

Is There a Link between Politics and Stock Returns? A Literature Survey

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Abstract

This survey starts by reviewing the literature investigating whether political connectedness of companies creates wealth for their shareholders. It then moves on to examine whether there is an association between the orientation of the political executive or the phase of the electoral cycle with movements of the stock market index. The price impact of politically-relevant events, such as wars, terrorist attacks, revolutions, coups or issuance of communications by those in positions of power is also discussed. The review closes with an examination of the impact of political uncertainty on stock markets and with a reflection on the direction of causality.

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I. Introduction

Be it through their direct investments or their pension plans, most individuals are exposed to stock market fluctuations. Arguably, both political events and government actions have the potential to influence these market fluctuations and thereby determine the financial wellbeing of citizens. Although politics and stock market movements are frequently discussed topics in the media and everyday conversations, with the notable exception of election periods, the interplay between the two is rarely considered. Fortunately, over the last couple of decades, an increasing number of academics have started to investigate this important interaction. In doing so, they have created a body of interdisciplinary research bridging the fields of political science and finance. It is this body of research that this survey intends to systematically explore, catalogue and synthesize. While the review presented here cites around one hundred prominent publications, this probably does not constitute the totality of scholarly contributions in this field. The overarching objective here is to outline the general directions that have been taken in the literature.

The studies considered in this survey can provide useful guidance to investors and policy-makers alike. First, investors' stock-picking skills could be enhanced by knowing whether the political connections of firms generate shareholder value. Are stock returns higher for companies that have prominent politicians as their shareholders or board members? Do political donations represent a positive net present value investment? Clarity on these issues would lead to better investment decisions. Second, political developments could potentially inform the process of market timing. By knowing whether stock index returns are related to the election cycle or the political orientation of the party in power, astute investors would be able to choose when to enter and exit the stock market. Third, familiarity with literature could also assist in making decisions regarding portfolio allocation across different markets. Such decisions depend on whether a risk premium is offered to stock market investors in countries characterized by high political uncertainty. Last but not least, the scholarship that has been produced provides intelligence to those in positions of power. The

measurement of market response to particular events, such as cross-border conflict initiation or delivery of an important speech, can inform the choices made by politicians.

In order to aid the exposition, this review has been organized around specific themes. The following section engages in the discussion of the value of firms' political connections. Scholars have used different methodological approaches to compute this value ranging from estimating abnormal returns arising from particular ties, focusing on unexpected deaths of political figures, or evaluating the benefits arising from making election campaign contributions. Section III examines whether stock market returns depend on the political orientation of incumbents. Economic policy can be, to a large extent, driven by the ideology of the leadership and it would be interesting to see whether this is mirrored in changes of equity prices. This survey then moves on to investigate whether returns to shareholders are influenced by the timing of elections. According to the political business cycle theory of Nordhaus (1975), incumbents will try to induce an economic cycle that maximizes their chances of staying in office. More specifically, they will pursue expansionary policies in order to reduce unemployment just before elections and leave the unpleasant task of curbing inflation until voting has ended. It would be interesting to see whether such predictable economic policy translates into stock market cyclicity. The discussion contained in Section V examines the magnitude of impact that important political events have on market valuations. The list of events includes wars and international political crises, acts of terror, revolutions and coups capable of overthrowing existing regimes, and issuance of political communications. As will be argued later, each of these events is considered important by markets. Section VI of this literature review focuses on the issue of policy uncertainty and different instruments that can be used to quantify it. It will also engage with studies that measure the risk premium offered to investors who choose to bear political risk. Section VII notes that causality between politics and stock returns is not necessarily unidirectional running from the former to the later. Empirical studies are presented which show that approval

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ratings or voting behavior can indeed be influenced by market swings. The survey concludes with a short summary and suggestions for future research.

II. The value of political connectedness

This section evaluates the literature examining the extent to which shareholders can gain from corporate political connections. It can be argued that such gains can arise, amongst others, from tax discounts, reduced license fees, subsidies, lucrative government contracts, market entry barriers and other regulations that favor one type of company at the expense of another. In their seminal paper, Shleifer and Vishny (1994) considered a theoretical model which incorporated both government subsidies and bribes to politicians. On the empirical side, a significant scholarship has been produced that has attempted to gauge the value of firms' political connectedness. In what follows, a survey of this scholarship is provided.

In her comprehensive study spanning 47 countries, Faccio (2006) estimated the extent of firm's market value creation when a political connection is formed. She reports an average excess return of 1.94% whenever a firm's top officer is appointed or elected to a political position and a return of 4.47% whenever this transpires with a substantial shareholder. The market valued an appointment of a businessman to the role of minister almost ten times higher than their election as a Member of Parliament. Political connections also appeared to be more beneficial in corrupt countries. These results need to be tempered with the fact that no statistically significant market response was observed when a politician who was already in office was appointed as a member of the board. In this particular case, politicians may extract rents from the company they manage and the cost to the company may offset any benefits.

