Room to Move: International Financial Markets and National Welfare States

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A central research question in international and comparative political economy concerns the influence of international financial markets on government policy outcomes. To what extent does international capital mobility limit government policy choices? Does capital market openness render impossible the public provision of education and health care, income redistribution, and active labor market policies—all hallmarks of the contemporary welfare state?

I argue that the influence of international financial markets on the governments of advanced industrial democracies is somewhat strong, but also somewhat narrow. Capital market openness allows participants in financial markets to react dramatically to changes in government policy outcomes. Market participants, however, consider only a small set of government policies when deciding how to allocate their assets. Therefore, governments face pressures to adopt market-pleasing policies in aggregate policy areas but retain "room to move" in many other policy areas. Despite financial internationalization, we will observe a significant amount of cross-national policy divergence among advanced industrial democracies.

I position my analysis within current international and comparative political economy debates and develop expectations regarding the influence of financial market pressures on government policies. I then assess these expectations by employing interviews with financial market participants. I further evaluate my hypotheses using a statistical analysis of the determinants of interest rates on government bonds. I briefly discuss governments' responses to financial market influences and conclude by offering suggestions for future research.

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Convergence, Divergence, and the Need for Microfoundations

What is the relationship between private capital markets and national government policy? Although scholars have long been aware of the relationship between governments and private economic agents,[1] recent scholarship considers the specific impact of economic globalization on government policy outcomes.[2] This literature can be categorized broadly into two groups—convergence and divergence.

Convergence scholars argue that growing trade and financial internationalization seriously impinge on government policy autonomy.[3] At one extreme, global markets become masters over governments and eviscerate the authority of national states. Along these lines, many scholars view international capital mobility as a severe limitation on government policy. Capital market openness provides governments with greater access to capital, but it also subjects governments to financial market discipline. Governments must sell their policies not only to voters but also to international investors.[4] Because investors can respond swiftly and severely to actual or expected policy outcomes, governments must consider financial market participants' preferences when creating and implementing policies.[5] Investors' credible threats of exit greatly increase their voice.[6]

In this vein, Paulette Kurzer argues that financial markets harshly punish social democratic welfare policies and, therefore, render expansionary public programs obsolete.[7] Philip Cerny offers a similar forecast: "currency exchange rates and interest rates are increasingly set in globalizing marketplaces, and governments attempt to manipulate them at their peril. . . . Globalization has undercut the policy capacity of the national state in all but a few areas."[8] The prognosis is particularly dim for left-of-center governments, which receive the most unfavorable evaluations from financial asset holders.[9] Likewise, in contemporary political dialogue, policymakers sometimes suggest that satisfying financial market pressures has become a key objective.[10] These arguments predict a wide-ranging cross-national convergence of public policy outcomes, toward smaller governments, reduced government provision of social services, lower levels of taxation, lower levels of regulation, and lower levels of unionization.

The second group, "divergence scholars," takes issue with the theoretical framework and empirical evidence implying cross-national convergence. One research

1. Representative work includes Bates and Lien 1985; Block 1977; Cooper 1968 and 1972; Dell 1987; Keohane and Nye 1977; Lindblom 1977; Morse 1969; and Przeworski and Wallerstein 1985.
2. For more comprehensive reviews of this literature, see Cohen 1996; Evans 1997; Garrett 1998c.
3. See Andrews 1994; Cerny 1995; and Rodrik 1997.
4. See Pringle 1992; Simmons 1999; and Strange 1996.
5. Obstfeld 1998.
6. Hirschman 1970.
7. Kurzer 1993.
8. Cerny 1995, 609, 612.
9. Helleiner 1994, 296. Also see Sinclair 1994 and 1998.
10. For example, see James Carville, quoted in *Economist*, 7 October 1995; Ohmae 1995; and Reich 1997, 64.

stream maintains that economic globalization heightens, rather than reduces, pressures for government intervention. Domestic groups exposed to international volatility will demand increases in social protection; the postwar association between trade openness and government size will persist.[11] Another stream of divergence literature argues that the logic of comparative advantage, along with the pure theory of local expenditure,[12] predicts divergence. Specialization is possible within globalization: firms and consumers have different preferences over taxation, services, and regulation; and consumers and firms locate in the jurisdiction that best matches their preferences.[13] The third—and perhaps largest—stream of divergence scholarship examines cross-national and time-series trends in a variety of policy areas. Studies of the advanced industrial democracies reveal a mixed pattern—sustained cross-national diversity in such areas as government consumption spending, government transfer payments, public employment, and the level of government tax revenues[14]—but growing cross-national similarity in aggregate monetary and fiscal policies.[15] Although there has been a cross-national convergence toward lower inflation rates and lower deficits, divergence remains in supply-side areas. In these empirical studies, international economic constraints are relatively small, and domestic political pressures and institutions remain central to the selection and implementation of government strategies.[16]

Although the convergence and divergence literatures differ in their outlooks regarding national governments' autonomy, they are characterized by a common flaw. Little of this research explores the causal mechanisms underlying government policy selection. We must ask, how do financial market participants evaluate government policy, and how important are these evaluations for government policy choice? Most research to date assumes a model of financial market operation and a pattern of government response to financial market evaluations. Convergence arguments imply that governments elect to adopt more market-friendly policies rather than to "pay the market's price" for traditional social democratic policies, whereas divergence arguments suggest that governments often are willing to pay the market's price.

Figure 1 depicts the relationship between international financial markets and national governments. At the far left, financial market participants evaluate some set of government policies and respond to these policies by increasing, maintaining, or decreasing the interest rate charged for government borrowing. On the right side, the government observes the financial market response. A government facing an adverse market response chooses either to alter its policies, thereby reducing its future interest rate premium, or to maintain its policies, thereby continuing to pay an interest rate premium. The interaction occurs repeatedly, as markets react to some set of govern-

11. See Cameron 1978; Garrett 1998a; Garrett and Mitchell 1999; and Rodrik 1997.
12. Tiebout 1956.
13. See Berger and Dore 1996; Garrett 1996; and Rogowski 1998.
14. See Boix 1997a,b and 1998; Garrett and Lange 1991; Kopits 1992; Lange and Scruggs 1998; and Swank 1998a.
15. Also see Frieden 1991; Garrett 1998a; and Goodman and Pauly 1993.
16. For reviews of many of these arguments, see Garrett 1998c.

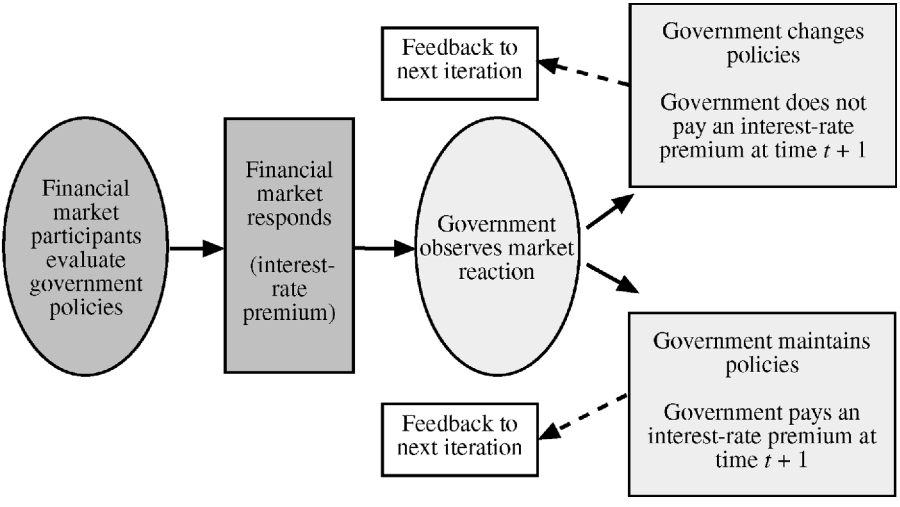

FIGURE 1. *A causal model of the relationship between international financial markets and national governments*

ment policies, and governments consider market responses when formulating their policy choices. It is the right side of Figure 1, near the end of the causal chain, that has attracted the bulk of attention from comparative and international political economists. But, to understand how government policy might change because of financial market pressures, we need to know something about the financial market response function—the left side of Figure 1. This function generates the price charged to governments for undesirable policies.

The question that remains, then, regards the nature of the financial market price. What determines the interest rate price charged to governments for a particular set of policies? To what kinds of government policies do financial market actors respond? How strongly do they respond to such policies? If financial market participants only respond to a narrow range of government policies, or if they respond weakly, the pressures for cross-national convergence are quite muted. Sharp responses to a wide range of government policies, however, can result in dramatic pressures for cross-national convergence. If we aim to understand the conditions under which convergence or divergence occurs, we need to understand how international financial markets operate[17] as well as the conditions under which governments elect to pay the market-generated price for policy autonomy.

To this end, I examine how financial market participants evaluate and respond to government policy outcomes in the developed world. I provide a causal mechanism that links financial globalization with national policy outcomes. I argue that the influence of financial markets on government policy choice is "strong but narrow." Mar-

17. Garrett reaches a similar conclusion regarding the dynamics of capital markets. Garrett 1998b, 37.

ket participants can charge high prices for certain government policies, but the range of policies used to set these prices is limited. I address briefly the responses of governments to financial market influences; a more complete examination of this issue is left as a subject for future research.

