.001)***	(<0.001)***	(0.001)**	(<0.001)***	(<0.001)***	(0.094)	(<0.001)***	(<0.001)***	(<0.001)***	(0.035)*	(<0.001)***	(<0.001)***
MCD	0.0824	0.6922	-0.1211	0.0152	-0.0242	0.1963	0.3411	0.03	0.6779	-0.0643	-0.2324	-0.1662	0.334	0.2624	0.0482	0.6784	-0.0964	-0.1161	-0.0493	0.3082	0.2221
	(0.025)*	(<0.001)***	(0.017)*	(0.793)	(0.733)	(0.088)	(0.009)**	(0.088)	(<0.001)***	(0.078)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.005)**	(<0.001)***	(<0.001)***	(<0.001)***	(0.194)	(<0.001)***	(<0.001)***
MMM	0.0251	0.8257	0.0255	-0.0297	0.0106	0.3254	0.5393	-1e-04	1.0138	0.0355	-0.1298	-0.1164	0.3273	0.4222	0.0117	0.907	0.0285	-0.0671	-0.086	0.2484	0.4614
	(0.441)	(<0.001)***	(0.569)	(0.567)	(0.867)	(0.002)**	(<0.001)***	(0.995)	(<0.001)***	(0.288)	(<0.001)***	(0.011)*	(<0.001)***	(<0.001)***	(0.446)	(<0.001)***	(0.274)	(0.022)*	(0.012)*	(<0.001)***	(<0.001)***
MO	0.0569	0.6757	0.1077	-0.3799	-0.4364	-0.001	0.7177	0.037	0.7536	-0.1407	-0.3219	-0.1941	0.6496	0.7488	0.0414	0.6953	-0.0146	-0.3588	-0.236	0.4266	0.6692
	(0.108)	(<0.001)***	(0.027)*	(<0.001)***	(<0.001)***	(0.993)	(<0.001)***	(0.042)*	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.015)*	(<0.001)***	(0.615)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
MRK	0.0511	0.9162	0.4937	-0.3973	-0.8624	-0.17	1.3535	0.0085	0.8327	-0.1255	-0.4017	-0.2828	-0.2619	0.6078	0.0146	0.8713	0.1826	-0.4126	-0.5078	-0.093	0.8027
	(0.291)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.26)	(<0.001)***	(0.679)	(<0.001)***	(0.003)**	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.495)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.187)	(<0.001)***
MSFT	0.0602	1.155	-0.0347	-0.3595	-0.4914	-0.148	0.9878	0.0207	1.1647	-0.2778	-0.3454	0.0589	0.3455	-0.843	0.025	1.1384	-0.2274	-0.3564	-0.2407	0.14	-0.1246
	(0.176)	(<0.001)***	(0.57)	(<0.001)***	(<0.001)***	(0.29)	(<0.001)***	(0.348)	(<0.001)***	(<0.001)***	(<0.001)***	(0.346)	(<0.001)***	(<0.001)***	(0.24)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.046)*	(0.112)
NKE	0.0876	0.9173	-0.1375	0.3044	0.1911	0.4125	0.1135	0.0351	1.0191	-0.1558	-0.021	-0.2375	0.3943	0.1001	0.0556	0.9556	-0.1319	0.1473	0.04	0.3985	-0.0746
	(0.051)	(<0.001)***	(0.025)*	(<0.001)***	(0.027)*	(0.004)**	(0.481)	(0.178)	(<0.001)***	(0.004)**	(0.706)	(0.001)**	(<0.001)***	(0.367)	(0.016)*	(<0.001)***	(<0.001)***	(<0.001)***	(0.432)	(<0.001)***	(0.378)
PFE	0.0079	0.8518	0.1037	-0.4058	-0.1795	-0.0879	1.0938	0.0203	0.8205	0.0896	-0.3287	-0.3648	-0.1297	0.4744	0.0162	0.8381	0.0852	-0.3646	-0.2647	-0.1353	0.6267
	(0.824)	(<0.001)***	(0.033)*	(<0.001)***	(0.008)**	(0.426)	(<0.001)***	(0.277)	(<0.001)***	(0.021)*	(<0.001)***	(<0.001)***	(0.054)	(<0.001)***	(0.348)	(<0.001)***	(0.004)**	(<0.001)***	(<0.001)***	(0.017)*	(<0.001)***

Table A.6 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (2015) five-factor model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.