Particularly intriguing and strong results on political connectedness have been reported by authors focusing on emerging markets. For instance, Fishman (2001) estimated the market impact of rumors regarding Suharto's state of health during a period when he held the office of the President of Indonesia. Fishman's estimations reveal that, in the event of Suharto's sudden death, politically unconnected firms would outperform strongly connected ones by about 23 percentage points. Even more astounding evidence is presented by Bunkanwanicha and Wiwattanakantang (2009) who

tracked the evolution of stock prices following the 2001 Thai general elections won by business tycoons. They find that, *ceteris paribus*, the return on firms owned by cabinet members exceeded that on non-connected firms by 160 percentage points during the three year period following the elections. This led to an increase in book-to-market ratio of tycoon-held companies by 242%. The authors interpret their results as evidence of self-interest protection by the powerful. A study by Civilize *et al.* (2015) also concentrated on Thailand, although their sample period was longer and ran from 1985 to 2008. They looked at firms that had a politician or a family member either sitting on the Board of Directors, or holding a substantial amount of the firm's shares directly or indirectly. They found that share prices of companies linked to Prime Minister outperformed unconnected firms by 1.14% per month. Similar estimates for cabinet members and Members of Parliament within the ruling coalition were 0.4% and 0.2% per month, respectively. The political premium tended to be more pronounced whenever political bodies were shareholders of a firm. Similarly, evidence from Malaysia highlighted the importance of political links, in that the valuation of firms with strong political connections appeared to be dependent on the government's ability to grant subsidies and other privileges (Johnson and Mitton, 2003).

A number of related empirical studies examined the impact of unanticipated events, such as defections of politicians from their parties or instances of tragic deaths. This is particularly helpful, as prices in efficient markets incorporate all available information and should react only to unexpected news (Fama, 1970). Roberts (1990) focused on the untimely death of senator and member of the Senate Armed Services Committee Henry "Scoop" Jackson, which occurred due to a ruptured coronary artery. In response to this tragic incident, constituent interests linked to Jackson experienced stock price declines, while those linked to his successor Sam Nunn appreciated in value. In similar vein, Faccio and Parsley (2009) analyzed a multi-country sample of sudden deaths of political figures and found that prices of companies headquartered in the deceased politician's hometown registered a market-adjusted fall in value of 1.7%. Another interesting example of an

unforeseen political event was that of Senator James Jeffords' sudden defection from the Republican Party in 2001. His decision meant that Republicans lost control of the U.S. Senate. Jayachandran (2006) measured the price reaction to this news for firms with different political alignments, as measured by their soft money donations to political parties. She finds that every \$100,000 donated to the Republicans translated into an abnormal change of -0.33% in the contributing company's market valuation during the event week. The valuation change in firms that financially supported Democrats was positive and equal to half of that magnitude.

These findings presented by Jayachandran (2006) suggest that political donations should not be perceived as a consumption good, but rather as an investment. This issue is probed further in Cooper *et al.* (2010), who examined firms' election campaign contributions in the United States. They compile a comprehensive dataset of 'hard money' donations made directly to specific candidates, rather than their parties. It needs to be mentioned at this stage that the Federal Election Commission imposes limits on such contributions which, from a legal perspective, cannot represent an initiation of *quid pro quo* exchange with a politician. Cooper *et al.* (2010) find a significant relationship between firms' future abnormal returns and the number of political candidates they support. The strength of this relationship increased with the politician's ability to help the contributing company. The authors conclude that investment in the political process generates an "extremely high rate of return" for the firm involved and that investors can beat the market by investing in companies supporting many political candidates. The importance of contributions also became apparent in the Bush vs. Gore presidential race in 2000. These hotly contested elections culminated in a recount of votes in Florida that could potentially have determined the winner. The recount, however, was halted after 37 days due to the decision of the U.S. Supreme Court, causing Gore to concede. By looking at this period, Shon (2010) documented that pre-election campaign contributions made by companies to Bush enhanced their stock returns, while those made to Gore

pushed the returns into negative territory. The author also found evidence suggestive of influence-motivated giving and huge *ex post* return on political investment for firms supporting Bush.

Taken together, the studies are suggestive of the fact that politicians use their power to grant preferential treatment to companies that they are linked to. The extant literature reports that this is particularly apparent when politicians hold shares in a company, either it directly or indirectly. Although the process of establishing political connections may be considered a venture that is fraught with peril, it appears to greatly benefit the connected firms. As long as politicians do not capture the entirety of the extracted economic rents, shareholders are bound to gain. While such arrangements may certainly favor the select few, the stock market as a whole may suffer due to prevalence of these practices. Lee and Ng (2006) and Ng (2006) documented that companies in corrupt countries trade, on average, at lower market multiples.