Expectations About Financial Market Behavior

Dependent Variable

I seek to identify the factors that generate changes in interest rate premiums charged to governments—the price of policy divergence. I focus on a most likely location for financial market pressures, the government bond (or sovereign debt or fixed income) market. In this market, governments borrow funds to compensate for revenue shortfalls. The interest rates on sovereign debt determine the costs of government financing and also influence strongly the interest rates charged to private actors in the domestic economy. Conversations with government officials suggest that longer-term interest rates, such as the rates on benchmark government bonds, are particularly important to economic policymakers.

The main dependent variable is the interest rate on benchmark (longer-term, domestic currency denominated) government bonds. Under conditions of relatively high capital mobility, a price measure (such as interest rates) is more appropriate than a flow measure (such as capital inflows/gross domestic product [GDP]). Responses to changes in policy outcomes likely will be met with changes in prices rather than changes in quantities. Only when credit rationing is rife, as in the Latin American debt crisis or the August–October 1998 retreat from emerging markets,[18] does financial market influence come through quantity reductions rather than price increases.

Expectations About Financial Market Influence

I consider three related determinants of financial market influence on government policy outcomes—the level of international capital mobility, the use of similar indicators by a range of market participants, and financial market participants' incentives to collect and employ information. The first two determinants affect the capacity for changes in interest rates. The third determinant establishes the grounds for those changes; it identifies which government policies generate market responses.

Capital mobility. The extent to which investors can move their holdings from one country to another affects the capacity of investors to punish or reward governments. With no capital mobility—and no credible threat of exit[19]—investors facing deteriorating conditions can wait and see, or convert their holdings to cash, but they cannot

18. See, for example, Edwards 1994; and Epstein and Gintis 1992. For portrayals of financial market influence as credit rationing, see Helleiner 1994; and Kurzer 1993.

19. Hirschman 1970.

move their holdings to a different investment market. Cross-border investments are impossible or, at best, expensive. But with high capital mobility and high asset liquidity immediate exit (or increases in risk premiums) is a credible threat. The "possibility for potential flows" changes the tenor of the relationship between financial markets and governments.[20] Therefore, in the present era of relatively high capital mobility, we can expect sharp responses to government policy outcomes.

Similarity of decision-making criteria. The extent to which market participants employ similar decision-making indicators affects the magnitude of financial market influences. If all market participants employ the same indicators—or highly correlated indicators—when making asset allocation decisions, the market response to a change in one of these indicators will be relatively strong. Even in a thick market, where there is a great deal of trading activity, widespread reliance on similar indicators produces large market movements. But if different market participants rely on different or uncorrelated indicators when making investment choices, market response to changes in a single indicator will be muted. While some market actors will respond to a particular signal in one way, others will respond to the signal in the opposite direction, or not at all. Therefore, where market actors more widely agree on the identity of decision-making criteria, financial markets will more strongly influence government policy.

Incentives to collect and employ information. The third and final determinant of financial market influence deals with the scope of influence: do market participants consider a wide range of government policy indicators or a narrow range of indicators? The scope of financial market influence stems from market participants' incentives to economize on their use of information. These incentives result from the number of international investment opportunities and the types of investment risk that are salient to investors.

Financial market participants employ information in order to maximize expected returns;[21] at the same time, they are constrained by the costs of collecting and employing information.[22] These cost constraints result in behavior that is rational,[23] albeit in a bounded sense.[24] In other words, information cost constraints create incentives to economize on the use of information; market participants will economize where the risk of doing so, in terms of expected returns, is least.

All things equal, market participants will economize more as international investment opportunities increase.[25] When investment is confined to a small set of countries, investors are able to consider a wide range of information about each invest-

20. Andrews 1994.

21. Following Fama, I assume that the government bond market—particularly in the long run and in developed democracies—is informationally efficient. Fama 1970. See also Mishkin 1992; and Scharfstein and Stein 1990.

22. See Coase 1937; and Sherman and Corty 1984.

23. For instance, Ferejohn 1991.

24. See Cook and Levi 1990; and Simon 1982.

25. Calvo and Mendoza 2000.

ment location. For instance, if the United States and the United Kingdom are the only potential investment locations, investors will be well informed about each location. But as international portfolio diversification increases, so do investors' overall information needs. After an investor diversifies to twenty from five countries, an investor who looks at five indicators per country will have one hundred rather than twenty-five pieces of information to consider. This investor will economize on the use of information.[26] The investor will employ a broader range of information where the net marginal benefit of doing so is greatest and a more narrow range of information where the net marginal cost of doing so is smallest. Therefore, although market participants have strong incentives to gather and employ information, information is costly, so market participants make tradeoffs regarding which information to collect.[27] Collecting and employing information about country A prevents a market participant from collecting and employing information about country B. Investors' tradeoffs reflect the costs and benefits of employing additional information.[28]

The benefit of additional information varies across groups of countries, according to the types of investment risk that are salient. Investors may experience several types of investment risk: default risk, which results from a borrower failing to repay its obligation; inflation risk, which results when the purchasing power of an asset declines; and currency risk, which results from fluctuations in the value of assets denominated in local currency.[29] When default risk is highly salient, investors will use a wide range of information about a government's willingness *and* ability to pay to assess the possibility of nonpayment. They will consider not only macropolicy indicators such as inflation, deficits, and debt but also supply-side policies, labor market regulation, and the composition of government spending. Considering all of these indicators allows for a better assessment of investment risk. In addition, with uncertainty about the quality of information and about the implications of information for policy outcomes, market actors will gather more information.

However, when investors judge default risk to be nonexistent, they will reduce or eliminate the use of information relevant to default risk. Investors are willing to narrow their range of indicators because additional indicators provide little additional relevant information. If the salient investment risks (inflation risk and currency risk) can be evaluated on the basis of a small set of indicators, and if these indicators are reliable, the marginal benefit of employing additional information—even when that information is of high quality—is quite small. Under these conditions, market actors will avoid the costs of collecting and employing additional information and will rely instead on a small set of indicators—that is, "information shortcuts."[30]

26. For arguments that reliance on a limited set of indicators leads to herd behavior in financial markets, see Calvo and Mendoza forthcoming; Shiller 1989; and Shiller and Pound 1989.
27. Erb, Harvey, and Viskanta 1996.
28. Coase 1937.
29. Sobel 1999. See also Erb, Harvey, and Viskanta 1996; and Kennedy 1987.
30. Simon 1982.

Therefore, when dealing with countries characterized by lower levels of default risk, market participants are likely to employ a narrow set of criteria.[31]

This discussion implies that financial market participants are most likely to rely on a narrow set of indicators when evaluating bonds issued by governments of developed democracies. In these nations, the potential range of policy outcomes—and the overall amount of investment risk—is quite small: although a social democratic coalition may govern in Germany, it is very unlikely that it will increase marginal tax rates to 70 percent or that it will institute capital controls. It is even less likely that the regime type will shift from democratic to authoritarian, or that the government will declare itself unable or unwilling to repay its obligations. As Nicola Anderson and colleagues point out, "an investor purchasing a bond issued by a government with a high credit rating . . . will view both the size and the timing of the cash flows to be known with certainty, so the primary factor influencing the investor's valuation of the instrument will be its guaranteed rate of return. . . . Investors don't perceive default risk for developed country bonds."[32]

Although an established relationship exists between a few macropolicy indicators and financial market outcomes, there is no such relationship between supply-side policy indicators and financial market outcomes. These micropolicy indicators are seen as largely irrelevant to investment performance in the developed world. However, we might expect financial market participants to rely on a broad set of indicators when dealing with emerging market economies, where default risk is quite salient and concerns about the quality of information are manifest.

The three determinants of financial market influence—capital mobility, similarity of decision-making indicators, and incentives to collect and employ information—suggest that the influence of financial markets on the governments of advanced industrial democracies will be "strong but narrow." Market participants have the capacity to react sharply to changes in relevant government policies, but the set of relevant government policies is quite small.

Preliminary Evidence: Interviews with Market Participants

Methodology

To assess the empirical veracity of the expectations developed earlier, I conducted interviews with financial market participants in two major financial centers (London and Frankfurt) from January to June 1997 and in October 1998. The interview subjects are active in fixed-income (government bond) and equity markets and make medium to long-term (rather than short-term or daily) asset allocation decisions and recommendations. Most interview subjects are employed by large investment firms or institutional fund managers, and they distribute investment portfolios across a

31. Short time horizons enhance investors' willingness to employ a narrow set of indicators. See discussion later.

32. Anderson et al. 1996, 1–2.

range of countries, including all members of the Organization for Economic Cooperation and Development (OECD) and some emerging market nations.

The interview subjects' firms were selected from membership directories of professional organizations.[33] These firms include major institutional investors and financial institutions, such as Credit Suisse First Boston, Deutsche Bank, Goldman Sachs, HSBC, Merrill Lynch, J. P. Morgan, Prudential, Salomon Brothers, and UBS.[34] This list was supplemented with suggestions from journalists in the financial sector and, on occasion, suggestions from other market actors. I contacted potential interview subjects with a letter of introduction and project description and arranged interviews with those willing to participate in the study. Approximately 40 percent of those contacted agreed to participate. Those who did not wish to participate in the study generally cited two reasons: time pressures and concerns regarding confidentiality. For those willing to participate, confidentiality was guaranteed by agreeing to identify them only by firm rather than by name. I conducted sixty-four interviews, most lasting from thirty to sixty minutes. The interviews consisted of a set of open-ended questions regarding market participants' decision-making processes. Questions centered on the identity and relative importance of indicators used by market actors, including monetary policy, fiscal policy, supply-side policies, and politics and elections.

