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978-0-521-86122-9 - Democratic Processes and Financial Markets: Pricing Politics

William Bernhard and David Leblang

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## Introduction

Political processes — elections, cabinet formations, referenda, legislative debates — determine a government's economic policies, which, in turn, condition the environment for investment. By anticipating the results of these processes, savvy investors can re-allocate their portfolios to meet a changed policy context. Asset owners, therefore, have a keen interest in predicting political outcomes: Which party will win the election? Who will form the government? What will be the new government's policy priorities?

The collective decisions of investors, in turn, shape how markets respond to political processes. Whether markets react to political events in a systematic manner remains an open issue. Do asset prices behave differently when left parties are in office? Will the election of a particular candidate cause a run on the currency? Does divided government — where the executive comes from a different party than a majority of legislators — cause a market downturn?

The consequences of these market responses extend far beyond questions of portfolio allocation. The investment decisions of asset owners fundamentally shape economic performance. Shifts in asset allocation can sustain an economic upswing or cut-off growth. With the technological and financial integration of asset markets, price movements can cascade across borders and markets, creating a world-wide boom or a systemic crisis.

Changes in market conditions have distributional consequences as well. Economic actors reliant on the stock market for income — firms, pensioners, etc. — are vulnerable not only to falling equity prices but also to volatility in market returns. Individuals or firms employed in export oriented and import competing industries see their fortunes rise and fall with fluctuations in the exchange rate. And changes in the market for government bonds may place public expenditures at risk if governments have to pay a higher rate to borrow.

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Asset markets can also exert tremendous influence on political processes. Sharp price shifts, for instance, can threaten the approval ratings of incumbent politicians. Declining asset prices may signal government weakness. Increases in the costs of borrowing limit fiscal policy flexibility, preventing politicians from funding new policy initiatives or forcing them to cut popular programs.

Indeed, some political economists contend that the nature of capital markets threatens the quality of democracy by limiting the choices available to voters. Owners of mobile capital may react to “unfavorable” election outcomes by shifting their assets out of a market or even out of the country, punishing voters for choosing politicians unfriendly to their interests. As global markets become increasingly integrated and market actors have an ever larger range of cross-border investment options, the pressures on politicians to provide a pro-market policy environment intensify. To ensure continued investment – and continued economic growth – politicians must favor the interests of capitalists over the policy demands of other constituents. In anticipation of a potential market reaction, therefore, politicians may adopt policies and institutions to benefit asset owners. Voters, too, may expect such a market shift and alter their vote choice away from their own preferred party to one that will cater to the needs of the market. Asset owners, therefore, compel governments to adopt policies and institutions that favor their interests, even without taking any overt action.<sup>1</sup>

While political economists have identified the potential implications of larger, more integrated capital markets for democracy, they have not closely investigated the mechanisms that connect political events and market behavior. In fact, markets respond to political events in a variety of ways. In some instances, markets react calmly to political changes. In others, political events touch off frenetic market activity. Without a better understanding of the links between politics and asset markets, we cannot draw strong conclusions about the consequences of financial market integration for democratic governance.

In this book, we explain and empirically evaluate the conditions under which political events affect asset markets. We demonstrate that the political uncertainty created by democratic political competition can

<sup>1</sup> The basic outline of the argument extends back to Marx. The “classic” contemporary versions of the argument are Lindblom (1977) and Block (1977). For more recent arguments along these lines, see Garrett (1995), Goodman and Pauly (1993), Strange (1996), and Andrews (1994).

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induce sharp changes in currency, bond, and equity market behavior, potentially hurting economic activity. We also draw out the political consequences of this financial market behavior. Turmoil in financial markets can have political costs, reducing public approval and increasing the costs of borrowing. Our results, therefore, can help explain recent institutional reforms in the industrial democracies. With deeper levels of financial market integration, both owners of financial assets and politicians have an incentive to support institutional reforms to (1) reduce political uncertainty and (2) limit potential financial market volatility.

