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ACCENTUATING THE IMPACTS OF POLITICAL NEWS ON THE STOCK PRICE, WORKING CAPITAL AND PERFORMANCE: AN EMPIRICAL REVIEW OF EMERGING ECONOMY

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Abstract

There is a paucity of academic studies on the impact of political news on stock returns, working capital, and firm performance. This study looks into the impact of previous political news on stock behavior in the future. For the empirical analysis, we used a data set of Pakistani non-financial listed firms from 2009 to 2018. We found a substantial positive effect of political news on the future stock returns, working capital, and firm performance using a portfolio, panel, and two-stage least square regression approach.

Keywords: stock return, political news, firm performance, working capital

JEL Classification: C58, C17, O4

1. Introduction

Does political information have an impact on the stock market? The puzzle of political news in relation to financial market has recently piqued the interest of corporate analysts in general

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and of academicians. Therefore, economic and business activities are inextricably related to regional and local political influences. Huang *et al.* (2015) have examined the influence of international political information on the local financial market. For example, the Asian financial crisis of 1997, the EU debt crisis (2011-2013), and the global financial crisis (2008-2009) were triggered by the political instability (Liu *et al.*, 2017). Likewise, Pástor and Veronesi (2013) have shown a negative relationship between political instability and business activities.

Similarly, Ayadi *et al.* (2020) examine the positive impact of public news on the market activities. Funke and Matsuda (2006) state that how news data or “Big Data” is very well-known to attract the intention of stock traders. In the same way, Molchanov and Stangl (2018) state the importance of investor sentiment and its effect on market performance. Why such information is essential and associated with the stock market? The answer is that information can change the expectations of business analysts, and further drive up or down the stock price. So, day-to-day news forms the investor's expectations and the stock-return movement as well. All of this tells the value of public news that leads the market outcomes. To this end, the empirical work focuses on the impact of political news on stock prices, working capital and firm performance.

The previous studies have pragmatically identified the effect of political information on the stock market. Liu *et al.* (2017) affirm that negative political news not only raises the risk premium but also reduces the return on the stock. As a result, investors charge a high-risk premium at a moment of high political insecurity. Likewise, Kelly *et al.* (2016) narrate the impact of political events (*i.e.* General Election, Global Summit, and other expected events) on the stock prices. They also support the fact that highly volatile political events contribute to a rise in the asset risk premium and reduce the return on the stock return. The previous literature confirms that political instability has a substantial impact on economic activities (Liu *et al.*, 2017; Kelly *et al.*, 2016). For example, the coverage of the 9/11 incident has increased uncertainty across the world, and the economy has fallen abruptly afterward. Meanwhile, earlier studies also confirm the substantial effect of political stability on the economic activity (Gholipour, 2019). Therefore, political stability (instability) plays major role to boost (shrink) the business activities.

This study contributes to the literature on the political news and how it impacts the listed stock in the following ways. The previous literature such as, Kelly *et al.* (2016) and Liu *et al.* (2017), use political events to manipulate the stock return and, in our view, if political events have a major effect on the stock return, then political news will also have an impact on the firm' performance and firm' current operations. In this regard, we use a very nuanced but extensive lexicon-based approach to measure the political news and its effect on listed stocks. Extensive literature has recognized the position of news and sentiment on the stock market (Kelly *et al.*, 2016; Baker and Wurgler, 2006). However, less research is being carried out using emerging market data in this area, especially the Pakistani stock market.

Previous research focuses more on the advanced economies, but we are targeting one of the developing markets. Why do we pick the Pakistani market? One of the two reasons is that the Pakistani market has never been explored in this dimension. Therefore, we want to look at the effect of political news (hereafter, *POL_NS*) and its effect on the stock market, of *POL_NS* on the future business activities. Second, we are interested in studying whether the response of the stock market to political news persists as observed in the advanced economies. We use the quarterly average *POL_NS* and stock performance indicators in the simple regression model controlling macroeconomic and firm-specific variables to test whether the direction of the coefficients remains persistent or not. Likewise, the previous

literature also proposes the long term impact of news on the stock market performance (Sinha, 2016; Heston and Sinha, 2017). In addition, the *POL_NS* has a clear relationship with political stability and government effectiveness in the region. To overcome this problem of endogeneity, we use the two-stage least square approach of using the political stability index and government effectiveness as instruments in the empirical model. Subsequently, we have found the substantial effect of *POL_NS* on business activities with increased coefficients of interest.

We use a sample of 515 out of more than 550 companies listed on the Pakistan Stock Exchange for the period 2009-2018. We use Bloomberg, the State Bank of Pakistan and the Pakistan Stock Exchange to gather *POL_NS*, the macro-economic fundamentals and the relevant details of the listed stocks. We use VADER⁵ through python's NLTK⁶ to get the political news polarity. Our findings confirm that *POL_NS* has a substantial positive effect on the future stock returns, working capital and firm performance.