The interviews provide initial confirmation for the expectations presented in the preceding section. When dealing with developed economies, participants in the government bond market rely on a narrow set of indicators (specifically, inflation rates and overall budget deficit levels), have short time horizons, and worry about performance relative to other financial market participants. Market actors forcefully demand particular values on key variables, but the number of key variables is small, so that many national economic policy choices likely reflect domestic political and institutional constraints rather than external financial market pressures. I review this evidence in terms of the determinants of financial market influence.

Determinants of Financial Market Influence

Capital mobility. The first indicator of financial markets' capacity to influence governments, the level of international capital mobility, suggests that financial markets strongly influenced OECD governments during the 1980s and 1990s. Legal levels of capital market openness in developed nations, which indicate the potential for international capital flows, have increased steadily since the 1950s, reaching a point of nearly full openness in the late 1980s or early 1990s.[35] Actual levels of capital market openness, measured by covered interest rate differentials[36] or savings/

33. In London, the Institutional Fund Managers' Association; in Frankfurt, the Bundesverband Deutscher Investment-Gesellschaften e.V.

34. Throughout the article, I refer to interviews by interview number. A list of interview subjects' firms and interview dates is available from the author.

35. See Quinn 1997; and Simmons 1999.

36. Bisignano 1994.

investment correlations,[37] also are high, albeit not perfect.[38] Because of high capital mobility, negative changes in government policies should be met with increases in interest rate premiums on government bonds.

Similarity of decision-making criteria. The second determinant of financial market influence, the similarity of decision-making criteria across investors, also facilitates strong market influences on governments. The interviews indicate that investment professionals worry not about the level of absolute profits or losses, but about how they perform *relative* to other fund managers. Therefore, fund managers seek to maximize returns, but to do so in relative terms.

Clients' evaluations of fund managers drive market participants' focus on relative returns. Clients consider how a particular investment fund or fund manager places in a league table;[39] that is, is the fund manager's performance above or below the mean? In a year characterized by poor market performance, a net return of 3 percent may place a manager in the top half of performers; but in a year characterized by good market performance, the same return will doom an investor to the bottom half of the group. In response to this incentive, fund managers base their decisions on industry-wide benchmarks. The benchmarks suggest allocations across instruments as well as among countries. "Fund managers are a pretty conservative crowd, and they find it best to stick with the average and to hope that they can be a little clever at the margins."[40] "Managers tend to follow benchmarks, unless they are small and brave."[41] Although floor traders may make large bets in the course of daily or weekly activities, these bets are made within a longer-term, risk-averse strategy designed by managers and guided by the "prevailing wisdom."[42]

In addition to using industry-wide benchmarks, fund managers worry about the extent to which their actions conform more generally to the actions of similarly situated market participants.[43] A poor investment decision affects absolute performance dramatically, but if all actors take similar action, the decision affects relative performance negligibly. It is, then, "better to be wrong in a group than wrong alone."[44] Market participants often invoke Keynes' "newspaper beauty contest" analogy to explain their decision-making process: in these contests, winning requires picking not the woman whom one finds most attractive, but the woman whom others cite as being most attractive.[45]

37. See Feldstein and Horioka 1980; and Obstfeld 1993.
38. See, for example, Gordon and Bovenberg 1996.
39. Interviews 41 and 42.
40. Interview 23.
41. See Interview 34. See also Interviews 5, 15, and 46.
42. Interview 12.
43. See Shiller 1989; and Zeckhauser, Patel, and Hendricks 1991.
44. Calvo and Mendoza, 2000. See also Friedman 1984; and Keynes 1936, chap. 12.
45. See Interviews 21 and 45. Keynes' description of the process states that "each competitor has to pick, not those faces which he himself finds prettiest, but those which he thinks likeliest to catch the fancy of the other competitors, all of whom are looking at the problem from the same point of view. It is not a case of choosing those which, to the best of one's judgment, are really the prettiest, nor even those which average opinion genuinely thinks the prettiest. We have reached the third degree where we devote

One result of this attention to the actions of others is a reliance on similar decision-making criteria. The indicators employed by one investor are highly correlated with those employed by other investors. When asked to identify decision-making criteria (see later discussion), market participants tend to name a similar set of indicators. This similarity of indicators contributes to stronger market reactions to government policy outcomes. From this evidence, then, we can hypothesize that the capacity of financial markets to impose risk premiums on OECD governments in the 1980s and 1990s is strong. Interest rates should dramatically reflect cross-national differences in key economic policy areas.

Incentives to collect and employ information. In an earlier section, I suggested that financial market participants will consider default risk to be nonexistent in OECD economies and, therefore, will economize on their use of information when evaluating those economies. Interview evidence supports this assertion. In discussing asset allocation in the developed world, only 5 percent of interview respondents (two of thirty-eight) mentioned default risk. However, 66 percent of these respondents mentioned inflation risk. This is consistent with the notion that, for market participants in developed economies, "the central concern is getting their money back, which means looking at inflation. They are largely indifferent to how governments achieve these things."[46] Market participants expect stable political situations in developed economies and, therefore, pay little attention to the political process.[47] In a broader sense, the label "developed democracy" is a key indicator: it provides a degree of confidence regarding government policy, a more narrow range of possible policies, and, therefore, reduced concerns about default risk. Although investors *are* concerned about government policy outcomes in these nations, and *are* aware of variance in outcomes among this group of countries, they place a considerable amount of confidence in these governments.

As the interviews indicate, a lack of concern for default risk implies that market participants rely on a set of macropolicy outcomes as decision-making criteria—the government deficit/GDP ratio, the rate of inflation, and (sometimes) the foreign exchange rate and the government debt/GDP ratio. Market participants have well-defined preferences regarding these indicators: they want inflation rates of less than 2 percent, and they want relatively small (that is, less than 3 percent) budget deficit/GDP ratios.[48] Market actors care about large shifts in government policy affecting performance on these key indicators but not about other policy shifts or the political debates associated with other policy areas. Moreover, it usually is government policy outcomes, rather than policy outputs, that are important to market participants.

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our intelligences to anticipating what average opinion anticipates average opinion to be." Keynes 1936, 156.

46. Interview 33. See also Interviews 27 and 47. For further evidence regarding the salience of default risk in emerging market economies, see later discussion and Mosley 1999.

47. See Interviews 9 and 30.

48. See the later discussion of the Maastricht convergence criteria.

TABLE 1. *Indicators employed by financial market participants*

	All respondents	*Of those mentioning the indicator*	
Indicator	*Percentage who mentioned indicator*	*Percentage who cited indicator as important*	*Percentage who cited indicator as unimportant*
Inflation	71.1	92.6	7.4
Government deficit	76.3	96.6	3.4
Government debt	50.0	42.1	57.9
How governments spend money	76.3	31.0	69.0
Tax policy	44.7	17.6	82.4
How much governments spend	44.7	11.8	88.2
Labor market and structural policy	55.3	9.5	90.5
Who governs	47.4	5.6	94.4
Elections	57.9	13.6	86.4

Source: Author's interviews with financial market participants, January–June 1997.
Note: Thirty-eight interviews are included.

Table 1 provides evidence regarding the indicators used by market participants. This table is based on interviews conducted during the initial study (1997) with individuals active in OECD markets. The first column indicates whether an interview subject mentioned an indicator (either in terms of using it or not using it). The second column provides the percentage of those mentioning the indicator who cited it as important to their asset allocation decisions. The data in Table 1 suggests that inflation and government deficit/GDP ratios are the most important indicators for financial market actors. In open-ended interviews, 92.6 percent of market participants cited the inflation rate as important to their investment behavior, and 96.6 percent cited the government budget deficit/GDP ratio as important. Of those mentioning inflation and deficits, only 7 percent and 3 percent, respectively, of respondents stated that these indicators did not matter. This confirms our expectation that, when dealing with advanced industrial democracies, market participants' chief concern is on the monetary policy side. Because bond market actors worry about government incentives to default or inflate in response to debt, the total amount of government borrowing (given by the deficit for any individual year, and by the debt for total accumulated borrowing) is the most important fiscal indicator.[49]

Moreover, many other aspects of fiscal policy are unimportant to market participants. Of those market participants who discussed government debt, only 42 percent cited it as an important indicator. Only 21 percent of all respondents cited debt as important, with a full 50 percent failing to mention government debt/GDP ratios at all. Perhaps more surprisingly, of those market participants who mentioned "how

49. See Interviews 6, 7, 16, 18, 39, and 41. See also Borio and McCauley 1996; and Thorbecke 1993.

governments spend their money," 69 percent found this to be unimportant, and a full 88 percent found the overall level of government spending to be inconsequential to asset allocation decisions. Similar results exist for labor market and tax policy.