III. Political orientation of the leadership and stock market performance

The choice of macroeconomic policy mix may have important ramifications for shareholders. Within the framework of an extended IS-LM model, Blanchard (1981) theoretically establishes a link between fiscal and monetary expansions and stock prices. The model derived by Shah (1984) indicates that, in the short-run, stock market price of capital can experience jumps in response to implementation of money-financed fiscal expansion, while Croce *et al.* (2012) argue that increases in taxation and government expenditure volatility raise the cost of equity. On the empirical side, Darrat (1988, 1990) uncovers that changes in government budget deficits tend to drive future stock prices in Canada, while Thorbecke (1997) argues that expansionary monetary policy increases ex-post stock returns in the US. Policy choices made by the country's leadership are therefore of great significance and it is likely that they will, at least to some degree, reflect the ideology of the incumbents.

Once in power, political parties may use policy instruments primarily to prioritize the needs of their own electorate. According to the Partisan Theory put forward by Hibbs (1977), parties to the

left of the political spectrum tend to be supported by groups with lower income and occupational status. Since this type of electorate holds human rather than physical capital, it tends to be highly sensitive to unemployment. More affluent members of society and those holding more secure jobs usually support right-wing parties and are more concerned with inflation. Since in the Hibbs' model macroeconomic outcomes move along the Phillips curve, pursuing the goals of low unemployment and low inflation are not compatible. Instead, political parties have to weigh the importance of these two goals according to their ideological inclinations. Consequently, Hibbs (1977) reports high inflation/low unemployment outcomes under Socialist-Labor Parties and a constellation at the other end of the Phillips curve for Conservative Parties. The second generation of models that were developed subsequently incorporated the idea of rational expectations and this is referred to as 'Rational Partisan Theory'. In these models too, parties with different ideologies can affect macroeconomic outcomes, although this is more likely during the first half of their terms in office (Chappell and Keech, 1986; Alesina, 1987; Alesina and Sachs, 1988). One may therefore wonder whether partisan cycles are reflected in the valuation of stocks.

This very question was addressed in a paper by Hensel and Ziemba (1995). They discovered that, during their sample period running from 1929 to 1992, small capitalization stocks earned 20.54% per annum under Democratic administrations and a mere 1.94% under Republican administrations. Not only was this difference statistically significant, but also economically large enough to allow implementation of profitable trading strategies. This finding was later confirmed by Johnson *et al.* (1999) who note that, for the small stocks, the partisan return difference between administrations amounted to over 20% annually. Similarly, Santa-Clara and Valkanov (2003) estimate the return gap between Democratic and Republican presidencies to be 16% for the equally-weighted index and 9% for the value-weighted index. They additionally argue that this anomaly persists even after business cycle variables are taken into account. Finally, the results presented in Belo *et al.* (2013) indicate that the partisan return cycle is not only confined to small cap stocks, but also

particularly evident for companies operating in industries with high exposure to government spending.

These return differentials potentially constitute a violation of the semi-strong form of market efficiency, as it is common knowledge who controls the White House and investment decisions can be easily adjusted to take this into account. On the other hand, perhaps the investment risk may be higher during left-leaning administrations and the observed return distribution could only reflect compensation for risk. This interpretation is vigorously advocated by Sy and Zaman (2011) who show that, in models that allow risk to fluctuate over political cycles, the 'presidential puzzle' can be explained away. This conclusion arises from the fact that market and size risk premiums exhibit significant differences across Republican and Democratic presidencies. In other words, the rate of return required by investors is higher when Democrats are in power and market prices move to reflect it.

If the interpretation of Sy and Zaman (2011) is correct, two results should follow. Firstly, the partisan cycle in returns should be clearly observable, even if investors are rational. Secondly, there should be a price reaction to the announcement of election results. If the required rate of return increases, as is the case with Democratic presidents, investors will start to discount future cash flows more heavily and stock prices should drop around the time when election results are announced. This initial drop will be followed by higher returns during the next four years, as predicted by the 'presidential puzzle' and risk compensation stories. When a Republican is elected, stock prices will experience an immediate increase and this will be followed by rather disappointing returns during the term in office. In other words, the ephemeral announcement effect should be in the opposite direction to the direction predicted by the partisan cycle. This theoretical prediction, which is implicit in the Sy and Zaman (2011) explanation, has been confirmed empirically. Riley and Luksetich (1980) as well as Niederhoffer *et al.* (1970) report that, in short event windows, the stock market reacts positively to Republican victories and negatively when Democrats win the presidential race.

Similarly, Snowberg *et al.* (2007) estimate that stock returns, from election-eve close to post-election close, when a Republican is elected are about 2-3%. Consequently, one may believe that despite predictable patterns in returns, no market inefficiency is present and that investors only receive a just compensation for bearing risk.