## INVESTMENT PORTFOLIOS AND FINANCIAL MARKETS

Financial markets, where economic actors trade financial assets such as bonds, stocks, currency, and real estate, are indispensable to a well-functioning economy.<sup>2</sup> These markets allow economic actors – individuals, firms, and/or governments – access to pools of capital by matching borrowers and lenders. Borrowers can forgo future consumption for present consumption by borrowing today and repaying tomorrow with interest. Lenders give up immediate consumption in the hopes that future consumption will be enhanced by making a profit on their investment.

In these markets, assets are bought and sold at different prices. Two factors condition the price behavior of these assets. First, the price is a function of the demand for and supply of capital. When little demand for (or large supply of) an asset exists, the price will be low. Strong demand and limited supply, on the other hand, result in higher prices.

Prices also reflect the risk associated with the holding of an asset. The pay-off from owning an asset often occurs in the future. Consequently, the expected return may not be realized. Risk is a relative, rather than absolute, concept: we can only compare the risk of two assets at a single point in time or the risk of a single asset across two points in time. Typically, investors require compensation for holding a risky asset. For instance, a stock of a start-up company may pay a slightly higher rate of return than a blue-chip stock because the risk of the company going bankrupt is higher.

The variety of financial markets provides economic actors with the ability to transfer wealth and risk across time and space. They also allow

<sup>2</sup> We do not examine issues related to the origin, transformation, and regulation of markets across countries and over time. The literature on financial development is voluminous: for example, Rajan and Zingales (2003), North (1981), Neal (1990), Bernstein (2004), and Smith (2003).

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investors to hold a diversified portfolio of assets. Diversification permits investors to spread or reduce the overall risk associated with delaying consumption and investing. Understanding how individual investors balance risk and return should, in theory, yield clues about overall market performance. Indeed, the major models of finance, the capital asset pricing model, arbitrage pricing theory, etc., begin with assumptions about the micro-behavior of individual investors to generate predictions about aggregate market behavior. We discuss these models in subsequent chapters.

Investors can diversify across a variety of assets and markets. We focus on three in this book: bonds, stocks, and foreign exchange. Bonds represent promises made by the borrower to the lender that a fixed amount of capital, with interest, will be repaid at the time of maturity. Some bonds also periodically pay a fixed amount of interest between the time of issue and the time of maturity. Both corporations and governments issue debt instruments in the form of bonds to finance long- and short-term expenditures and to counteract shortfalls in revenue.

Corporations and firms can raise funds by issuing stock or equity. For investors, equity instruments provide an ownership interest in the firm and the promise of a share of the company's profits if there are any to be had. Ownership and profits are proportional to the amount of the firm's stock owned by the investor.

Economic actors may also trade in foreign exchange markets. These markets allow individuals and firms to diversify risk by purchasing and holding currency issued by foreign governments. Foreign exchange is traded largely in two different types of markets: spot and forward markets. In spot markets, currency is bought and sold today for immediate delivery. Forward markets, on the other hand, allow a contract to be signed today at a given price for delivery of the currency at some point in the future. Forward currency markets are especially important to firms engaged in cross-border transactions as they provide an opportunity to hedge their currency risk/exposure when future changes in the spot rate of a currency are unknown.

Stock, bond, and currency markets are broadly accessible to individuals, firms, and governments. And they are deep: trading in these assets reaches well over one hundred billion dollars *a day*. Most importantly, we can observe changing behavior in these markets on a daily – and in some cases on an even more disaggregated – basis, making them the perfect laboratory within which to evaluate the impact of democratic politics.

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## EXPLAINING MARKET REACTIONS TO POLITICAL EVENTS

A small interdisciplinary literature explicitly examines how democratic political processes – elections, cabinet negotiations, etc. – affect financial markets.<sup>3</sup> These studies reveal considerable variation in how markets respond to political events. Attempts to explain this variation have, for the most part, centered on institutions and partisanship.