Therefore, as a result both of market actors' concerns about risk and of their short time horizons (discussed later), very few market actors examine how governments allocate their spending across functional categories or even look at the total size of government. To a great extent, if governments are able to finance expenditures through revenue (rather than through borrowing), markets are quite unconcerned about the size of government.[50] "The most important thing is how much governments borrow. The size of government only matters when government is so big as to be a burden."[51] And "we don't care about where the deficit comes from; the bottom line is that the deficit has to be financed by the bond market."[52] Furthermore, "these things [government spending across issue areas] have implications for long-term growth, but we could sell our assets tomorrow."[53] Ultimately, bond market participants "don't care about the micromanagement of the economy."[54]

A few market participants state that they prefer cuts in government spending to increases in taxation, because spending cuts are a more certain means of reducing the deficit.[55] But, when pressed on this issue, most market actors concede that "at the end of the day, even the 'very long term' people are concerned with the size of the deficit, rather than how the government finances its spending."[56] If domestic constituents prefer and are willing to fund larger public sectors, financial markets do not punish governments for acceding to this demand.[57] "The market controls the big picture, but the government has a lot of discretion in how it spends."[58] "Bond market participants may write about taxation and spending, but they never react to it."[59] This picture is consistent with much of the divergence literature, which finds a cross-national narrowing of government policies only at the most aggregate level.

Additional Determinants of Financial Market Behavior

Before I evaluate how well the "strong but narrow" interview evidence withstands statistical testing, I examine three additional aspects of financial market behavior. Each contributes further to the "strong but narrow" nature of financial market influence on government policy.

Time horizons of market participants. I argued earlier that fund managers' employment incentives facilitate a focus on relative performance. These incentives also

50. Interviews 3 and 45.
51. Interview 41. See also Interviews 9 and 17.
52. Interview 11.
53. Interview 12.
54. See Interviews 39 and 40.
55. See also *IMF Survey*, 27 January 1997, 24.
56. Interview 8.
57. Interview 36.
58. Interview 19.
59. Interview 40.

shorten investors' time horizons. Not surprisingly, floor traders, who deal with daily and hourly market transactions, have very short time horizons. What is perhaps more surprising is that individuals involved in fund management, and charged with creating the longer-term parameters that govern short-term trading activity, have time horizons of one to three years.[60] Of those market participants who discussed time horizons in interviews, 28 percent described their time horizons as "one year or less," and 61 percent described their time horizons as one to three years. No market participant claimed to have a time horizon longer than five years. Investors' time horizons stem from competition within the investment management industry: although fund managers oversee very long-term liabilities, investment management firms compete with one another to attract new accounts, and clients focus on quarterly or annual numbers.[61]

Short time horizons reinforce the narrowness of financial market considerations. Portfolio market participants pay attention only to factors that affect asset performance in the shorter run. Therefore, they do not consider government policies with mostly longer-term implications—although market participants are very much concerned with the current inflation statistics and government deficit/GDP ratios, most are unconcerned with the distribution of government spending among transfers, education, health care, and infrastructure. In the same fashion, many portfolio market participants speak strongly of the need for structural reform in continental European economies, but when asked if these concerns affect asset allocation, they admit that "such concerns are very long term and, as such, play little or no role."[62] Market participants are interested in lower deficits but uninterested in the means by which governments achieve this outcome.[63] Therefore, governments that can convince market actors of the shorter-run desirability of their policies (in terms of inflation performance and fiscal discipline) will find themselves relatively unconstrained in terms of longer-run or micro-side policies.

Elections and government partisanship. Much of the convergence literature assumes that market participants associate Left governments with higher levels of inflation, government spending, and government deficits.[64] Left governments imply lower real returns and higher default risks, so market actors charge higher risk premiums to Left governments. Therefore, elections and the partisan orientation of governments should be important to investors. Market participants suggest, however, that although government partisanship once was used widely as an information shortcut, it is no longer employed. In Table 1, 94 percent of those mentioning "who governs" cited politics as unimportant to them; 86 percent of those mentioning elections did so in

60. See Interviews 8, 9, 12, 23, and 46.
61. See Interview 41; Cosh et al.1992; and Davis 1988.
62. See Interviews 4, 11, 12, 17, 22, and 40.
63. See also Berger 1996.
64. See Cerny 1994; Kurzer 1993; and McKenzie and Lee 1991.

the context of being unconcerned with the implications of elections. Several market actors point out that "we care about policies, but not about politics."[65]

Government partisanship has ceased to be a useful shortcut for assessing developed democracies because partisan orientation often does not provide useful information about variance in policy outcomes.[66] Many market participants suggest that, in past decades, Left governments generally could be expected to act "Left," creating variance in policy outcomes that was explained in terms of partisan affiliation.[67] In the present period, Left and Center-Left governments do not act "Left" in some policy realms, and all Left governments do not act alike. It is what governments achieve and credibly promise to achieve, rather than party labels, that market participants care about.

The 1997 British general election illustrates the decline of partisanship as an information shortcut. Almost without exception, market participants interviewed in early 1997 were optimistic regarding the (rather certain) prospect of a Labour party victory. The British election campaign was oriented toward "how to spend the money," rather than "how much to spend," thereby promising not to affect the indicators of primary concern to market participants. One might object that market participants' views regarding government partisanship, reported in Table 1, reflect the influence of the British election. In the first half of 1997, however, elections occurred in other developed democracies, most notably in France. And many market participants spoke with an eye toward the 1998 German election. Despite the potential for changes to Center-Left governments in France and Germany, market participants were relatively sanguine about the elections.[68] A similar attitude was seen following the September 1998 election in Sweden. Despite the loss of votes from the Social Democrats to the former Communist Left party, and the expected coalition among the Social Democrats, the Greens, and the Left party, market participants adopted a wait-and-see stance. Analysts noted that they had decided to withhold action until the implications for policy outcomes of the government change were clear. At the same time, Left party officials emphasized that the party's policy platforms (such as increased income redistribution) would not increase inflation or the budget deficit.[69]

Elections are important to market participants *only* if they are perceived to affect policy outcomes—specifically, inflation performance or government deficit levels. Of course, in exceptional cases, elections *do* exert a strong influence on longer-term government bond prices. But, while elections in OECD nations often produce short-term volatility in bond markets, most have few effects on longer-term interest-rate levels or asset allocation decisions. Does their behavior demonstrate the limits placed

65. Interview 4. See also 5, 15, 37, and 45.

66. Some empirical studies lead one to question if partisanship ever was a useful proxy for government deficits. Alesina and his colleagues find a very small and statistically insignificant impact of Left governments on the size of budget deficits. Alesina et al. 1997. Franzese presents similar evidence. Franzese 1996.

67. See Garrett 1998a.

68. On financial market responses to German elections, see Nikko Europe, Research and Strategy Division, After Kohl, 28 September 1998.

69. See Swedish Radio, *60 Degrees North*, 23 September 1998; and *Economist*, 26 September 1998, 54.

on governments and political parties by financial globalization? In one sense, the lack of concern *does* demonstrate the validity of a convergence argument: market participants dislike high inflation and high deficit/GDP ratios, and most political parties foreswear both. On these macro indicators, convergence is occurring. At the same time, however, political parties are left to take positions—without invoking strong market responses—on a variety of other issues, such as the balance in government spending across issue areas and the relative importance of primary versus tertiary education. A good deal remains—for the Left, Center, or Right—in domestic politics.

Maastricht criteria. Until mid-1998, market participants used the convergence criteria specified in the Maastricht Treaty, and particularly the government deficit criterion (3 percent or less of GDP), in their asset allocation process. Market actors' use of these criteria represented a change in the means of evaluating macropolicy outcomes. The criteria made financial markets' targets for government policy outcomes more explicit—violations were more obvious, and market actors responded to changes in government deficits in light of the Maastricht deficit limit. The widespread use of the criteria strengthened financial market responses to government policy outcomes.

Prior to the mid-1990s, market participants took a "less is better" view of government budget deficits: four percent was better than 5 percent, and 5 percent was better than 6 percent.[70] They did not expect governments to meet a specific deficit target or to do so by a particular date.[71] The Maastricht recommendations served as a specification—and an "above or below 3 percent" dichotomization—of an otherwise fuzzy concept.[72]

A central reason for market participants' use of the Maastricht criteria as a decision-making instrument was that governments used the criteria. Bond market actors attempted to predict who would join the first round of economic and monetary union (EMU) in 1999, so market attention to the criteria was not surprising.[73] Market actors cared not so much about the precise nature of the criteria as about their use by governments.[74] Additionally, market actors interpreted adherence to the Maastricht criteria as a signal of governments' resolve: if a government was strongly committed to the single currency, it would find a way to meet the deficit criterion. If a government was unable to meet the 3 percent criterion, there was reason to doubt its future commitment to EMU.[75] However, European Union (EU) politics was not the only dimension in which the Maastricht criteria were used. They gained independent status: market participants routinely evaluated non-EU states according to the criteria;

70. Interview 11.
71. See Interviews 24 and 25.
72. Interview 22. See also Interview 42.
73. *Financial Times*, 19 November 1996.
74. Interview 11.
75. See also European Commission 1995.

for example, "Canada is in really good shape; she would qualify for EMU."[76] Although market participants used the Maastricht criteria extensively, they also saw the criteria as objectively flawed. Market actors saw "no good, objective reason" to use 3 percent[77] or "to make no allowance for cyclical variations in the deficit."[78]

The impact of the Maastricht Criteria on evaluations of macropolicy offers two lessons regarding key indicators. First, the nature of key indicators changes over time, leading to changes in financial market influences. Second, by establishing the criteria by which they later were judged, governments were able to influence the operation of the international financial market. The development of the Maastricht convergence recommendations (as part of the treaty-crafting process) was by no means a purely technical exercise. National governments were not passive participants in these interactions between financial markets and governments.[79] Rather, governments established criteria by which they later were evaluated. Governments that adhered to the rules quickly gained credibility with financial markets, as the case of Italy illustrates.