The research results obtained for US are not easily generalizable in the international context. For instance, Cahan *et al.* (2005) document that, in New Zealand, real stock returns under left-leaning Labour governments were significantly lower compared to those under right-wing National governments. Anderson *et al.* (2008) confirm this finding and observe that similar tendencies are present in Australia. Evidence from short periods around the British general elections seems to indicate that the market prefers the rightist Conservative Party (Herron, 2000; Hudson *et al.*, 1998; Gemmil, 1992), however when looking at the returns during the entire period in office, there appears to be no significant difference in nominal or real returns across Conservative and Labour governments (Hudson *et al.*, 1998). Füss and Bechtel (2008) show that, during the 2002 German federal elections, returns on small stock were positively related to the probability of a right-leaning coalition victory, while Döpke and Pierdzioch (2006) argue that, in general, German stock returns tended to be marginally higher under right-wing than left-wing governments. Bialkowski *et al.* (2007) use a comprehensive sample of 24 OECD countries to investigate the influence of political orientation of the executive on local stock market fluctuations. The type of elections they focus on depends on whether a country is operating a presidential or parliamentary system. After analyzing 173 governments and presidencies they conclude that there are no statistically significant partisan differences in returns, regardless of whether the whole incumbencies or only election periods are considered. In summary, political preferences of stock market investors are likely to depend on country-specific environment and simple generalizations are unlikely to capture the whole complexity of the international political landscape.

IV. Political Business Cycle and Elections

The political business cycle model was first developed by Nordhaus (1975), who assumed that politicians face a trade-off between inflation and unemployment which is dynamic in nature. In other words, the occurrence of inflation may lag expansionary policies aimed at reducing unemployment. In a model in which the sole goal of incumbents is to remain in office and in which voters are myopic, a macroeconomic cycle will occur. In order to gain popular support prior to elections, incumbents will try to implement expansionary policies to induce economic prosperity. Much of the resultant inflationary pressures will emerge in the post-election period after the public has cast its votes. Harsh anti-inflationary measures will have to be implemented, possibly resulting in recessionary tendencies. Consequently, the incumbents' term in office will typically start with austerity and end with a period of excesses. MacRae (1977) notes that the assumption of myopic voters is crucial to the model and tests it using election periods in the US. The results he arrives at can be best described as mixed. Alesina and Roubini (1992) as well as Hibbs (1992: 386) note that introducing rational expectations into the model would be equivalent to attenuation of the political cycle.

It would be interesting to verify whether the political actions described by Nordhaus are reflected in the distribution of stock returns, which is exactly what Allvine and Neill (1980) endeavored to do. They argued that, since 1960, US macroeconomic policy has been actively managed to coincide with the election cycle and that this has been mirrored in the stock market. Equities offered remarkably low returns in the first two years following elections and rewarded investors handsomely in the second half of the term. The authors confirmed the existence of this 208-week cycle by means of spectral analysis and argued that lucrative trading was possible for those who had timed their investments in line with the recurring political pattern. Herbst and Slinkman (1984) corroborated these earlier findings using Bartels' test, which was initially invented to investigate geophysical and cosmical periodicities. Huang (1985) remarks that, during the 1961-1980 period, the annualized return difference between the second and first half of presidential

terms exceeded 24 percent. He also advised investors to stay out of the stock market during the first two years of Republican administrations. Hensel and Ziemba (1995), as well as Gärtner and Wellershoff (1995), note that the predictable political cycle was observed for small and large capitalization stocks alike and that it showed up during both Democratic and Republican rule.

To rationalize this 'pendulum pattern' of the US stock market, Stoval (1992) departs from the political business cycle story and instead refers to the disillusionment that is likely to follow hyped-up election campaigns. On the other hand, as new elections draw closer, the market is filled with reinvigorated hope and believes that either a competent President will be re-elected or an unpopular one will be cast out of office. In other words, it could be the investors' sentiment, rather than the politically fine-tuned macroeconomy, that generates the cycle. Booth and Booth (2003) check whether the presidential cycle in returns will still be observable after business cycle variables like term spread, dividend yield and default spread are controlled for. They find that the pattern in returns does not merely reflect business conditions and can therefore be attributed to market sentiment. Just like Stoval, they argue that the beginning of a new term in office can often be described as a period of disenchantment, due to the myriad broken election campaign promises. However, as the term comes to an end, a feeling of optimism is likely to permeate the market, due to anticipation of good outcomes in the new elections. A more recent study by Kräussl *et al.* (2014) similarly shows that the presidential election cycle is not a phenomenon generated by business cycle variation, risk or manipulation of policy instruments, which does rule out the Nordhaus-type and other rational explanations. At the same time, however, the authors remain skeptical whether sentiment alone can be propounded as an explanation for this anomaly.

All of the papers cited in this section so far were preoccupied with investigating the US stock market. It needs to be pointed out, however, that international evidence on the election cycle in returns is rather weak. By looking at UK data, Hudson *et al.* (1998) conclude that neither the Labour nor the Tory party were able to generate significantly greater stock price increases prior to elections.

Döpke and Pierdzioch (2006) fail to find an overwhelming evidence of the election cycle in German stock returns. Bohl and Gottschalk (2006) use a comprehensive sample of 15 countries and discover that only in three of them were returns significantly higher in the second half of a government term. When aggregating all of the countries in a panel framework, they find that it is impossible to reject the hypothesis of no politically-induced cycles. An international investigation, however, is more complicated due to the fact that, unlike the US, many nations allow early elections. While, in most markets, it may be impossible to detect cycles induced by domestic elections, Foerster and Schmitz (1997) argue that there appears to be a cross-border transmission of the US election cycle. In other words, this type of US political risk may not be diversifiable in an international portfolio.

