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Policy Uncertainty in Hybrid Regimes: Evidence From Firm-Level Surveys

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Abstract

Cross-national surveys suggest that regulatory and policy uncertainty is an important constraint on investment in developing countries. Yet there has been little direct empirical investigation of the sources of this uncertainty. This article presents evidence of an inverted U-shaped relationship between firms' perceptions of policy uncertainty and political regime type. Firms in hybrid regimes report higher levels of concern over policy uncertainty than those in either more authoritarian regimes or liberal established democracies. The authors argue that the explanation lies with a combination of polarized political competition and limited access to credible information and test their theory using survey data of around 10,000 firms from the World Bank–European Bank for Reconstruction and Development's Business Environment and Enterprise Performance Survey from 27 postcommunist countries and five Organisation for Economic Co-operation and Development countries. Methodologically, the authors propose a means of controlling for reporting and suppression biases in these surveys when an anchoring vignette is not available.

Keywords

economic development, democracy, policy uncertainty, political risk, transition economies

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Cross-national surveys of firms suggest that regulatory and policy uncertainty is one of the most serious constraints on doing business in developing countries. According to the World Bank's Enterprise Surveys, for instance, 40% of domestic firm managers in developing regions identify such uncertainty as a "severe" or "major" constraint—more so than corruption or taxation and well ahead of infrastructure, skills shortages, and labor regulations (World Bank, 2005).[1] This problem is most acute in Latin America. More than 75% of Brazilian firms, 70% of Peruvian firms, and 60% of firms in Ecuador rate economic policy uncertainty as a major or very severe obstacle to doing business. It is also important in Europe and Central Asia, where 39% of firms consider it a serious problem, and in South Asia, where 35% do.

The notion that uncertainty over rules and regulations is detrimental to investment and growth is hardly controversial. A business environment characterized by constant policy surprises and reversals, unclear property rights, and uncertain contract enforcement is likely to deter investment and result in poor economic performance (Brunetti, Kisunko, & Weder, 1998). Indeed, many studies of political risks have used firms' perceptions of policy uncertainty, such as foreign investors' rating of investment risks, as a *proxy* for the actual level of uncertainty and then examined the effect of perceptions on macroeconomic outcomes such as investment and growth (e.g., Frye, 2002; Jensen, 2003). Yet there has been very little direct empirical investigation of the sources of this perceived uncertainty. The political science literature has alluded to possible causal factors, such as regime type, electoral cycles, and political polarization, yet the link between the political environment and policy uncertainty is often assumed rather than systematically tested.

This article is one of the first to systematically identify the political and economic sources of firms' perceptions of policy uncertainty in developing countries. To what extent does the political environment contribute to the perception of uncertainty? What do firm managers mean when they say that policy uncertainty is a constraint on investment? More fundamentally, how much confidence can we have that firms' perceptions have some basis in economic or political reality?

To answer these questions, we proceed in two steps. First, we present prima facie evidence that firms in hybrid regimes report higher levels of concern over policy uncertainty than those in either more authoritarian regimes or liberal established democracies. Second, we argue that the greater concern over policy uncertainty in hybrid regimes is because of a combination of polarized political competition and an absence of credible information regarding possible policy changes. We test our argument using firm-level survey data for around 10,000 domestic and multinational firms operating in 27 postcommunist countries and 5 established democracies. The results lend

strong support to our argument. Firms perceive higher levels of policy uncertainty in polities where political parties with widely different economic platforms compete and where respondents lack access to credible information regarding possible policy changes. The results are robust even after controlling for actual level of macro- and microeconomic policy volatility, the level of political openness, and transition costs. We finish by checking for and discounting the possibility of firm- and national-level reporting bias, such as suppression, in our results.

This article advances our understanding of political risk and its effects on the economy in three respects. First, although the political science literature has largely focused on institutional constraints or partisan preferences as a determinant of investment risk (Broz & Weymouth, 2007; Henisz, 2000; Stasavage, 2002; Tsebelis, 2002), our analysis points to a different source: one arising from the interaction between the type of political competition and the information environment in which it takes place.

Second, contrary to the existing literature that assumes linearity between the degrees of political openness ("regime type") and policy uncertainty, we demonstrate that what matters for firms' perception of policy uncertainty is the type of political competition. Unlike some studies that associate programmatic competition with such desirable outcomes as public goods provision and economic growth (Keefer, 2007; Keefer & Khemani, 2005; Stokes, 2005), moreover, we argue that the programmatic competition can have perverse effects on the economy when credible information about future policy changes is not available to the public.

Finally, the findings of this article complement a growing literature on the ill effects of hybridism on various aspects of political behavior, including the propensity toward violent conflict and the likelihood of state failure (Gates, Hegre, Jones, & Strand, 2006; Robertson, 2007; Snyder & Mansfield, 1995). Like these studies we find that hybrid regimes have distinct effects that are not part of a linear causal relationship extending from democracy to autocracy. Our contribution is novel, however, in that we demonstrate an additional channel through which hybrid political institutions affect the economy.