This conclusion does not imply that governments are necessarily masters of, rather than slaves to, financial markets. Rather, in line with the rest of my argument, it suggests a mixed relationship between governments and capital markets; neither structural dependence of the state on capital[80] nor control of capital by the state obtains in all cases. When dealing with some types of nations, financial market participants are quite willing to evaluate governments according to a narrow set of rules. Moreover, under some conditions, governments are able to set these rules. Successful rule setting likely requires cooperation among a set of creditworthy, economically significant nations; it is unlikely that a group of developing nations, or a single developed nation, could set rules for financial market behavior. Successful rule setting also may require an explicit (treaty-based, for example) statement of the rules.

The interview evidence collected in 1997 and 1998 supports our expectation of a strong but narrow influence of financial markets on governments of advanced industrial democracies. Financial market participants are concerned about inflation and currency risk, and not about default risk, in the developed world; therefore, they consider only a narrow set of indicators relevant to assessing inflation and currency risk. We can restate this expectation as a hypothesis:

> HYPOTHESIS: The influence of financial markets on the governments of developed nations is strong but narrow; that is, governments are charged significant interest-rate premiums for policy divergence, but financial markets consider only a small set of policies.

This assertion implies that, if government policy outcomes are driven partly by financial internationalization, we should expect a mixture of convergence and divergence

76. Interview 12.
77. See Interviews 6, 8, 12, 24, and 41.
78. Interview 45.
79. Mosley 1998.
80. For example, Przeworski and Wallerstein 1985.

among the advanced industrial democracies. Governments will increasingly pursue low-inflation and low-deficit policies, but they will maintain varying supply-side policies.

Additional Evidence: Quantitative Assessment of Financial Market Influence

In this section, I employ quantitative evidence to test the central findings from the interview study. Using cross-sectional time-series analysis, I examine the extent to which financial market outcomes, measured in terms of interest rates on long-term government bonds, comport with the interview evidence. Do financial markets react strongly to movements in a narrow set of indicators but not react, or react only mildly, to changes in other indicators?

I estimate two sets of models: the first using macropolicy indicators and political variables, and the second using these indicators as well as a variety of supply-side policy indicators. Cross-sectional time-series analyses support the assertion that macro indicators most strongly affect market evaluations of developed economies. As market participants suggest, government partisanship exerts only a very minor influence on long-term interest-rate levels. The quantitative analysis provides mixed evidence regarding micro indicators: the most aggregate of these, the total size of government, is associated significantly with long-term interest rates. The strength of these associations, however, is rather small, so that the cost to governments of divergent policies is not great. The least aggregate of these indicators, such as the balance between workers' and employers' social security contributions, are not significantly associated with interest-rate levels, as the "strong but narrow" framework predicts.

Methodology

I perform a cross-sectional time-series analysis, employing data from 1981 to 1995 for a set of fifteen developed democracies: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, and the United Kingdom. The dependent variable is the monthly interest rate on benchmark government bonds. Benchmark bonds are denominated in domestic currencies and usually mature in ten years. A full description of the data appears in Appendix 1.

With monthly data, the number of time periods greatly exceeds the number of countries, increasing our confidence in the regression estimates.[81] Most economic indicators (such as inflation and exchange-rate levels) are available on a monthly basis, but some government policy indicators (such as deficits, spending by category, and debt) and institutional variables are available (and substantively meaningful)

81. Beck and Katz 1995.

only in quarterly or annual series. In these cases, I interpolate the data, using cubic spline curves, to generate a set of monthly data. After examining the structure of the residuals for ordinary least squares regressions employing this data, I conclude that ordinary least squares estimates using panel-corrected standard errors are the most appropriate method for cross-sectional time-series analysis.[82] An analysis of the autoregressive properties of the data demonstrates that it is reasonable to assume a common AR-1 process across the panel and a heteroscedastic error structure across countries.[83] The models I estimate, then, employ panel-corrected standard errors with a common AR-1 process across countries and heteroscedastic panels.[84]

Model Using Macropolicy Indicators

I first estimate a model including control variables, macropolicy outcomes, and measures of government partisanship and government change (see Appendix 1 for definitions of variables):

$$\text{Long-term rate} = \text{a constant} + USLT + INFLATE + CURRACCT + ERCHANGE + GOVBAL + LEFTC + ELECTION + CAPOPEN + \text{error term}$$

Expected relationships. *Control variables.* Interviews with financial market participants and several econometric studies of the determinants of long-term interest rates suggest that interest rates on U.S. government securities are a key influence on other government bond rates.[85] Therefore, U.S. long-term interest rates *(USLT)* should be positively and strongly associated with long-term rates for other government securities.

The second control variable is international capital market openness *(CAPOPEN).* Higher international capital mobility could have two different effects on government bond rates in the developed world. On the one hand, increased capital mobility provides a greater capacity for market participants to exit and, therefore, an increased ability to punish governments for undesirable economic outcomes. On the other hand, it provides governments with a larger pool of capital from which to borrow. Rather than borrow funds only from domestic savings, governments and private individuals may borrow from any holder of capital.[86] In order to evaluate the positive and negative effects of international capital mobility, and to test whether the relationships estimated have changed with capital openness, I control for capital market openness.

82. Ibid.
83. For a discussion of cross-section variance in economic fundamentals, see Orr et al. 1995.
84. All of the analyses presented were performed in STATA ver. 5, using xtgls and the accompanying panel-corrected standard errors option. This option does not produce R^2 estimates.
85. For example, Orr, Edey, and Kennedy 1995.
86. Simmons 1999.

Macropolicy indicators. I include four aggregate economic indicators in the overall model—inflation *(INFLATE),* government budget balances *(GOVBAL),* current account balances *(CURRACCT),* and nominal exchange rates *(ERCHANGE).* The importance of current and expected inflation to long-term interest rates is revealed not only through interviews and previous econometric work but also by the relationship between nominal and real interest rates. According to the Fischer equation, nominal rates are simply the real rate plus an inflation premium. And if current inflation leads market participants to expect greater inflation in the future, they will charge an additional risk premium. I expect inflation rates to be significantly, strongly, and positively associated with long-term interest rates.

Financial market participants also indicate that the government budget balance is a key influence on government bond market activity. Market participants dislike government budget deficits because they worry about the effect of sustained deficits on the government's ability to repay its debt (default risk), and, more importantly, because they worry that an accumulation of debt will create incentives for governments to inflate away their nominal liabilities (inflation risk). Because market actors are sensitive to increases in inflation risk, I expect the government budget balance to be significantly—and somewhat strongly—associated with long-term interest rates.

The final macro indicators are the current account balance and the nominal exchange rate. Both of these capture exchange-rate, and possibly inflation, risk. I expect that a more negative current account balance will be associated with higher long-term interest rates. Under a flexible exchange-rate regime, a current account deficit can be rectified in two ways. The first is through capital inflows. A nation may compensate for smaller current account balances (deficits) with greater capital account balances (surpluses). As the current account balance grows, the need to attract capital—by offering higher interest rates—declines, so that long-term interest rates decline. The second is through exchange rates: an exchange-rate depreciation should increase exports and decrease imports, thereby ameliorating the deficit. In both cases, the result of a fall in the current account balance is upward pressure on interest rates, through increased exchange-rate risk or the need to attract inward investment. Likewise, appreciation of the nominal exchange rate should be associated with reductions in long-term interest rates. Because benchmark government bonds are denominated in local currencies, investors demand higher risk premiums when local currencies are weak.

Government partisanship and elections. As discussed earlier the partisan orientation of governments has lost importance as an information shortcut for market actors. Therefore, there is little reason to expect that Left governments will pay significantly higher interest rates than Right governments. Although some rather strong bivariate correlations exist between government partisanship and long-term interest rates during some years of the 1981–95 period, I expect these relationships to disappear, or appear only weakly, in multivariate analyses. Once I control for the information possibly provided by government partisanship (such as higher inflation or deficits),

the independent importance of government partisanship will decline. To evaluate this expectation, I include the percentage of cabinet seats held by Left-government members *(LEFTC)*.

I also include an election dummy variable *(ELECTION)* in the equation. This variable gauges the extent to which the occurrence of an election—or *expectations* regarding an election—results in an increase in long-term interest rates (during the election month or during the months preceding or following an election). Interviews with financial market participants suggest that elections will matter only when a change of governments portends a change in aggregate policy outcomes. Therefore, in the aggregate, we might expect a weak association between elections and interest rates.

Results. The results of the overall model are reported in Table 2. Where earlier results indicated that lagged effects were present, I include lagged independent variables in the estimation; to determine the cumulative effects of each (lagged and current) independent variable, I combine the coefficients. The total coefficients are listed in Table 2 (where the probability that the total coefficient estimate differs from zero, the estimate is given in the third column). The full results, with disaggregated coefficients for each variable, are shown in Appendix 2. The results reported here rely on interest rate levels as the dependent variable; if interest rate changes are used as the dependent variable, and levels or changes are used as independent variables, the results are similar, although, in some cases, the implied relationships between independent and dependent variables (and therefore, the degree of financial market influence) are weaker.[87] The results indicate that the most pronounced and statistically significant influences on long-term government bond rates are the inflation rate, the U.S. long-term interest rate, and the current account balance.