The remainder of the paper is organized as follows. In section 2, we theoretically discuss the literature and propose the testable hypothesis. Section 3 briefly describes the data and research design. The empirical findings and conclusion are covered in Section 4 and Section 5, correspondingly.

2. Theoretical Background and Hypothesis Development

2.1. Theoretical Background

In this part, we develop a theoretical history to our research with the help of previous literature and propose the testable hypothesis.

Financial news (Wei *et al.*, 2015) and public news (Lu and Wei, 2013) play an important role in predicting business activities. In particular, a popular aspect of political information in the economic environment has drawn the interest of investors and financial analysts. For example, the EU sovereign debt crisis, the US financial crisis of 2008 and the US debt crisis of 2011 experienced a remarkable confusion about the behavior of US and EU strategy, which also led to the decline in the global economy. Therefore, government decisions either raise or decrease the degree of uncertainty about the real and financial indicators of the economy (Ayadi *et al.*, 2020; Kelly *et al.*, 2016). Political information has a close correlation with the stability that may lead to a shift in economic fundamentals. As Kose (2017)⁷ states, the latest economic recession and less investment prospects are attributed to the new political climate across the globe.

Why is the political environment important? The rational agents (households and firms) do not invest their wealth in the presence of tense or uncertain political environment. The agents keep an eye on the situation and analyze whether the investment is reversible or not (Antonakakis *et al.*, 2013; Kim and Ryu, 2020). As a consequence, prudent agents wait for the best political scenario and delay their partial or complete investment decision until the security situation is set (Gulen and Ion, 2016).

⁵ Valence Aware Dictionary and sEntiment Reasoner.

⁶ Natural language toolkit

⁷ Global Economy in 2017: Hope and Uncertainty. Opinion, The World Bank.

The previous literature advocates that the uncertain political environment has a negative impact on economic outcomes. As Baker *et al.* (2016) affirm, political instability limits investment prospects and decreases employment. Consequently, Fernández-Villaverde *et al.* (2015) examine that the unpredictable government decisions on discretionary policy or tax expenditure raise insecurity, which further reduces business activities. Similarly, Wang *et al.* (2017) state that insecure governmental actions not only decrease the economic outcomes but also reduces the spending on research and development. Consequently, Pástor and Veronesi (2013) describe that the stocks are more volatile under uncertain political environment and investors increase equity risk premium in this situation. Meanwhile, Kelly *et al.* (2016) point out that political instability contributes to a rise in variance-, tail- and price-risk, which increase the risk premium paid by the stock issuer. Supplementary, Liu *et al.* (2017) observe and show how the political event and political instability reduce asset prices in the case of the Chinese stock market.

Public attention plays a key role in determining the stock return (Andrei and Hasler, 2015; Dang, 2011; Gountas *et al.*, 2019; Wang, 2017). Likewise, Kalev *et al.* (2004) discuss the value of public knowledge and its effect on stock prices. Earlier studies, (e.g., Gillam *et al.*, 2002a; Katayama and Tsuda, 2018; Leuz and Schrand, 2009; Li *et al.*, 2014) have analyzed the effect of public news on the general mood and the return of the stock market. Consequently, many studies (e.g., Atkins *et al.*, 2018; Depken, 2001; Zhang *et al.*, 2018) observe the association between public news and the stock market. Other studies, (e.g., Funke and Matsuda, 2006; Tetlock, 2007), witness the strong association between public announcement and security risk premium.

Similarly, it has been documented in the studies (e.g., Birz and Lott, 2011; Pearce and Roley, 1985; Steeley, 2004) that macroeconomic data about the economy (e.g., gross domestic product, inflation, money supply, interest, and unemployment) has a strong correlation with stock-return and uncertainty. Further, Berry and Howe (1994) have considered that political news is deemed to be important information that has a clear connection with the stock price. However, they have not observed the significant relationship between public information and stock volatility. In the meantime, Bittlingmayer (1998) demonstrates a strong impact of political news on the stock market.

As far as various areas and regions are concerned, recent studies affirm the important association between political news and stock volatility in the Hong Kong stock market (Chan *et al.*, 2001; Chan and Wei, 1996). Thus, Kaminsky and Schmukler (1999) observe the close association between political news and stock returns in the case of Asian countries. Similarly, Gorjaev and Zabotkin (2006) have documented the significance of the relationship between political news and the stock price in the case of the Russian stock exchange. Al-Maadid *et al.* (2020) examine the association between political news and stock return in the case of the Gulf Cooperation Council (GCC). However, they observe no significant association between the stock market and political news except for the Saudi stock exchange.