In addition to inducing predictable patterns in economic performance and market sentiment, elections can also provide new information to markets. This is because, prior to elections, investors can only envision a probability distribution related to who will set future policies in the medium-term. This uncertainty is resolved at the ballot box. Nevertheless, stock market volatility can increase in the short-run due to an election surprise. As some investors are astonished by the official results, they rebalance their portfolios to reflect changes in their expectations, making stock price fluctuations larger. By looking at 27 OECD countries, Bialkowski *et al.* (2008) find that the country-specific part of stock index return variance is significantly elevated during periods of national elections. Boutchkova *et al.* (2012) further note that volatility around vote-casting periods is increased by greater magnitudes in industries that are more sensitive to political factors. These empirical observations are reinforced by the theoretical model of Pástor and Veronesi (2012) predicting that policy changes should raise stock return variances and markets should compensate investors for taking on this risk. There is some evidence that moderate compensation for accepting election risk exists in the form of higher returns, although the statistical significance of this finding is debatable (Pantzalis *et al.*, 2000; Bialkowski *et al.*, 2008).

V. Impact of Political Events on Stock Prices

This section evaluates the influence of specific political events on stock prices. While the universe of all possible political events is immense, the review presented has been constrained due to practical considerations and literature availability. We will begin with the consideration of issues related to military and political crises and move on to reflect on the consequences of terrorist attacks. A description of how stock markets react to revolutions, *coup d'états* and assassination attempts on political leaders will follow. The section will end with an explanation of how political speeches and communiqués are interpreted by investors and reflected in stock prices.

5.1 Wars and International Political Crises

One type of political development, namely cross-border military conflicts, has particularly grave consequences. Nordhaus (2002) refers to wars as the 'ultimate negative sum games' due to the enormous costs involved and the heedless destruction of human and physical capital that occurs. In his view, armed conflicts are entered into by nations who either underestimate the direct and indirect costs of combat or overestimate the likelihood of victory. The impact of warmongering on the economy and investors' sentiment is potentially immense. Some researchers, such as Deger and Smith (1983) or Cappelen *et al.* (1984), documented that large military expenditure retards economic growth and investment. These findings seem to hold for both OECD and less developed countries.

The most recent war in Iraq was the subject of several empirical inquiries that measured the influence of conflict on stock market behavior. Rigobon and Sack (2005) show that investors were swayed away from risky assets by the war risk and moved to safer or more liquid alternatives. The war risk caused stock market prices to decline and accounted for a large proportion of stock market fluctuations. In their research, Wolfers and Zitzewitz (2009) used information derived from securities listed on Tradesports that offered a certain payoff if Saddam Hussein were to be ousted from power. The price of these "Saddam contracts" was a reflection of the generally perceived probability of Hussain's fall. The authors document that, before the military engagement, a 10 percentage point

increase in the probability of war led to a 1.5% decrease in the S&P500 index. Amihud and Wohl (2004), however, argue that once war started, the increasing probability that Saddam would not be recognized as an official leader had to be interpreted as good news. This is because it signified a shorter and less costly intervention. As a result, during the war, the probability inferred from “Saddam contracts” was positively associated with stock prices.

Instead of focusing on a single conflict, a number of researchers have endeavored to arrive at generalized conclusions by examining larger samples. For instance, Berkman et al. (2011) look at 447 international political crises – crises that may have in some cases escalated into full-blown wars. They argue that, had the crises episodes been absent in the past, world stock returns would have been higher by 3.6% per annum. Crises also seemed to increase earnings-price ratios and dividend yields and their start was accompanied by elevated return volatility. By looking at the post-1987 period, Omar *et al.* (2012) analyze the impact of 43 wars, defined as episodes of direct cross-border violence. In their event window starting 50 trading days before the outbreak of war and ending 50 trading days thereafter, the returns attributable to the conflict were -3.47% for the World stock market index and -4.67% for S&P500. Finally, Wisniewski (2009) focused on the US market during WWII, the Korean War and other military engagements authorized by Congress. He concluded that, throughout the duration of the conflicts, the market value of stocks relative to their estimated fundamental values was lower than usual. From the studies cited above, it can be clearly inferred that armed hostilities are detrimental to humankind in general and to stock markets in particular.

5.2 Terrorist Attacks

In addition to wars, the other issue that became the focal point of media and public opinion is the use of terror. Title 22 of the US Code, Section 2656f(d2) defines the term ‘terrorism’ as ‘premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents’. One may argue that terrorist attacks may also be driven by religious beliefs, however religion is usually interwoven in the fabric of political life.