Some political economists argue that the configuration of political and economic institutions conditions how investors will perceive the impact of a potential political change.<sup>4</sup> Institutional commitments that insulate economic policy from the direct control of elected politicians enhance policy stability, reassuring market actors that policy will not drastically change in the event of a partisan shift in the composition of the government. Therefore, institutions that limit policy discretion, like an independent central bank or an exchange rate commitment, should diminish market reactions to political events. Others argue that institutions that produce policy continuity will reduce market volatility. Some contend that proportional representation electoral systems, where legislative seats are distributed to parties in proportion to their vote totals, are more likely to limit policy fluctuations than winner-take-all majoritarian systems and, therefore, will dampen price shifts.

A second set of explanations centers on partisanship.<sup>5</sup> These arguments assume that parties differ in their policy priorities, based on the interests of their constituents. Right parties appeal to middle- and upper class voters and emphasize price stability and fiscal balance. Left parties, drawing support from the working classes, place more weight on employment and redistribution. These policy objectives suggest that asset owners prefer right parties to left parties. Political economists have evaluated whether the partisanship of the incumbent, a change in the partisan composition of the government, and the direction of partisan change systematically move markets.

Attempts to link institutions and partisanship to variations in market behavior have had, at best, mixed empirical support. For every paper

<sup>3</sup> See, among others, Bachman (1992), Bernhard and Leblang (2002), Blomberg and Hess (1996), Christodoulakis and Kalyvitis (1997), Eichengreen, Rose, and Wyplosz (1995), Freeman, Hays, and Stix (2000), Leblang and Bernhard (2000, 2001), Leblang and Mukherjee (2004), Lobo and Tufte (1998).

<sup>4</sup> For example, Bachman (1992), Blomberg and Hess (1997), Freeman, Hays, and Stix (2000).

<sup>5</sup> For example, Alesina and Rosenthal (1995), Alesina, Roubini, and Cohen (1993), Alt and Crystal (1983), Franzese (2002), Fiorina (1991), Hibbs (1987), and Leblang and Mukherjee (1994).

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finding that, say, an independent central bank limits exchange rate volatility or that right parties strengthen stock market performance, there is another paper showing that the independence of the central bank is irrelevant to currency market behavior and that stock markets rally when left parties are in power.<sup>6</sup> Surveying the literature on market behavior surrounding political events, few consistent patterns emerge.

The failure of simple hypotheses underscores the need for more theoretical development about the conditions under which democratic politics affect market behavior. We argue that previous explanations fail to model adequately the information available to market actors. While institutions and partisan cues provide a context for the information available to market actors, they do not capture the dynamic flow of information during a political process. Thus, these studies are unable to capture how market actors form and update their expectations in response to political developments.

#### POLITICAL INFORMATION AND MARKET BEHAVIOR

Given the mixed findings of previous research, it is tempting to conclude that political events have little systematic effect on market behavior. But the strong intuition that politics matters for markets remains. The widespread reporting of political events in the business-related news media implies that markets do respond to politics. Sharp shifts in market behavior during several electoral campaigns provide anecdotal support. Why, then, are the results of academic research so inconsistent?

We contend that the mixed results reflect the difficulties of mastering different disciplines. Too often, political scientists investigate asset markets without taking advantage of the extensive research in economics and finance on the behavior of these markets. (Indeed, our first paper on the topic came back from the review process with a rather unobtrusive suggestion that we learn something about how markets actually work before putting anything in writing.) On the other hand, financial economists often come at the problem with a naïve and under-developed understanding of political phenomena. Only by combining the two sets of research can we evaluate how markets respond to politics. This book, therefore, takes an interdisciplinary approach, drawing theoretical insights and empirical strategies from political science, finance, and economics. Using

<sup>6</sup> To explain these latter results, political economists speculate that investors shift to stocks as a hedge against the potentially inflationary consequences of a left government.

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sophisticated models from both political science and finance, we hope to introduce more rigor and precision to how political economists study capital markets.