ticker	(Intercept)_pre	Mkt_RF_pre	NMP_pre	SMB_pre	HML_pre	RMW_pre	CMA_pre	(Intercept)_post	Mkt_RF_post	NMP_post	SMB_post	HML_post	RMW_post	CMA_post	(Intercept)_full	Mkt_RF_full	NMP_full	SMB_full	HML_full	RMW_full	CMA_full
PG	0.0213	0.7062	−0.1563	−0.2603	0.0963	0.3814	0.5637	0.0018	0.7085	−0.2725	−0.4122	−0.1278	0.3296	0.7608	0.008	0.7046	−0.1897	−0.3382	0.0595	0.3963	0.5344
	(0.429)	(<0.001)***	(<0.001)***	(<0.001)***	(0.062)	(<0.001)***	(<0.001)***	(0.907)	(<0.001)***	(<0.001)***	(<0.001)***	(0.003)**	(<0.001)***	(<0.001)***	(0.555)	(<0.001)***	(<0.001)***	(<0.001)***	(0.048)*	(<0.001)***	(<0.001)***
T	0.057	0.9958	−0.3816	−0.4576	0.1759	−0.1746	0.3753	−0.0074	0.7543	−0.1682	−0.2691	0.0945	0.414	0.6031	0.0099	0.8853	−0.2813	−0.3847	0.2277	0.2513	0.4585
	(0.097)	(<0.001)***	(<0.001)***	(<0.001)***	(0.008)**	(0.105)	(0.002)**	(0.676)	(<0.001)***	(<0.001)***	(<0.001)***	(0.059)	(<0.001)***	(<0.001)***	(0.554)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
TRV	0.0626	1.1147	−0.1293	−0.3822	0.4828	−0.2963	0.5893	0.0186	0.8371	−0.1386	−0.2781	0.3912	−0.0506	0.1576	0.0273	0.987	−0.1413	−0.351	0.541	−0.0481	0.1674
	(0.207)	(<0.001)***	(0.059)	(<0.001)***	(<0.001)***	(0.057)	(<0.001)***	(0.272)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.406)	(0.029)*	(0.179)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.471)	(0.025)*
UNH	0.003	1.0501	0.0237	−0.4804	−0.258	−0.4601	−0.0575	0.0608	0.9392	0.11	−0.2663	−0.1542	0.2146	−0.0347	0.038	0.9932	0.0536	−0.3898	−0.1496	−0.0271	−0.0542
	(0.966)	(<0.001)***	(0.807)	(<0.001)***	(0.056)	(0.037)*	(0.819)	(0.012)*	(<0.001)***	(0.028)*	(<0.001)***	(0.024)*	(0.014)*	(0.736)	(0.184)	(<0.001)***	(0.269)	(<0.001)***	(0.018)*	(0.773)	(0.606)
UTX	0.0361	0.9708	0.1471	−0.016	−0.1499	0.3417	0.4283	−0.0134	1.0359	0.092	−0.0671	−0.0348	0.3855	0.2267	0.0041	0.9959	0.1096	−0.0391	−0.11	0.3541	0.3322
	(0.242)	(<0.001)***	(<0.001)***	(0.74)	(0.012)*	(<0.001)***	(<0.001)***	(0.414)	(<0.001)***	(0.007)**	(0.056)	(0.453)	(<0.001)***	(0.001)**	(0.787)	(<0.001)***	(<0.001)***	(0.165)	(0.001)**	(<0.001)***	(<0.001)***
V	0.1592	0.7968	−0.0402	0.0144	0.2503	−0.0877	−1.5485	0.0431	0.9983	0.2583	−0.3078	−0.4366	−0.2071	−0.0739	0.0704	0.8911	0.2044	−0.1522	−0.1255	−0.2412	−0.5743
	(0.166)	(<0.001)***	(0.752)	(0.915)	(0.152)	(0.77)	(<0.001)***	(0.082)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.021)*	(0.484)	(0.014)*	(<0.001)***	(<0.001)***	(0.003)**	(0.037)*	(0.009)**	(<0.001)***
VZ	0.0414	0.9167	−0.3875	−0.3326	0.2454	0.0721	0.579	0.0179	0.7475	−0.225	−0.2432	0.0393	0.4453	0.7421	0.0235	0.8395	−0.3048	−0.303	0.2228	0.3441	0.587
	(0.222)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.495)	(<0.001)***	(0.331)	(<0.001)***	(<0.001)***	(<0.001)***	(0.446)	(<0.001)***	(<0.001)***	(0.163)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***
WBA	−0.0091	0.8229	−0.0714	−0.0256	−0.0828	0.2692	0.3359	0.0042	0.9226	−0.0269	−0.2775	−0.323	0.2428	0.3739	0.003	0.8631	−0.0441	−0.1469	−0.1889	0.2326	0.2987
	(0.833)	(<0.001)***	(0.232)	(0.706)	(0.318)	(0.047)*	(0.03)*	(0.885)	(<0.001)***	(0.657)	(<0.001)***	(<0.001)***	(0.021)*	(0.003)**	(0.9)	(<0.001)***	(0.281)	(0.001)**	(<0.001)***	(0.003)**	(<0.001)***
WMT	0.0233	0.7029	−0.1753	−0.0351	−0.0526	0.2736	0.5361	0.0112	0.6765	−0.0863	−0.2277	−0.1913	0.671	0.6519	0.0157	0.6805	−0.1316	−0.1428	−0.0491	0.5493	0.526
	(0.505)	(<0.001)***	(<0.001)***	(0.519)	(0.426)	(0.012)*	(<0.001)***	(0.577)	(<0.001)***	(0.038)*	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.378)	(<0.001)***	(<0.001)***	(<0.001)***	(0.21)	(<0.001)***	(<0.001)***
XOM	0.0061	1.1279	0.2075	−0.4791	−0.3389	1.4907	−0.0532	−0.0215	0.9148	−0.0396	−0.3337	0.2279	−0.0922	0.4792	−0.0184	1.0675	0.1155	−0.3986	−0.1915	0.6315	0.5176
	(0.846)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(0.635)	(0.186)	(<0.001)***	(0.24)	(<0.001)***	(<0.001)***	(0.114)	(<0.001)***	(0.258)	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***	(<0.001)***

Table A.6 (continued): The first (pre), second (post) and full samples are used in the time-series regressions of the Fama-French (2015) five-factor model that is augmented with the sentiment factor.

Note: One regression for each stock. p-values are in parentheses. *, ** and *** indicate statistical significance at the 5%, 1% and 0.1% levels, respectively.