Our overview begins with the contribution of Karolyi and Martell (2006), who looked at 75 terrorist attacks directly targeting publicly listed companies. The authors find that, on the day of the event, affected firms experienced an abnormal stock price decline of 2.2%. This impact appeared less severe (-0.83%) when 9/11 was excluded from the sample. Furthermore, incidents that occurred in richer and more democratic countries and those in which human capital was destroyed induced a stronger negative market reaction. Instead of focusing on individual companies, Broun and Derwall (2010) examined the behavior of stock market indices in countries where terrorist attacks have taken place. They found that the abnormal return amounted to -0.92% on the event day - a more powerful response compared to that caused by earthquakes. Arin *et al.* (2008) argued that terror does not only affect the level of prices, but also changes return volatility. Additionally, Drakos (2010) showed that the adverse stock market response can be exacerbated if attacks are followed by strong psychological effects.

Many authors argue that prices are able to rebound after an initial drop. Chen and Siems (2004) show that the US market became more resilient to terrorist attacks over time and nowadays recovers more quickly. One of the reasons could be that, in exceptional circumstances, the Federal Reserve System can decide to provide liquidity through the banking and financial sectors. Kollias *et al.* (2011b) examined market behavior in Spain and UK around the Madrid bomb attacks in 2004 and the attack in London one year later. They note that the price effect was transitory and note that the London Stock Exchange recovered much faster. The dissimilarity in speed of recovery was attributed to differences in size, structure and liquidity of the markets. The comparison of the stock exchanges in London and Athens performed in Kollias *et al.* (2011a) similarly revealed that the price effects were ephemeral in nature and that the smaller market was more sensitive to terrorism in terms of its volatility.

The severity of price responses to acts of terror may vary across industry groupings. Carter and Simkins (2004) documented that the prices of airlines proved to be particularly sensitive,

especially around the 9/11 attack. Not only did airlines suffer due to the loss of airplanes and the four-day flight ban but, more importantly, faced significant declines in air travel. Drakos (2004) showed that betas of airline stocks more than doubled following this hijacking episode. Cummins and Lewis (2003) point out that insurers can be also strongly affected. This is perhaps unsurprising, considering that, at the time of its occurrence, the destruction of the World Trade Center was the largest insured loss event ever recorded. In a comprehensive study measuring the impact of terrorism, Chesney *et al.* (2011) confirm that the prices of insurers and airlines decline most, whilst the banking sector is least sensitive.

Many countries have been plagued with episodes of terror. For instance, Spain and France experienced a violent campaign of the Basque separatists that led to many casualties. Barros and Gil-Alana (2009) and Barros *et al.* (2009) show empirically how the intensity of violence in the Basque Country detrimentally affects the local Bilbao Stock Exchange index. Israel is another example of a country that suffered greatly at the hands of terrorists. During the 14-year period starting in 1990, Eldor and Melnick (2004) recorded 639 terror attacks in which 1212 people in Israel were killed. They found that suicide attacks had a permanent effect on local stock prices. This means that investors did not perceive them as one-off events that are unlikely to reoccur in the future. Furthermore, the authors argued that markets do not become desensitized to terror and incorporate news about violence in an efficient way.

Zussman and Zussman (2006) evaluate changes in stock prices around the Israeli assassinations attempts on Palestinian leaders of organizations such as Hamas, Fatah and Islamic Jihad. In doing so, they hope to gain some insight into the effectiveness of such counterterrorism policies. They show that, *ceteris paribus*, an assassination of a senior Palestinian political leader leads to declines in stock market valuations, whereas an attempt on a senior military leader's life causes both Israeli and Palestinian stock indices to increase. This means that the first type of assassinations

is viewed as counterproductive in combating terrorism, while the second type could be described as an effective measure.

5.3 Challenges to Domestic Leadership

Challenges to leadership can manifest themselves in many ways, one of which could take the form of revolutionary movement. Recently, the world has witnessed the waves of protest and demonstrations that swept through Muslim countries. This series of events brought about regime changes in Tunisia, Egypt and Libya and became known as the Arab Spring. Acemoglu *et al.* (2014) investigate the power struggle that took place in Egypt between Hosni Mubarak, supported by his National Democratic Party (NDP), the military and the Muslim Brotherhood. By looking at the stockholders, board membership and operations of companies listed on the local stock exchange, the authors link some of them to these three power-groups. The first regime change observed in their sample transpired when, due to large-scale demonstrations on Tahrir Square, Mubarak resigned and surrendered his power to the military leadership on February 11, 2011. The authors show that, over the next 65 days, the NDP-connected firms lost 13.1% of their market value relative to non-connected firms. On June 24, 2012 a member of the Muslim Brotherhood Mohammed Mursi was elected president, but was forced out of office by a military coup on July 4, 2013. Protests on Tahrir Square were taking place during the incumbency of all three power-centers and Acemoglu *et al.* (2014) document that the daily number of protesters negatively affected the returns of companies linked to the incumbents. These results demonstrate how stock markets are able to recognize political tensions and infer the implications of these tensions for specific firms.