2.2. Hypothesis Development

Previous research backs up the claim that political developments, including political news, have a major impact on business practices. For example, the household's real estate investment is influenced by political stability, monetary policy, and fiscal policy. The firm's profitability and investment decisions, on the other hand, are often influenced by the government's political activities. If the government's actions are not well-defined, all prudent actors will postpone their expenditure decisions, slowing productivity and economic prospects. As a result, the political situation is critical, particularly for investors and financial

analysts. We use the lexicon-based approach to extract the valuable political information from the political news. Keeping an eye on the previous work, we proposed the following hypothesis.

H1: The stock return tends to be affected in a big way by political news.

The investor and financial analysts have taken notice of the textual material (Robinson *et al.*, 2018). Previous research has looked at the effect of political news on the market outcome, but none of the studies have looked at the impact of political news on current business operations. Baker *et al.* (2016) narrate that uncertain political environment shrinks the investment opportunities and vice versa. The following testable theory has been formulated with the support of the discussed literature.

H2: Political news has a significant impact on the working capital of the firms.

In our opinion, a smooth political environment is necessary for the stable economy, because an uncertain political environment leads a country toward economic deficiency, which further slows down the performance of each sector. As Fernández-Villaverde *et al.* (2015) confidently note, the volatile political environment has a detrimental effect on market outcomes. As a consequence, we may conclude that political information plays an important role in explaining the political environment and has a major effect on the performance, and therefore suggest the following:

H3: Political news has a significant power to predict the firm' performance.

3. Data and Research Design

For the empirical research, we use a sample of Pakistani non-financial listed firms, which includes return, working capital, and firm performance, macroeconomic fundamentals (inflation, interest, money supply, gold, reserve, and so on), and *POL_NS* from 2009 to 2018. We obtain the firm-specific information using the Bloomberg database, State Bank of Pakistan, and Pakistan stock exchanges. Also, we collect the macroeconomic variables information from the State bank of Pakistan. As far as the news data is concerned, we use the Bloomberg database to retrieve the important English political news about Pakistan over the period 2009-2018.

3.1. Political News Measurement

News has been considered an essential factor in predicting the stock market return in the previous finance literature. For example, textual content and various "Big Data" techniques, such as word count, algorithms, etc., have been proposed in previous studies (e.g., Mangee, 2017; Rangel, 2011; Tetlock, 2007). However, we follow the procedure introduced by Hutto and Gilbertn (2014) in which they employ SLA (sentiment lexicon approach) with python's natural language toolkit (NLTK) package via valence aware dictionary for sentiment reasoning (VADER).

The popular method of manipulating text into a meaningful numeral by computer is known as natural language processing (NLP). The Natural Language Toolkit (NLTK) is a set of programs and libraries that understand and respond to human language in a meaningful way. To get the whole political news document opinion in a numerical way, we use a lexicon-based approach. We use the external terms dictionary, VADER, to distinguish political news into positive, negative, and compound polarity. Extracting the meaningful sentiment content from the whole text has proven to be very accurate and fruitful. The biggest benefit of using VADER is that it requires no training data but constructed with a gold standard sentiment

lexicon features and works exceptionally well on the rich text. After installing the VADER dictionary, we use the polarity score method to get the classified information into positive, negative, and compound score. In order to measure political news, the following steps were taken: (1) political news screening, (2) text splitting, (3) removal of stop words, (4) removal of punctuation, (5) sentiment intensity measurement, (6) measurement of political news score.

In the first step, the data is pre-processed using VADER and a structured list of philological topographies. To measure the mood for the whole text at time t , the first phase explores the systemic and qualitative essence of the political news. The second stage breaks the document into tokens, with each token containing one word from the entire document at time t . In the third step, we exclude all stop or irrelevant words (a, an, the, etc.) from the whole text. As a result, punctuations are also useless in the analytical research, and in the fourth step, we exclude all punctuations from the entire document. In the fifth step, we use the natural language toolkit package to get the positive, negative, and compound emotion polarity of the POL_NS . Finally, we divided the difference in polarity (positive and negative) by compound polarity of the entire text to measure the file level political news score (hereafter, $POLN_S$) as presented in equation (1).

$$POLN_S_t = \frac{psp_t - nsp_t}{csp_t} \quad (1)$$

where: psp_t , nsp_t and csp_t state the positive, negative, and compound sentiment polarity, respectively, of the content released on a specific time t . We follow the methodology of Calomiris and Mamaysky (2019), to measure the news score using exclusive news content at time t . We use quarterly $POLN_S$ following the idea of previous studies (Heston and Sinha, 2017; Piñeiro-Chousa *et al.*, 2016; Sinha, 2016) where they affirm that the news has greater forecasting ability over the long horizon, too. Thus, how we calculate the quarterly composite political score is provided in the equation (2).

$$POLN_S_q = \frac{1}{T} \sum_{t=1}^T POLN_S_t \quad (2)$$

where: $POLN_S_q$ shows an aggregate quarterly average of political news score. Why we use the long-term horizon in the empirical analysis? From one side, the stock traders are sensitive to the political activities and on the other side; corporate executives also keep an eye on the political happenings which may influence the stakeholder's long-run decision.