As with many analyses of asset market behavior, we build from the assumption that market actors engage in economic activity in efficient markets.<sup>7</sup> The efficient markets hypothesis (EMH), simply defined, states that asset prices immediately and fully reflect all available and relevant information (Fama 1991).<sup>8</sup> As soon as information hits the market, it is incorporated into asset prices. Market actors, therefore, cannot make excess profits (relative to the risk(s) they have undertaken) by utilizing trading strategies based exclusively on publicly available information.

Economists distinguish different types of market efficiency based on the information sets available to market actors. The weak form of efficiency assumes that past prices cannot be used to make abnormal returns (profits). That is, current prices are a function of information related to past prices and trading volumes. The semistrong form of efficiency means that public information cannot be used to make abnormal profits – in other words, prices reflect all publicly available and relevant information. Finally, the strong form of efficiency presupposes that prices reflect all relevant information at all times, including private information (e.g., insider trading).<sup>9</sup>

The idea of market efficiency is closely related to the statistical model of a “random walk.” A variable follows a random walk if changes from the present value of the variable occur randomly, although these random changes are drawn from a known distribution. The efficient markets

<sup>7</sup> Recently, some scholars have argued that, given certain conditions, market actors can deviate from pure rational behavior. Models in the “behavioral finance” literature propose that market equilibria can be understood in terms of “sunspots” or with reference to “fads” or “herd” behavior. Most importantly, this literature identifies the importance of non-economic information in providing focal points to economic actors. From this perspective, the theoretical arguments and empirical evidence presented in this book are consistent with the behavioral finance approach to financial market behavior. See Thaler (1992), Barberis and Thaler (2002), and Shleifer (2000) for surveys.

<sup>8</sup> This view, it should be noted, reflects an evolution in thought regarding efficient markets. When introduced into the economic literature thirty five years ago an efficient market was defined as one which “adjusts rapidly to new information” (Fama, Jensen, and Roll 1969).

<sup>9</sup> Malkiel (2003) puts it nicely: “A capital market is said to be efficient if it fully and correctly reflects all relevant information in determining security prices. Formally, the market is said to be efficient with respect to some information set . . . if security prices would be unaffected by revealing that information to all participants. Moreover, efficiency with respect to an information set . . . implies that it is impossible to make economic profits by trading on the basis of [that information set].”

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hypothesis implies that asset price changes follow a random walk – that is, changes in asset prices will occur randomly since asset prices already reflect the relevant information available to traders. Publicly available and predictable information, therefore, cannot systematically influence an asset's price.

This does not mean that information never affects asset prices. News – that is, the arrival of unanticipated information – may influence the trading behavior of economic agents. The publication of earnings reports, macroeconomic announcements, and interest rate changes may cause buyers and sellers to reevaluate their trading priorities if the information comes as a surprise. Although asset owners may know when the information will be announced and are likely to have a guess about substance of the announcement, as long as they do not know for certain the actual content, then the release of that information can change prices.

These arguments apply to political information as well. Information about political processes is widely available. The news media regularly report the activities of political leaders, offer public opinion surveys, and speculate on eventual policy outcomes. Party labels and endorsements provide other sources of information. The profusion of political information allows asset owners to form expectations about the likelihood of different political outcomes: who will win election, whether the bill will pass, or whether the country will go to war. Investors use this information to shift their portfolios to balance risk and return. This information about political processes will be quickly incorporated into asset prices.<sup>10</sup>

In the short-term, democratic political outcomes are often predictable. It is usually possible to forecast when the prime minister will call for elections, who will be elected, and how cabinet portfolios will be allocated, etc. before the event actually occurs. The predictability of political events allows asset owners to shift their portfolios in anticipation of the eventual outcome. Consequently, markets may not react to the actual resolution of the political event since economic actors had already anticipated the outcome. Instead, market adjustment may have occurred prior to the event when the likely outcome became apparent. The predictability of so many political processes, therefore, helps explain why there is often little market reaction to political events.

<sup>10</sup> Even if an investor pays attention only to price movements, she will respond to the changes in the behavior of other traders who shift their assets based on political information. Only a relatively few traders, therefore, need to be informed about political processes in order for the market to move in response to political events.