The Egyptian situation exemplifies how coups can overthrow the leadership of a country. By looking at the situation in the Philippines, Bautista (2003) observes that the military coups that took place in 1987 and 1989 destabilized the local stock market by increasing return volatility. Dube *et al.* (2011) provide additional intriguing evidence on CIA-orchestrated coups in foreign countries. Typically, the Central Intelligence Agency attempted to topple regimes that had nationalized the

property of multinational corporations. In cases where such coups were successful and new leadership was installed, this property would be returned to its rightful owner. This meant that some companies stood to benefit from top-secret coup authorizations. Dube et al. (2011) look at four declassified coups where the goal was to change the regime and where the government had expropriated the property of multinational corporations listed on a stock exchange. They find that the cumulative abnormal return to fully nationalized companies in a 4-day event window beginning with the coup authorization date amounted to 9.4%. This suggests that people who were in possession of classified information used it in their stock trading. To some extent, this finding supports the strong-form of market efficiency, in that even political information that has not yet been disclosed to the public is incorporated in stock prices.

Another event that can instigate major political transition is an assassination attempt on a political leader. Markets seem to be acutely aware of this fact, which was clearly demonstrated by the events that transpired on April 23, 2013. On that day, the Twitter account of Associated Press was hacked and a hoax tweet about two explosions at the White House was released. President Obama was allegedly injured in these explosions. This message sent markets into a freefall. The Dow Jones index dropped by about 150 points and \$136 billion was wiped off stock market capitalization (Zamansky, 2013). The markets rebounded swiftly after the situation was clarified by Associated Press. Nevertheless, this incident clearly illustrates the possible ramifications that can occur. Overall, therefore, it can be argued that non-democratic power transitions arising from *coup d'états* and assassinations, as well as political changes incited by revolution, can have profound consequences for the pricing of stocks.

5.4 Political Communications

The last type of event examined here is less grave than those considered above. More specifically, the focus is on political speeches and communiqués that could possibly influence stock market fluctuations. Do proclamations made by politicians merely contain empty rhetoric or do they

convey new information to the market? This question was investigated by Wisniewski and Moro (2014), who examined communications arising from European Council meetings. To quantify the characteristics of these textual announcements, they applied content analysis software called General Inquirer. The software measures the frequency with which words occurring in the text fall into certain categories. For instance, their category labeled 'positive' includes a list of 1,915 words, such as 'abundance', 'accolade' or 'accomplishment'. Using these frequencies, Wisniewski and Moro showed that several linguistic dimensions correlate with returns on European and world stock market indices around the announcement date. More specifically, they showed that positive language and one that expresses a position of moral rectitude are highly valued by the market. On the other hand, when the text is obscured by abstract vocabulary and discussion is focused on regional rather than global issues, stock prices decline. Taken together, it appears that this type of political communication conveys valuable information to the market and is not just a collection of vacuous diplomatic platitudes.

Another study by Durnev *et al.* (2014) analyzed 'state of the state' speeches, which are usually delivered annually by US Governors. By using linguistic software called Diction, they gauged the optimism contained in these speeches. The authors showed that the level of optimism is significantly and positively related to abnormal returns of firms headquartered in the Governor's state. Also, some evidence was found that addresses characterized by a greater degree of certainty are more welcomed by markets. These findings however need to be tempered with the fact that no robust reaction to the use of pessimistic words was detected. Durnev *et al.* (2014) go on to argue that the tone of speeches can also affect investment and employment decisions of the local firms. Clearly, markets listen carefully to statements made by politicians and update stock values by taking ongoing political rhetoric into account.

VI. The Impact of Political Uncertainty

The amplitude of stock market fluctuations has posed a long-standing puzzle to financial economists. Shiller (1981) argued that the volatility of stock prices is five to thirteen times higher than that implied by rational dividend discount models. Schwert (1989) demonstrated that only a small proportion of changes in stock return variability can be explained by financial and economic factors. Considering the failure of conventional models to capture the underlying phenomenon, a number of scholars decided to focus their attention on political uncertainty as a possible root cause for large valuation swings. For instance, Bittlingmayer (1998) examined the extreme political struggles taking place in Germany during WWI and the Weimar Republic, which arose from the burden of war, revolution, rampant hyperinflation and anti-capitalist movement. He argues that, based on German experience, it is apparent that political uncertainty can both increase stock volatility and induce recessionary pressures.

Attempts to construct indicators measuring changes of political risk over time have been made. Baker *et al.* (2013) develop an economic policy uncertainty index which is based on the number of articles about policy uncertainty in leading newspapers, forgone revenue from expiring tax code provisions and disagreement among analysts about future levels of inflation and government expenditure. Pástor and Veronesi (2013) show that this index is positively correlated with both realized and implied volatility of S&P 500. What is more, Antonakakis *et al.* (2013) demonstrate that time-varying correlations between this economic policy uncertainty index and stock market returns remain in the negative territory for the vast majority of their sample period. In other words, risks created by unstable political environment reverberate in financial markets and diminish shareholder wealth. The only exception to this rule, as argued by the authors, was a period of recent bailouts, during which an increase in banks' stock prices and high policy uncertainty were simultaneously observed.