3.2. Variable Explanation, Descriptive Statistics, and Data Construction

Table 1 outlines a short description of the variables used in the empirical work. Table 2 covers the monthly and quarterly summary statistics related to the variables used for the period 2009-2018. The mean values of ($POLN_S$ (0.002), R (0.307), WP (0.014) and FP (0.001)) are positive, with a minimum of (-0.138, -0.99, -0.522 and -10.94) and a maximum of (0.193, 660.4, 2.894 and 1.250), respectively. Similarly, the mean values of other variables, such as firm-specific and macro-economic variables, are positive, except for NPM , as can be seen in the middle of quarterly indicators of column (2).

Table 1

Variable definition summary

Variables	Definition
<i>POLN_S</i>	Political news score
<i>RET</i>	Daily stock return
<i>INF</i>	The inflation rate of the country
<i>INT</i>	The interest rate of the economy
<i>EX_RATE</i>	Foreign exchange rate
<i>NET_FIF</i>	Monthly difference between investment outflow and investment inflow
<i>M_SPY</i>	Money supply monthly
<i>RES</i>	Foreign exchange reserves monthly
<i>GOLD</i>	Gold reserve monthly
<i>SDR</i>	Special drawing rights of monetary reserve
<i>SIZE</i>	Log of total assets
<i>SALE</i>	Sale of the company
<i>NPM</i>	Net profit margin
<i>ATR</i>	Asset turnover of the firm
<i>FP</i>	Return on equity used as a proxy for firm performance
<i>ROCE</i>	Return on capital employed
<i>QR</i>	Quick ratio
<i>ITR</i>	Inventory turnover ratio
<i>D/E</i>	Debt to equity ratio
<i>LTI</i>	Long term investment of the firms
<i>WP</i>	Working capital of the firms
<i>REB</i>	Retention in business

Note: Table 1 displays the variable's name along with definition collected from three sources; Bloomberg, State Bank of Pakistan and Pakistan stock exchange.

As far as the pattern of the standard deviation for firm-specific variables is concerned, D/E, ITR, LTI, REB, SALES and NPM are more volatile than the other firm-specific variables, as one may see in panel (B) of quarterly indicators. The minimum values of the firm-specific data start from a negative point, except for D/E and SIZE. On the other hand, the standard deviation for RES and SDR is more volatile than the other macro-economic variables, as can be seen at the top of Table 2 (col-3). However, the minimum value of all macro-economic variables starts from the positive point, as can be seen in the column (4).

Table 2

Descriptive statistics

Variables	N	Mean	Sd	Min	Max
Panel A: Monthly Indicators					
<i>POLN_S_(t-1)</i>	119	0.002	0.061	-0.138	0.193
<i>INF</i>	120	8.362	4.441	1.667	20.23
<i>INT</i>	120	9.790	2.655	5.869	13.40
<i>EX_RATE</i>	120	95.61	8.937	79.59	106.9

Variables	N	Mean	Sd	Min	Max
M_SPY	120	16.18	0.334	15.58	16.71
RES	120	15,460	3,872	7,413	22,294
SDR	120	862.7	291.1	157.0	1,415
Panel B: Quarterly Indicators					
ATR	7,343	1.166	0.809	-0.051	6.393
D/E	7,343	4.053	24.42	0.001	795.7
ITR	7,343	51.82	453.4	-0.289	12,836
LTI	7,343	1.576e+06	8.549e+06	0	1.400e+08
NPM	7,343	-43.27	1,065	-26,192	2,548
Q/R	7,343	1.158	10.63	0	274.0
REB	7,343	585.652	4.864e+06	-8.494e+07	8.413e+07
SALES	7,343	1.895e+07	7.192e+07	-476,405	1.190e+09
R	7,354	0.307	10.05	-1.000	660.4
WP	7,343	0.014	0.131	-0.522	2.894
SIZE	7,343	15.06	1.690	8.702	20.26
FP	7,343	0.001	0.266	-10.94	1.250
T_CAP	7,343	1.06e+07	3.69e+07	3109	5.74e+08

Note: Table 2 offers the monthly and quarterly descriptive statistics of the variables over the period 2009-2018 (the original frame for the rest of the analysis). The table shows several observations, mean, standard deviation, minimum and maximum of the pool observations. The variable explanations are shown in Table 1.