Control variables. As expected, U.S. interest-rate levels are very important to determining the level of long-term interest rates in other economies. An increase of one percentage point in *USLT* is associated with an increase of 0.40 percent in national long-term interest rates. At the same time, neither of the potential capital openness effects dominates: the coefficient for *CAPOPEN* is quite small and is not statistically significant. This suggests that these influences (openness providing access to greater borrowing and access facilitating greater punishment) push in different directions, or that, for the sample period, capital market openness does not change markedly. In most OECD nations, capital market openness was at a moderate-to-high level in the 1980s and 1990s. Were we to employ data for a sample with dramatic changes in capital market openness, we likely would see more pronounced coefficients on this variable.

Macropolicy indicators. The strength and significance of the coefficient on *INFLATE* suggests that market actors are most concerned with inflation risk. An in-

87. Mosley 1999.

TABLE 2. *Model results*

Variable	*Total coefficient*	χ^2	$p > \chi^2$
USLT	0.4015799	239.02	0.0000
INFLATE	0.2339657	113.76	0.0000
ERCHANGE	−0.033839	17.91	0.0000
CURRACCT	−0.27881	65.11	0.0000
GOVBAL	−0.050101	2.08	0.0370
ELECTION	0.1744968	6.60	0.0102
LEFTC	0.0019679	1.961	0.0500
CAPOPEN	0.0633982	0.357	0.721

Note: The dependent variable is long-term interest rates. Number of observations is 2,384; number of countries is fifteen; number of time periods is 169 (fourteen years).

crease of 1 percent in the annual rate of inflation (measured monthly) is associated with an increase of 0.23 percent in long-term interest rates. A government presiding over an increase in inflation of one standard deviation (5.73 percent) might expect to pay an interest rate premium of 1.34 percent—a fairly significant increase. The importance of inflation rates to long-term government bond rates suggests that the most dramatic effect of international capital mobility on government economic policy is on the monetary side.[88] This finding is also consistent with trends in inflation in OECD nations; in recent years, reducing inflation has been a key policy goal.[89] During the last two decades, the average rate of inflation, as well as the cross-national variance in this rate, has fallen dramatically, to an unweighted OECD average of 2.3 percent in 1996.

Additionally, as expected, an improvement of 1 percent in the current account balance/GDP is associated with a reduction in interest rates of 0.28 percent: as a nation's current account balance improves, long-term interest rates fall. The strength and significance of the *CURRACCT* are consistent with the mechanism described earlier: a current account deficit indicates the need for a capital account surplus, which requires a higher interest-rate premium.

The other mechanism through which the current account could affect market sentiment—the possibility for exchange-rate depreciation—does not seem to be borne out by this analysis. Although the coefficient for *ERCHANGE* is statistically significant, it is quite small: a 1 percent depreciation in the nominal exchange rate is associated with an interest rate increase of 0.034 percent. The meager size of this effect is likely due to the ability of market participants to ameliorate exchange-rate risk through hedging.

88. Garrett 1998a.
89. See Kurzer 1993; Notermans 1993; and Perry and Robertson 1998.

The final key indicator—and perhaps the one of most interest to political economists—is the government budget balance as a percentage of GDP. *GOVBAL* ranges from –13.6 percent (a deficit) to 9.9 percent (a surplus), with a mean value of –3.3 percent. The coefficient estimate predicts that a decrease of 1 percent in the budget balance (toward a smaller surplus or a larger deficit) results in an increase in interest rates of 0.05 percent. This effect is statistically significant at the 95 percent confidence level, but its magnitude is perhaps surprising. If a nation were to make the substantial movement from a deficit of 10 percent to a balanced budget, holding all other indicators equal, the predicted improvement in the cost of government borrowing would be only 0.5 percent. This effect is noticeable, but if we compare it to the average differential between national and German interest rates (2.84 percent, for the entire sample period), we see that the effect is not immense.[90] A possible explanation for the relatively weak coefficient on the government fiscal balance variable is that the response of capital markets to budget deficits has changed over time. Perhaps capital market responses were weak in the early 1980s but strong in the mid-1990s. To test this explanation, I added an interaction term *(CAPOPEN*GOVBAL)* and reestimated the earlier model. The coefficient estimate for this term, however, was substantively small and not significant at the 90 percent confidence level.

The relative magnitudes of the coefficients on inflation and deficits suggest that the influence of financial markets on government policy is much stronger on the monetary policy side than on the fiscal policy side. This is consistent with the notion that, even under flexible exchange-rate regimes, financial market openness dramatically reduces monetary policy autonomy.[91] At the same time, the possibilities for, and effectiveness of, fiscal policy remain.[92] Moreover, this finding suggests that, while we have observed a reduction of government budget deficits in the OECD during the 1990s, financial market pressures do not necessarily drive these reductions. Much of the motivation for these reductions may stem from political choices—particularly EMU—rather than from financial market pressures. Along these lines, estimations of the model, including an interaction term for EU membership *(EU member*GOVBAL)*, suggest that EU member nations pay higher premiums for budget deficits than nonmember nations.

Another fiscal indicator of interest to political economists is government debt, which measures accumulated budget deficits. Debt could provide information regarding the sustainability of fiscal policy and the temptation of governments to inflate away nominal debt.[93] The inclusion of government debt in the regression equation (either as a substitute for government budget balance, with which it is highly collinear, or combined with deficits to form a single fiscal indicator) does not substan-

90. For a similar conclusion regarding the impact of government fiscal balances on long-term interest rates, see Orr, Edey, and Kennedy 1995.

91. Bisignano 1994.

92. Clark and Hallerberg 1997.

93. See Missale and Blanchard 1994; and Orr, Edey, and Kennedy 1995.

tially alter the results. The coefficient estimates and levels of significance remain much the same.

Government partisanship and elections. Contrary to our expectations, the measurement of government partisanship *(LEFTC) is* statistically significant at the 95 percent level. Governments with a higher percentage of Left party cabinet members will pay higher interest rates. The coefficient on this variable, however, is very small: 0.00197. This estimate is robust because it employs a different measure of government partisanship, the percentage of legislative seats held by Left parties. The implied impact on government bond rates of the difference between a "fully Right" government and a "fully Left" government is only 0.2 percent. Although these results suggest that partisanship may, in fact, matter to market participants, it is of only minor importance. Accounting for macro outcomes—for policies, not politics—explains much more of the variance in long-term interest rates.

Interviews with financial market participants suggest that elections will matter to market participants when a change of government implies a substantial change of macroeconomic policy. This implies that, if market participants expect elections to create policy changes, we might find a statistically significant coefficient on the election variables. This is, in fact, the case; the total effect of elections on long-term interest rates is 0.17 percent, including lagged and lead effects. Again, relative to other coefficient estimates, this coefficient is quite small. It confirms market participants' assertion that elections matter "occasionally." It is difficult, however, to identify systematic conditions under which elections are important to market participants.[94]

The cross-sectional time-series estimates for the model confirm the importance, revealed in the interview evidence, of certain aggregate economic outcomes to financial market participants. The most important of these is inflation performance. On the fiscal side, government budget balances *are* significantly associated with long-term interest rates, but the implied effect is not nearly as large. Moreover, the results indicate that government partisanship is, in fact, significantly related to long-term interest rate levels; but, again, the coefficient is small.

Model with Micropolicy Indicators

Here I examine the effects of micropolicy indicators on long-term interest rates. Are micro indicators significantly associated with long-term interest rates; and, if so, how strong are the effects of changes in these indicators? Interview evidence suggests that the more micro-side a policy indicator is, the less important it is to long-term interest-rate levels. Is it the case, then, that the relationship between these indicators and long-term interest rates is either insignificant or substantively small?

94. For example, elections that produce Left governments *(ELECTION*LEFTC)* are not associated significantly with long-term interest rates.

One potential objection to the "strong but narrow" hypothesis is that limits on macro indicators necessarily imply limits on micro indicators. If governments are pressured to reduce inflation and budget deficits, they also must reduce levels of government spending and alter the nature of supply-side policies. Therefore, according to this argument, financial market participants need not look beyond macro indicators when making asset allocation decisions. The international financial market constrains governments broadly, even though its participants use only a narrow set of indicators. If this were the case, we would find strong correlations between macro and micro indicators.

This is not the case, however. With respect to both inflation and fiscal deficits, none of the correlations between macro and micro indicators is very strong (none exceeds 0.46), and several correlations are close to zero. From this evidence, as well as from the evidence of persistent divergence in micro-side areas, we can conclude that a "firewall" exists between "market important" and "market unimportant" policies: market pressure on the macro side does not imply a specific set of changes on the micro side.

To test the importance of a variety of micro indicators to financial market outcomes, I estimate a series of regressions, including the independent variables from the macro model and various micro indicators.[95] Because many of these micro indicators are somewhat collinear, I include one variable from the micro side in each equation and estimate a series of equations. In Table 3, I report the results of these estimations, in terms of total coefficients, the direction of effect predicted by a model of strong and broad financial market influences, the probability that the total coefficient estimate differs from zero (the chi-squared test), and the implied effect of a change of one standard deviation in the micro indicator. The shaded rows in the table indicate a confidence level of 90 percent or more. The estimates for the other independent variables remain very similar, in terms of significance and coefficients, to those reported in the macro model.