Political Risk Services constructed another interesting indicator and included it in their International Country Risk Guide (ICRG) database. Data on this political risk variable is available for many countries and aggregates analysts' opinions on 13 political risk attributes, such as corruption, the role of military in politics, external conflicts and political terrorism.² Using the ICRG dataset, Diamonte *et al.* (1996) show that emerging countries experiencing political risk upgrades outperform those that were downgraded by 11.28% in the quarter of the rating change. This difference is smaller for developed markets and amounts to 2.46%. This suggests that political risk is reflected in discount rates and that, when faced by lessened political uncertainty, investors tend to discount future cash flows less heavily. Using a different methodology, Bilson *et al.* (2002) confirm that market participants active in emerging markets are compensated for taking on additional political risk.

Some authors used other proxies for political turbulence. For instance, Bailey and Chung (1995) use the return spread between dollar-denominated bonds issued by the Mexican government and U.S. Treasury notes. This spread can be expected to increase whenever political uncertainty in Mexico is exacerbated. By examining the distribution of stock returns, the authors find evidence of time-varying risk premiums for this type of risk. On the whole, therefore, we can conclude that political uncertainty is an important factor that is reflected in stock prices, particularly in emerging countries. Developed markets can be more immune to it, as the likelihood of extreme events, such as expropriation or nationalization of private property is practically negligible.

VII. Reverse Causality – Can Stock Markets Affect Political Outcomes?

It is possible that investors' perception of the incumbent is colored by the performance of the stock market. If this assertion holds true, the ruling party will be able to take credit for stock

² For detailed information on the construction of this variable see the Appendix in Diamonte *et al.* (1996).

market booms, but will also be blamed for crashes. Since it has been long established that people's voting behavior is influenced by past economic performance (Fair 1978; 1996), it is also conceivable that incumbents could be held accountable for changes in prices of common equity. Döpke and Pierdzioch (2006) document that this is indeed the case in Germany, where the government's popularity seems to be driven by excess stock returns. Similarly, using US data going back as far as 1824, Prechter *et al.* (2012) show that an incumbent's popular vote margin in presidential re-election bids is strongly related to past net returns on the stock market index.

Voters may not only assess politicians by looking at past economic and market performance, but may also reflect on the future consequences of their actions (MacKuen *et al.*, 1992; Erikson *et al.*, 2000). In their research, Wisniewski *et al.* (2012) use the markets price-to-earnings (P/E) ratio, which is a prospective measure. Since it increases with the anticipated growth rate and declines with predicted future risk, the authors label it 'a composite measure of investors' hopes and fears'. Their results indicate that the P/E ratio is strongly and positively associated with presidential approval ratings, even after controlling for a wide range of macroeconomic and political variables.

Consequently, it appears that investors' gains and their expectations about the future are closely related to an incumbent's popularity and likelihood of re-election. Many existing models do not recognize the possibility of a bi-directional feedback loop between politics and stock prices. Such recognition would have important theoretical and econometric implications. Future research in this field should strive to appreciate such complexities of the relationship.

VIII. Conclusions

The literature reviewed in this survey offers several useful observations. First, the connections between politicians and companies have the potential to generate benefits to both parties. As long as the politician does not appropriate all rents arising from the collaboration, shareholders are likely to profit. Secondly, certain predictable patterns have been observed in the US market. Stock returns

tend to be higher during Democratic administrations and throughout the second half of a presidential term. However, investors should exercise caution, as similar anomalies are not necessarily observable in other countries. Thirdly, important political events imprint themselves on the distribution of stock returns. Wars, which frequently result in widespread destruction of human and physical capital, lead to stock market falls. Similarly, a terrorist attack is typically associated with stock price declines, although the market tends to rebound quickly when investors believe that it is a one-off unrepeatable event. Regime changes produced through revolutions and coups are likely to benefit some firms and disadvantage others, which seems to be efficiently reflected in the prices of individual stocks. Moreover, investors seem to react to political proclamations and speeches and carefully analyze their content. Lastly, political uncertainty is more important in emerging countries, where markets compensate investors for taking on such risk. This is perhaps because the likelihood of expropriation, nationalization, blocked funds or other types of detrimental government interference is higher in these countries.

While the research conducted thus far is informative, more needs to be done to fully appreciate the interaction between politics and stock markets. Firstly, further analysis needs to be done on the direction of causality. Perhaps politicians are held accountable for stock market performance and wide fluctuations in equity prices can affect political outcomes. Secondly, the studies reviewed here are almost entirely empirical in nature. There is a need for more theoretical research, which will instruct investors on how to precisely adjust their valuation models to take account of political developments. Thirdly, it would be illuminating to see more studies employing cross-country analysis. Such studies would help to establish whether the political anomalies observed in the US stock market are genuine or have arisen as a result of data mining.

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