We extract the return from the daily stock price as seen in equation (3);

$$R_{it} = \frac{cl_p_{it} - cl_p_{i,t-1}}{cl_p_{i,t-1}} \quad (3)$$

where: R_{it} describes the individual stock i 's return at time t . Likewise, cl_p_{it} and $cl_p_{i,t-1}$ describe the closing stock i 's price at time t and $t-1$, respectively. Additionally, we use the difference of current assets and current liabilities to measure the working capital, as in equation (4);

$$WP_{it} = CA_{it} - CL_{it} \quad (4)$$

where: WP_{it} describes working capital of individual firm i at time t . Also, CA_{it} and CL_{it} represent the current assets and current liabilities of the firm i at time t , respectively. In addition, the return on equity is used as a proxy for the firm' performance as shown in equation (5);

$$FP_{it} = \frac{NI_{it}}{Shr_Equity_{it}} \quad (5)$$

FP_{it} means the return on equity of the individual stock i at time t . In addition, NI_{it} and Shr_Equity_{it} describe net income and shareholder' equity of company i at time t .

3.3. Research Design

3.3.1. Political News and Stock Return

We proposed a quarterly 5x5 portfolio of stocks sorted by their size and value, following Fama and French (1992). The proposed model can be seen in equation (6);

$$R_{it} - R_f = \beta_0 + \beta_1 POLN_S_{t-1} + \varepsilon_{it} \quad (6)$$

where: $R_{it} - R_f$ and $POLN_S_{t-1}$ narrate the excess stork return of individual stock i and political news at time t and $(t-1)$, respectively. We analyze the long-run effect of political news

using average quarterly stock returns. The previous literature also observes the effect of long-term news on the stock prices (Heston and Sinha, 2017; Sinha, 2016).

3.3.2. Political News and Working Capital

The next proposed panel regression model for the political news and working capital is demonstrated below in equation (7).

$$WP_{it} = \beta_0 + \beta_1 POLN_S_{t-1} + \beta_i \sum_{i=2}^5 Z_{it} + \beta_i \sum_{i=6}^{12} V_t + \lambda_i + \varepsilon_{it} \quad (7)$$

where: WP_{it} and $POLN_S_{t-1}$ display the working capital of individual firm i and political news at time t and $(t-1)$, respectively. Furthermore, β_0, β_1 and β_i are the coefficients of the empirical model, while λ_i and ε_{it} describe the firm effect and residual terms of the model. Likewise, we use a set of control variables (firm-specific (Z_{it}), macroeconomic (V_t)), as can also be seen in equation (7).

3.3.3. Political News and Firm's Performance

The next proposed panel regression model for the political news and firm performance is demonstrated below in equation (8).

$$FP_{it} = \beta_0 + \beta_1 POLN_S_{t-1} + \beta_i \sum_{i=2}^5 Z_{it} + \beta_i \sum_{i=6}^{12} V_t + \lambda_i + \varepsilon_{it} \quad (8)$$

where: FP_{it} and $POLN_S_{t-1}$ represent the i firm's performance and political news at time t and $(t-1)$, respectively. Subsequently, $\beta_0, \beta_1 \dots \beta_n$ are the coefficients of interest whereas Z_{it}, V_t, λ_i and ε_{it} designate the firm-specific, macroeconomic variables, firm effect and error term, respectively. In all cases, $POLN_S_{t-1}$ reports the political news sentiment at time $(t-1)$.

3.4. The Endogeneity Problem

There could be a possibility of a two-way association between $POLN_S$, and the variable of interest (WP and FP), which could mislead the results due to endogeneity bias in the original model, or the effects may be deemed spurious. Sheng *et al.* (2011) observe the business and political ties for the success of the business. As Rodriguez *et al.* (2020) narrate, industrial indicators also have attraction for the country policy making, particularly in the developing economies. At macro level, the industrial performance can also have an impact on the economy, which may also set the political gain or loss for the government. To resolve the problem of endogeneity, we use an instrumental approach in our model.

We employ the two-stage least square estimation, in the first stage, we regress the lagged political news ($POLN_S_{t-1}$) on the instruments (Government effectiveness and political stability) along with a set of control variables. After obtaining the fitted value of $POLN_S_{t-1}$ from the first stage, we regress the j variables of interest (WP and FP) one by one on $POLN_S_{t-1}$ with a set of control variables excluding the instruments used in the first stage. Furthermore, the instruments used in our two-stage least square regression process were gathered from the World Bank database⁸.

Statistically;

$$POLN_S_{t-1} = \gamma Z + \delta CV + u_{it} \quad (9)$$

$$Q_{itj} = POLN_S_{t-1} + \delta CV + v_{it} \quad (10)$$

⁸ <https://data.worldbank.org/>.

where: Q_{itj} shows j variables of interest (firm performance and working capital) of firm i at time t while Z, CV, u_{it} and v_{it} narrate the instruments, control variables and random error of the model, correspondingly, as shown in equations (9) and (10), respectively. Meanwhile, Q_{itj} and $POLN_{S_{t-1}}$ exhibit the variables of interest j of firm i at time t and predicted political news score (measured from the first-stage least square regression), respectively.