These indicators are listed in terms of their "micro-ness," with the most aggregate first. The first variable is a measure of the overall size of government *(GOVERNMENT/GDP).* Even if we accept the idea that the financial market pressures on developed democracies are somewhat narrow, we might not be surprised to find an association between the size of government and interest rates. Indeed, the results suggest that larger governments pay higher interest rates, and the estimate is statistically significant at the 98 percent level. The coefficient on this variable is, however, rather small: a change in the size of government of one standard deviation (9.1 percent of GDP) leads to a corresponding change in interest rates of only 0.23 percent—a penalty, but not a tremendously large one. Likewise, the government tax revenue variable *(GTAX/GDP),* another relatively "macro" measure of the degree of government involvement in the private economy, is statistically significant at the 98 percent level. The implied effect of the tax revenue variable is 0.32 percent.

95. See Appendix 1 for descriptions and sources.

TABLE 3. *Estimated effects of micro indicators*

Variable	*Number of countries*	*"Broad influence" effect on interest rates*	*Total coefficient*	$p > \chi^2$	*Significance level*	*Effect, one SD change*
GOVERNMENT/GDP	15	Positive	0.024742	0.018	98%	0.2253
GTAX/GDP	15	Positive	0.043314	0.012	98%	0.3215
GCONSUMPTION/GDP	15	Positive	0.108238	0.0003	99%	0.4542
GCAPITAL/GDP	14	Negative	−0.439259	0.000	99%	−0.4955
GOODS/GDP	15	Positive	−0.005749	0.875	12%	0.01185
GWAGES/GDP	13	Positive	0.09075	0.210	79%	0.2670
TRANSFERS/GDP	14	Positive	−0.011409	0.659	34%	−0.054
HEALTH/GDP	14	Positive	22.37452	0.131	87%	0.1882
CORPTAX/PROF	15	Positive	0.001803	0.925	7%	0.0097
IND/CORPTAX	15	Negative	−0.026933	0.410	59%	−0.1019
WOR/EMPCON	13	Negative	−0.002313	0.082	91%	−0.0014
PAYTAX/GDP	15	Positive	−0.12684	0.280	72%	−0.1034

Note: Shaded rows indicate a confidence level of 90 percent.

The next two variables are relatively comprehensive measures of how governments allocate spending across functional categories. Government capital/GDP *(GCAPITAL/GDP)* includes all government expenditures for capital investment, for example, projects relating to national infrastructure. Government consumption/GDP *(GCONSUMPTION/GDP)* includes expenditures for consumption purposes, including, but not limited to, social security transfers and subsidies to industries. If financial market participants care about how governments spend their money, the coefficients on these indicators will be large and statistically significant. In both cases, the coefficients are statistically significant: higher rates of capital spending are associated with lower interest rates, and higher levels of government consumption are associated with higher interest rates. This suggests that, despite some interview evidence to the contrary, financial market participants do have some concerns about the division of government spending between consumption and investment. Such a result is consistent with the idea that certain types of government spending promote economic growth or with the argument that the most effective fiscal consolidations rely mostly on spending cuts rather than on tax increases.[96] Again, however, we must consider the magnitude of these effects: a government that increases its consumption/GDP ratio by one standard deviation (4.19 percent of GDP) can expect to pay an additional 0.45 percent in interest rates, whereas a government that increases its capital spending by one standard deviation (1.13 percent of GDP) can anticipate a drop in interest rates of almost half a percent. Under some domestic political condi-

96. See Alesina and Perotti 1995; and Barro 1997.

tions, we might imagine governments paying these prices and maintaining high levels of consumption and/or low levels of investment.

The next group of variables measures other, more micro-level aspects of the distribution of government spending—spending on goods and services *(GOODS/GDP),* on the wages of government employees *(GWAGES/GDP),* on social security transfers *(TRANSFERS/GDP),* and on health care *(HEALTH/GDP).* The results reinforce the conclusion that financial market considerations do not extend to policy outcomes at this level. None of the coefficient estimates for these indicators is significant at a confidence level of 90 percent. Moreover, the coefficient estimates are not of the expected sign for *GOODS/GDP,* and the effects of an increase of one standard deviation in these indicators are quite minor.

The final group of indicators measures different aspects of the structure of tax systems: the ratio of corporate income taxes to corporate profits *(CORPTAX/PROF),* the balance between individual and corporate taxes *(IND/CORPTAX),* the balance of workers' to employers' social security contributions *(WOR/EMPCON),* and the ratio of payroll taxes to GDP *(PAYTAX/GDP).* Three of the four coefficient estimates are in the direction predicted by a strong financial market model, but the coefficient estimates for all four indicators are quite small. The largest predicted effect of a change of one standard deviation is –0.10 percent (for *PAYTAX/GDP*), but this effect is in the opposite direction and not statistically significant. The only significant coefficient estimate is for *WOR/EMPCON,* and its predicted effect is very small—only a one-thousandth point decrease in interest rates in return for an increase of one standard deviation in workers' social security burden relative to employers'.

The analysis of the effect of micro indicators on long-term government bond rates reveals several interesting conclusions regarding the relationship between financial markets and government in an era of open capital markets. First, convergence in aggregate fiscal and monetary policies does not necessitate convergence in more micro areas. Second, despite this conclusion, the quantitative analysis suggests that financial market pressures *do* encompass the most aggregate of micro indicators, although the effects of the consideration of these indicators are somewhat moderate. Third, financial market influences do not extend to more micro indicators. Of the eight indicators tested, only one estimate is significant at a level greater than 90 percent, and the coefficient estimate for that variable is very small. In these cases, government policy is of little interest to financial market participants, and scholars would do well to look to domestic sources when explaining these types of government policy outcomes.

The analysis in this section, then, suggests a modification of our hypotheses about financial market influences on government policy. For the most macro of micro indicators, government policy outcomes do seem to affect market participants' assessment of investment risk. Perhaps they worry about potential linkages between government size and inflation, or between government size and the sustainability of government finances. Long-term interest rates are affected by more than the most narrow set of key indicators (implying a slightly broader set of criteria), but the

effects are quite moderate (implying a weaker influence). ''Strong but narrow'' might be labeled more aptly ''not quite so narrow, and not quite so strong.''

Domestic Political Processes and Financial Market Pressures

In this article I have established the scope and strength of financial market pressures on government policy choices. In doing so, I provide a causal mechanism linking financial globalization with government policy outcomes. To fully explain this linkage, however, a second causal mechanism is necessary—the effect of financial market pressures within domestic politics. How do governments respond to a given set of financial market pressures, and how are government responses mediated by domestic economic and political institutions?

A detailed exploration of this issue is beyond the scope of this article; in this section, I consider briefly some linkages between domestic politics and financial market pressures. Figure 1 suggests that, when faced with financial market pressures (in the form of actual or anticipated higher interest rates), governments decide between changing their policies and paying the interest-rate price of the policy. The decision to pay this price will reflect a government's assessment of the tradeoffs between pursuing autonomous policies and incurring higher interest rates.[97] It should depend on the magnitude of the price, on the government's sensitivity to changes in economic performance caused by the price, and on the salience to governments of debt-servicing costs. These factors vary cross-nationally, leading to cross-national variation in domestic political responses to interest-rate pressures.

First, other things being equal, governments will be less willing to pursue policies that are more costly. Where financial market penalties are larger, governments are more likely to pursue market-friendly policies. Second, the impact of interest rates on the domestic economy, and on government actions, might differ cross-nationally. In general, increases in government bond rates will produce increases in domestic interest rates. Higher interest rates can lead to higher unemployment, lower investment, and lower economic growth. Higher interest rates also can contribute to exchange-rate appreciation, which damages export-oriented industries and may further dampen growth. Moreover, higher interest rates can produce declines in equity market performance. If we assume that democratically elected governments are motivated by a desire to remain in office (that is, they are office seeking),[98] and that voters respond to economic conditions,[99] we can expect *all* governments to be sensitive to the economic impact of changes in interest rates.

97. Likewise, Simmons views a government's decision to adjust domestically—and to maintain its commitment to the interwar gold standard—as a choice between maintaining international obligations and servicing domestic constituencies. Simmons 1994.

98. See Downs 1957; and Mayhew 1974.

99. Lewis-Beck 1988.

Governments' sensitivity, however, will vary. An increase in interest rates of 0.5 percent is more salient in a nation with a poor economic outlook than in a nation with a robust economy. Likewise, exchange-rate appreciation is more worrisome for governments when the export sector is large. More importantly, the impact of economic conditions on voting behavior—and, therefore, on government policy choices—depends on political institutions. Voters can assign blame more easily to single-party governments with high political party cohesion; in coalition governments, or where party cohesion is low, the responsibility for economic policymaking is diffuse, and voters are less able to blame or reward the incumbent government for economic performance.[100] Members of coalition governments likely are aware of voters' difficulties in blame assessment and are more likely to accept interest-rate penalties. Therefore, governments of nations with majoritarian electoral systems and well-disciplined parties will be more sensitive to changes in interest rates, since they expect to receive the bulk of the public's blame for economic downturns.

Furthermore, in some nations, large welfare states insulate individuals from market-determined economic conditions. If a substantial portion of voters' material needs are provided by the public sector, rather than in a market setting, voters are less affected by changes in economic conditions. As such, they are less likely to punish governments for increases in interest rates.[101] Therefore, governments with large public sectors, such as Sweden, should be more willing to pay interest-rate premiums than governments with smaller public sectors, such as Britain.