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In situations where political outcomes are less predictable, however, we are more likely to observe markets responding to political events. If the eventual outcome remains unpredictable throughout the process, market actors will shift their assets only once the event has occurred. Consequently, market reactions are likely to be sharper in response to the conclusion of an unpredictable process than when market actors can anticipate the outcome.

But markets are also likely to behave differently *during* unpredictable political processes, not just at their conclusion, as traders shift their assets in response to new information. During these periods, investors may shift their portfolios toward assets that are insulated from the policy consequences of a political change, producing a drop in the price of assets that are more vulnerable to political influence and an increase in the price of the more insulated asset. For instance, asset holders may shift from bonds into equities (or vice versa) or substitute foreign assets for domestic ones.

One way to observe the market response to political events is to evaluate whether asset returns are “abnormal.” The idea of an abnormal return reflects that, in the absence of a shock like an earnings announcement or a political event, forecasts of asset returns are usually fairly accurate. By comparing the actual return with the forecast return, it is possible to evaluate how market actors shifted their assets in response to an event.

Political processes, however, may not necessarily generate changes in the mean behavior of asset prices. The unpredictability of political outcomes may instead contribute to increased market volatility — a measure of the predictability of asset prices. Higher volatility indicates that price forecasts are less certain.<sup>11</sup> The variation in expectations surrounding the eventual political outcome may cause higher volatility, where prices jump around more than in periods where political outcomes are more predictable.

We develop these arguments and empirically evaluate their implications for a variety of markets. The importance of political information in shaping market behavior demands careful consideration of measurement issues. Unfortunately, current work in political economy tends to operate at a high level of institutional aggregation, employing simple indicators of electoral systems, partisanship, or policy institutions. These indicators are unlikely to capture the flow of information available to market actors.

<sup>11</sup> One way to conceptualize the concept of volatility is as a confidence interval surrounding price forecasts. Assuming efficient markets, today’s asset price change is the best predictor of tomorrow’s price change, but the confidence interval surrounding the forecast estimate may be wide — indicating high volatility — or small — indicating low volatility. This idea is discussed in Chapter 7.

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Moreover, these institutional indicators are static. Markets learn about politics. We need to be able to update the information available to market actors during a political process. To examine the impact of politics on market behavior, therefore, we need a better understanding of (1) the type of political information that is available to market actors and (2) how that information is processed.

We contend that political science theories can provide insight into the political information available to market actors about the partisan and policy consequences of political events. Political scientists have developed models about equilibrium behavior in electoral competition (e.g., Downs 1957; Cox 1987, 1989; Shepsle 1991), cabinet formation (e.g., Laver and Shepsle 1996; Schofield 1992; Riker 1962), cabinet dissolutions (e.g., Lupia and Strom 1995; Smith 2004) and policy choice (e.g., Krehbiel 1998; Cameron 2000). Where a predictable equilibrium exists, we argue that markets should be able to anticipate that outcome and adjust accordingly. In the absence of a predictable equilibrium, however, economic actors may be less able to forecast the consequences of a political event, creating increased market volatility or abnormal returns. Using these more nuanced models of the political process helps determine the political information actually available to markets.

We also consider how political information is processed. Prior beliefs condition how the arrival of information affects the expectations of market actors. In some instances, information may simply reinforce the market's prior beliefs about the likely result of a political process, producing no shifts in asset allocation. In contrast, unexpected political developments may force market actors to update their beliefs about the eventual outcome, producing a shift in market behavior. We seek to model how market actors update information during the political process.

## RESEARCH STRATEGY

We evaluate the impact of democratic political events on asset market behavior using a sample of the industrial democracies from 1980 through 2003. This choice not only reflects the availability of the political data necessary to measure market expectations — for example, polling information, party platforms, etc. — but also allows us to take advantage of advanced models of democratic politics, particularly for parliamentary systems. Further, the focus on “normal” politics in established democracies should bias our tests against finding evidence that politics influences markets. In these countries, extraordinary political events such as a coup d'état