3.5. Robustness Check

We use the value and size factors in our baseline model for the robustness check, as seen in equation (11), based on the previous research revealed by Fama and French (1992). Further, we also examine the impact of political news on the firm level indicator using sale and total capital as dependent variable, as shown in equations (12) and (13), respectively. Similarly, we employ the two-stage least square regression method for the firm level indicators, as shown from equation (14) to (15).

$$R_{it} - R_f = \beta_0 + \beta_1 POLN_{S_{t-1}} + \beta_1 SMB_t + \beta_1 HML_t + e_{it} \quad (11)$$

$$SALE_{it} = \beta_0 + \beta_1 POLN_{S_{t-1}} + \beta_i \sum_{i=2}^5 Z_{it} + \beta_i \sum_{i=6}^{12} V_t + \lambda_i + \varepsilon_{it} \quad (12)$$

$$T_CAP_{it} = \beta_0 + \beta_1 POLN_{S_{t-1}} + \beta_i \sum_{i=2}^5 Z_{it} + \beta_i \sum_{i=6}^{12} V_t + \lambda_i + \varepsilon_{it} \quad (13)$$

$$POLN_{S_{t-1}} = \gamma Z + \delta CV + u_{it} \quad (14)$$

$$Q_{itj} = POLN_{S_{t-1}} + \delta CV + v_{it} \quad (15)$$

where: Q_{itj} shows sale and total capital ' j ' of firm i at time t while Z, CV, u_{it} and v_{it} narrate the instrument, control variables and error term of the model, correspondingly. Meanwhile, Q_{itj} and $POLN_{S_{t-1}}$ exhibit the variables of interest j of firm i at time t and predicted political news score (measured from the first-stage least square regression), respectively.

4. Empirical Findings

4.1. Baseline Regression Results

Table 3 presents the portfolio regression results for the political news and stock return. We observe that the significant strategies are only on the peak sides of the quartile. We observe that SL (small size and low B/M ratio) and BH (big size with high B/M ratio) strategies are significantly different from zero, while the rest of the strategies are insignificantly different from zero. The beta coefficients (1.38) of SL with t (1.78), and the beta coefficient (7.45) of BH with t (2.99) narrate that current political news has a positive significant impact on the future stock return.

Table 3

Investor sentiment and 5x5 equal-weighted portfolio return

Size Quintile	B/M Quintile							
	$RET_{it} = \beta_0 + \beta_1 POLN_S_{t-1} + e_{it}$							
	Low	2	3	High	Low	2	3	High
	B				t(β)			
Small	-0.53	1.38	0.55	0.77	-0.65	1.78	0.76	1.55
2	-0.55	0.02	-0.31	-0.51	-0.77	0.04	-0.54	-0.96
3	-13.96	-0.75	-2.85	-0.12	-1.46	-1.28	-1.34	-0.25
Big	-40.81	0.07	-0.74	7.45	-1.50	0.20	-1.18	2.99

Note: Table 3 displays the impact of political news on the equally weighted (5x5) portfolio return sorted on the size and value basis.

Further, we examine the effect of lagged political news on the current firm level indicators, as can be seen in Table 4. We control for firm-specific variables (*SIZE, LTI, ITR, D/E, Q/R, NPM and REB*) as well as macroeconomic variables (*INF, INT, GOLD, SDR, EX_RATE and M_SPY*) in the model. The results of dependent variables (*FP and WP*) of the model are reported at the top of Table 4, respectively. Further, the symbols *, **, and *** signify a degree of importance of 10%, 5%, and 1%, respectively. Consistent with the hypotheses (2) to (3) and outcomes in Table 4, political news has an insignificantly positive impact on the variable of interest along with a set of control variables. More precisely, the beta coefficient of *FP* and *WP* with the standard errors are 0.066 (0.069) and 0.018 (0.016), respectively. Also, the firm effect was not observed in both models, as shown at the bottom of Table 4.