Third, we can expect governments to consider the impact of changes in interest rates on debt financing costs. Increases in government bond rates generate increases in future government financing costs. When faced with such increases, a government can run a larger deficit or make cuts in other areas to maintain the same deficit. Deciding to run a larger deficit likely will produce another round of interest-rate increases, making this choice relatively unattractive. The propensity of governments to accept an increase in its financing costs, then, depends on its existing level of financing costs and on its willingness to make tradeoffs across other budget categories. Where financing costs are already high, as in Italy during the mid-1990s, governments will be more reluctant to pay the interest-rate premium. At the same time, where governments perceive other items in the budget as necessary—that is, where they see little fat to trim from the budget—they also will be less willing to pay the interest-rate premium. This situation might characterize EU members at present; paying higher financing costs would entail either reducing spending in other areas or violating the Stability and Growth Pact. Therefore, on the basis of financing costs, we might expect Belgium—an EU member with high debt-servicing costs—to be much less willing to pay an interest rate price than Canada.

100. Powell and Whitten 1993. Powell and Whitten also examine several other mechanisms through which domestic institutions affect the degree of economic voting.

101. Pacek and Radcliffe 1995.

The foregoing discussion suggests that additional research regarding government responses to financial market pressures is necessary. This research might seek to identify how much latitude governments have to incur interest-rate penalties; how long this latitude persists; and how governments' willingness to incur financial market penalties in return for domestic autonomy affects later assessments by private capital market participants.[102]

Lastly, even where governments choose policy change over an interest rate premium, the character of the policy change is largely an issue for domestic politics. Financial market participants desire low inflation and low deficits. There are many ways of achieving lower deficits—increased taxes, reduced public investment, and reduced transfer payments, to name a few. Likewise, there is more than one means of attaining low inflation—governments might employ the free-market path (with no minimum wages and no wage bargaining) or the managed path. Provided governments achieve the desired outcomes, market actors do not worry about which means is employed. These choices, too, are well within the purview of domestic politics.

Conclusion

In this article I argue that financial market influences on governments of developed democracies are "somewhat strong but somewhat narrow": financial market participants are most concerned about macropolicy outputs and least concerned about supply-side policy decisions. Additionally, the magnitude of financial market responses to macroeconomic policies is not tremendous. Although the effects of changes in inflation rates are relatively large, the effect of changes in the government fiscal balance is quite mild. Therefore, we can conclude that the evidence provided by interview research is fairly robust: it does not correspond perfectly with aggregate financial market outcomes, particularly at micro-macro boundaries (such as total size of government), but it corresponds quite well with aggregate outcomes in terms of the consideration of micro indicators, the importance of aggregate monetary policy outcomes, and the relative unimportance of government partisanship. Despite financial globalization, the motivations for many government policies remain rooted in domestic politics and institutions. Governments concede to financial market pressures in a few areas, but they retain autonomy in many other areas. Moreover, evidence regarding market participants' use of the Maastricht criteria suggests that, under certain conditions, governments are quite capable of manipulating financial market behavior.

These findings suggest two questions for future research. First, what might these findings reveal about financial market influences in the developing world? The importance of default risk to investors' collection of information suggests that, because default risk *is* salient in emerging markets, financial market influences will be broader

102. I thank an anonymous reviewer for suggesting the future research agenda in these terms.

in those economies; however, financial market influences in the developing world vary markedly over time. During some periods, investors are willing to accept risks and ignore poor economic policy outcomes; during other periods, investors are risk-averse and unwilling to invest even in developing nations with solid economic fundamentals. Explaining both variations over time and across developing countries, then, is a rich subject for future work.

Second, how does the nature of the relationship between financial markets and government vary over time? Did the interaction between mobile capital and national government policies exist in earlier periods of international capital market openness? Before World War I, capital was highly mobile internationally. Investment banks and wealthy individuals, rather than portfolio managers, undertook the bulk of international investment, and governments were far less ambitious in their public policies. A fruitful endeavor would be to explore the implications of these differences in earlier phases of the relationship between financial markets and governments. Similarly, it would be worthwhile to inquire into how EMU has changed this relationship.

Appendix 1: Data Definitions and Sources

CAPOPEN: Legal capital market openness (the existence or absence of capital controls).[103] This measure uses the IMF's *Annual Reports on Capital Exchange Restrictions* to assess the severity of a nation's restrictions on the payment and receipts of capital. The measure ranges from zero to 4, where 4 indicates fully free payment and receipts of capital.

CORPTAX/PROF: Ratio of corporate income taxes to net operating surplus of domestic producers (profits).[104]

CURRACCT: Current account balance as a percentage of GDP. Negative numbers indicate a current account deficit.[105]

ELECTION: A zero to 1 dummy variable, coded 1 for an election during that month, and zero for no election.[106]

ERCHANGE: Monthly change in the nominal trade-weighted effective exchange rate.[107]

GCAPITAL/GDP: Government capital spending as a percentage of GDP.[108]

GCONSUMPTION/GDP: Total government consumption spending as a percentage of GDP.[109]

GOODS/GDP: Government spending on goods and services as a percentage of GDP.[110]

103. Quinn 1997.
104. Swank 1998b.
105. OECD, *Statistical Compendium.*
106. Swank 1998b.
107. Datastream International database.
108. World Bank, *World Development Indicators CD-ROM.*
109. OECD, *Statistical Compendium.*
110. World Bank, *World Development Indicators CD-ROM.*

GOVBAL: General government budget balance as a percentage of GDP, where a negative number indicates a deficit.[111]

GOVDEBT: Ratio of government debt to GDP, where larger numbers indicate larger debt shares. The OECD definition of debt/GDP ratios, which includes all levels of government, and social security liabilities differs slightly from the European Commission's (Maastricht Treaty) definition.[112]

GOVERNMENT/GDP: Total size of government, including consumption and capital spending, as a percentage of GDP.[113]

GTAX/GDP: Government tax revenue as a percentage of GDP.[114]

GWAGES/GDP: Government spending on wages as a percentage of GDP.[115]

HEALTH/GDP: Current public expenditure on health as a percentage of GDP.[116]

IND/CORPTAX: Ratio of taxes on individuals to taxes on corporations.[117]

INFLATE: Monthly change in the level of consumer prices.[118]

LEFTC: Percentage of cabinet seats held by Left party ministers.[119] Annual data are converted to monthly data on the basis of election dates; where an election occurred after the fifteenth day of the month, the change in cabinet seats is recorded for the following month.

LEFTGS: Percentage of legislative seats held by Left parties that are part of the governing coalition. Annual data is converted to monthly data, as with *LEFTC*. A score of zero indicates that no Left parties with parliamentary representation are part of the governing coalition.[120]

LTRATE: Market-determined interest rates on long-term, benchmark government bonds.[121]

OPENNESS: General international economic openness.[122] This measure includes restrictions on payment and receipts of capital *(CAPOPEN),* restrictions on payment and receipts of goods and invisibles (current account openness), and participation in international agreements on these issues. *OPENNESS* ranges from zero to 15, where 15 indicates full openness to external economic flows.

PAYTAX/GDP: Payroll taxes on employers as a percentage of GDP.[123] These generally are ten-year government bonds.[124]

111. OECD, *Economic Outlook,* December 1997.
112. Ibid.
113. OECD, *Statistical Compendium.*
114. Ibid.
115. World Bank, *World Development Indicators CD-ROM.*
116. Health figures are from OECD Health Data, ECO-SANTE, 1995; these figures and GDP statistics are found in Huber, Ragin, and Stephens 1997.
117. Swank 1998b.
118. International Monetary Fund (IMF), *International Financial Statistics CD-ROM,* and Datastream International database.
119. Swank 1998b.
120. Ibid.
121. IMF, *International Financial Statistics CD-ROM,* and Datastream International database.
122. Quinn 1997.
123. Swank 1998b.
124. IMF, *International Financial Statistics CD-ROM,* and Datastream International database.

TRANSFERS/GDP: Social Security transfers as a percentage of GDP. Includes benefits for sickness, old age, family allowances, social assistance grants, and welfare.[125]

USLT: Long-term U.S. interest rates; also used for benchmark government bonds.

WOR/EMPCON: Ratio of workers' to employers' social security contributions.[126]

Appendix 2: Results, Disaggregated Coefficients

TABLE A1. *Results from Table 2, each lag reported separately*

Variable	*Coefficient*	*Standard error*
USLT	0.2538979***	0.0192141
USLT—lag 1	0.0684961***	0.0201333
USLT—lag 2	0.0791859***	0.0188864
INFLATE	0.1022192***	0.0173127
INFLATE—lag 1	0.0801053***	0.0177536
INFLATE—lag 2	0.0516412**	0.0171877
GOVBAL	−0.050101*	0.0240537
ERCHANGE	−0.0231955***	0.0049851
ERCHANGE—lag 1	−0.0106435*	0.0049967
CURRACCT	−1.479957	1.329048
CURRACCT—lag 1	3.801062	2.615207
CURRACT—lag 2	−2.599915*	1.322194
CAPOPEN	0.0633982	0.1776917
LEFTC	0.0019679*	0.0010034
ELECTION	0.0830383*	0.0392404
ELECTION—lag 1	0.0914585*	0.039239
Constant	4.608673***	0.717962

***$p < .001$; two-tailed test.
**$p < .01$.
*$p < .05$.

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125. OECD, *Historical Statistics*, various years, tab. 6. Available in Huber, Ragin, and Stephens 1997.
126. Swank 1998b.

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