Table 4

Regression results of political news and firm level indicators

$FP/WP_{it} = \beta_0 + \beta_1 POLN_S_{t-1} + \beta_i \sum_{i=2}^5 Z_{it} + \beta_i \sum_{i=6}^{12} Z_t + \lambda_i + \varepsilon_{it}$		
Variables	FP	WP
POLN_S(t-1)	0.066 (0.069)	0.018 (0.016)
INF	0.0001 (0.002)	0.0002 (0.0004)
INT	0.009** (0.004)	-0.0004 (0.001)
GOLD	-2.81e-06 (8.48e-06)	5.43e-06*** (1.96e-06)
SDR	1.17e-05 (1.55e-05)	-2.72e-06 (3.58e-06)
EX_RATE	0.001 (0.001)	-0.001*** (0.0003)
M_SPY	-0.004 (0.041)	0.034*** (0.009)
LTI	1.18e-10 (5.43e-10)	-0 (1.28e-10)
ITR	-1.74e-06 (7.54e-06)	-3.86e-06** (1.74e-06)

$$FP/WP_{it} = \beta_0 + \beta_1 POLN_S_{t-1} + \beta_i \sum_{i=2}^5 Z_{it} + \beta_i \sum_{i=6}^{12} Z_t + \lambda_i + \varepsilon_{it}$$

Variables	FP	WP
D/E	-0.001*** (0.0001)	4.75e-05 (3.54e-05)
REB		2.44e-09*** (2.49e-10)
Cons	-0.087 (0.618)	-0.488*** (0.143)
Obs.	7,343	7,343
Firm	NO	NO
R ²	0.17	0.81

Note: Table 4 displays the firm performance and working capital reaction to the specific POLN_S. The symbol ***, ** and * denote 1%, 5% and 10% significance level.

The estimated results may have an endogeneity issue, which might be the reason of insignificance. Because recent studies (e.g., Atkins *et al.*, 2018; Depken, 2001; Gillam *et al.*, 2002b; Glasserman and Mamaysky, 2019; Heston and Ranjan Sinha, 2017; Katayama and Tsuda, 2018; Leuz and Schrand, 2009; Sinha, 2016) use the news level data and observe a significant impact on the stock market, we implement the two-stage least square (2SLS) regression to resolve the issue of endogeneity in the very next section.

4.2. Two-Stage Least Square Results from Regression Analysis

Table 5 reports the two-stage least square regression results. The endogenous variable $POLN_S_{t-1}$ and their corresponding instruments (corruption and political stability) offer improved coefficients of the variable of interest. The coefficients of FP ($\beta = 0.401$, $S.E = 0.237$) and WP ($\beta = 0.145$, $S.E = 0.054$) against the $POLN_S_{t-1}$ evidently narrate that lagged political news has a significant impact on the current firm performance and working capital with improvements, as can be seen in the first row of Table 5. The produced R² of model (1) and model (2) are, (0.17) and (0.81), correspondingly, as shown at the bottom of Table 5. The directional relation of $POLN_S_{t-1}$ with the variables of interest remains persistent, as we observe in Table 4 and Table 5, while the firm fixed effect is not observed, as shown at the bottom of Table 5.

Table 5
Two-stage least square regression estimates for firm level indicators

Variables	FP	WP
$POLN_S_{(t-1)}$	0.401* (0.237)	0.145*** (0.054)
EX_RATE	-0.001 (0.002)	-0.001*** (0.0004)
ITR	-2.94e-07 (7.44e-06)	-3.63e-06** (1.72e-06)
D/E	-0.001*** (0.0002)	4.86e-05 (3.51e-05)
NPM		
M_SPY	-0.021	0.056***

Variables	FP	WP
	(0.046)	(0.011)
LTI	1.44e-10	-0
	(5.36e-10)	(1.27e-10)
REB		2.45e-09***
		(2.47e-10)
Cons.	0.512	-0.743***
	(0.582)	(0.135)
Obs.	7,343	7,343
Firm	NO	NO
R ²	0.17	0.82

Note: Table 5 presents the Two-Stage least square (2SLS) regression results. Column (1) through (2) reports empirical results from the second stage reaction of firm performance and working capital.

5. Robustness Check

For the robustness check, we use value and size factors in our baseline model to observe whether the impact of the political news remains persistent or not. By employing the value and size factors in our original portfolio, we observe that previous political news has a significant impact on the current stock return, as shown in the mid of Table 6. However, only one strategy is significant.

Table 6

Investor sentiment and (5×5) equal-weighted portfolio return (Robustness check)

Size Quintile	B/M Quintile							
	$R_{it} - Rf = \beta_0 + \beta_1 POLN_S_{t-1} + \beta_1 SMB_t + \beta_1 HML_t + e_{it}$							
	Low	2	3	High	Low	2	3	High
	B				t(β)			
Small	0.14	0.44	0.15	0.26	0.24	0.89	0.41	0.74
2	0.10	0.09	0.17	-0.13	0.21	0.24	0.40	-0.31
3	0.88	-0.08	0.35	-0.15	2.08	-0.25	0.98	-0.29
Big	0.14	-0.32	0.02	2.67	0.28	-0.92	0.04	1.20

Note: Table 6 displays the impact of political news on the equally weighted (5×5) portfolio return sorted on the size and value basis while the coefficients of SMB and HML are not presented which can be presented upon request.

Similarly, we have observed that lagged period political news has positive impact on the current sale and total capital of the individual firm, as shown in Table 7. However, the results are insignificant in the simple regression model, as shown in the first row of Table 7 (col 1-2). To remove the endogeneity from the model, we employ the two-stage least square regression and observe the significant positive impact of the lagged political news on the current sale and total capital, as shown in Table 7 (col 3-4).

Table 7

Simple regression and two-stage least square regression estimates for firm level indicators (Robustness check)

Variables	Simple Regression		2SLS	
	SALE	TCAP	SALE	TCAP
POLN_S _(t-1)	0.559 (3.783)	0.142 (0.279)	102.9*** (28.85)	1.097* (0.660)
INF		0.010 (0.007)		
INT	1.318*** (0.185)	-0.022 (0.017)		
GOLD	1.721 (1.485)	9.89e-06 (3.41e-05)		
SDR	-0.291 (0.523)	-2.47e-05 (6.24e-05)		
EX_RATE	0.490*** (0.054)	-0.023*** (0.004)	-0.289 (0.194)	-0.029*** (0.005)
M_SPY		1.094*** (0.165)	12.30** (4.831)	1.306*** (0.154)
LTI		1.39e-07*** (2.24e-09)	6.18e-07*** (3.55e-08)	1.39e-07*** (2.20e-09)
ITR	-0.0002 (0.001)	-4.12e-05 (3.04e-05)	-1.13e-05 (0.001)	-4.33e-05 (2.99e-05)
D/E	-0.017* (0.009)	-0.00360*** (0.001)	-0.0223** (0.009)	-0.00360*** (0.001)
REB		1.88e-08*** (4.34e-09)		1.85e-08*** (4.27e-09)
Size	7.329*** (0.673)			
Q/R	-0.005 (0.019)			
NPM	-5.02e-06 (0.0002)			
Cons.	-177.5*** (13.27)	-15.14*** (2.485)	-165.8*** (59.84)	-18.10*** (1.945)
Obs.	7,343	7,343	7,343	7,343
R-squared	0.95	0.93	0.95	0.93
Firm	NO	NO	NO	NO

Note: Table 7 displays the sale and total capital reaction to the POLN_S as shown from column (1) to column (2) while column (3) to column (4) present two-stage least square (2SLS) regression results. The symbol ***, ** and * denote 1%, 5% and 10% significance level.

6. Discussion

In this study, we focus on the political news and its influence on the firm activities. All the results exemplify that current political news has an incremental power to predict the future business activities, especially *return*, *working capital* and *firm performance*. Our results are in accordance with preceding works (e.g., Glasserman and Mamaysky, 2019; Heston and Sinha, 2017; Sinha, 2016) that news has a substantial impact on the stock market and business activities. But their works do not talk about the dimension of news such as political news what we explore in our empirical work. In the portfolio strategy, we observe that lagged political news has a positive significant impact on the future stock return on the peak of both quartiles. Our results are consistent with previous work of Al-Maadid *et al.* (2020) where they observe a strong association between stock price and political news in the case of Saudi stock exchanges.

We also observe a positive impact of previous political news on the current working capital and firm performance in the context of Pakistani non-financial listed stock. The previous studies (e.g., Baker *et al.*, 2016; Fernández-Villaverde *et al.*, 2015; Wang *et al.*, 2017) also provide evidence that political uncertainty decreases the investment opportunities and economic outcomes. As far as the robustness check is concerned, we again observe a similar behavior of the political news on the return, performance and working capital. The findings are supported by previous work and we can evidently argue that political news plays an important role in predicting the business activities.

7. Conclusion

We employ a sample of 515 out of more than 550 non-financial listed firms on the Pakistan stock exchange for the period 2009-2018 for our empirical examination. We use Bloomberg, State Bank of Pakistan, and Pakistan stock exchange for collecting the political news, macroeconomic fundamentals, firm's specific data. We use VADER via python's NLTK to get the political news polarity and convert it into the political news score.

The results are consistent and exemplify that current political news has an incremental power to predict the future stock return, working capital and firm performance. We confirm the idea of previous work (e.g., Glasserman and Mamaysky, 2019; Heston and Sinha, 2017; Sinha, 2016) that news has a strong association with stock performance. But their work does not discuss about the particular dimension of news and we have used the political news dimension in the contexts of Pakistani listed stock.

The positive directional relation between political news and the variables of the interest (stock prices, working capital and firm performance) remains consistent for all proposed empirical models. We also employ the two-stage least regression and report the improvement in our baseline model. In addition, the robustness check also confirms the same impact of the political news on the future return, working capital and firm performance. The critical lesson from the leading work is that investors and the professional analyst must analyze the political news to predict the stock market, particularly stock prices, working capital and firm performance. We use the Pakistani data, and a comparative regional difference in the presences of political news could be one of the interesting topics for future research.

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