The Puzzle: Democracy, Authoritarianism, and Policy Uncertainty

We begin with a puzzle. Figure 1 shows that firms in hybrid or semidemocratic regimes such as Georgia, Ukraine, and Romania report greater concern about policy uncertainty than their counterparts in more democratic or more

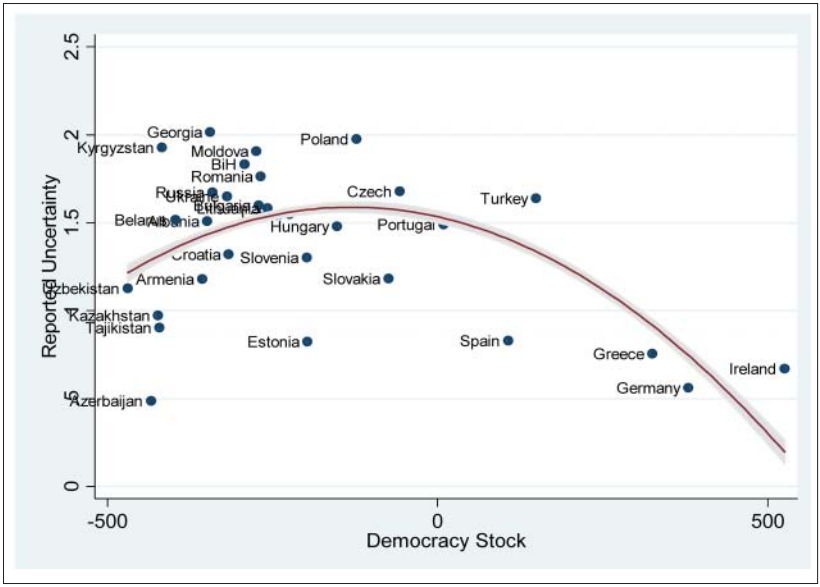

Figure 1. Political regime type and reported policy uncertainty

autocratic countries. Our dependent variable is the firm's response to the following question from the Business Environment and Enterprise Performance Survey (BEEPS) Survey: "How problematic is policy uncertainty for the operation and growth of your business?" Respondents were asked to reply on a scale from 0 to 3, with 0 representing *no obstacle* and 3 representing *major obstacle*.[2] The democracy indicator is stock measure devised by Gerring, Bond, Barndt, and Moreno (2005) and constructed as the weighted sum of each country's Polity IV score from the Polity IV data set between 1900 and the present year, with greater weight given to more recent years. It measures the extent to which democratic or autocratic "authority patterns" are institutionalized in a country and takes into account the degree of competition for office among political elites and the extent to which nonelites participate in political processes.[3]

Scholars have delineated several types of mixed or hybrid political organization, among them "competitive authoritarian" regimes (Levitsky & Way, 2002), "institutionally inconsistent" political systems (Gates et al., 2006), and "ambiguous" cases (Diamond, 2002). The common feature of these political systems is a system of regular, contested elections that are sufficiently unpredictable in outcome for incumbents to have to take them seriously but that nonetheless do not meet the procedural standards for democracy (Levitsky &

Way, 2002; Robertson, 2007). In this article we focus on one particular aspect of hybrid regimes: a combination of vigorous political competition and lack of credible information regarding likely policy changes. Both features are consistent with the examples found in the literature, even if they do not encompass all the aspects in which political organization can fall short of substantive or full democracy.

This raises two questions. First, why do firms in countries that are characterized by the similar level of political openness according to the Polity IV indicator—such as, for example, Georgia and Croatia or Kyrgyzstan and Tajikistan—report very different levels of policy uncertainty? Second, why do firms in regimes with moderate levels of political openness report higher policy uncertainty than firms in more authoritarian or more democratic regimes?

Political Competition and Uncertainty: Linearity Versus Nonlinearity

The existing literature remains ambiguous on the relationship between regime type and policy uncertainty. Some scholars have suggested that democracy should be associated with higher uncertainty because of electoral change and a lack of insulation from special interest politics (Hirschman, 1992; Olson, 2000; Przeworski, 1988); others have argued that policy uncertainty should be lower under democracy because democratic institutions constrain the power of leaders and raise the cost of providing private benefits, both of which make states' commitment to the rule of law more credible (Bates, 2001; North & Weingast, 1996). There is also empirical evidence that democratic governments generally show greater respect for property rights (Clague, Keefer, Knack, & Olson, 1996). Yet both these lines of argument predict a linear relationship rather than the inverted U shape we observe.

A related literature has focused on "veto points," or checks on executive power, as a determinant of the potential for policy swings or reversals. Thus, it is often argued, proportional electoral systems have a greater status quo bias than majoritarian ones; so do federal compared to unitary states and parliamentary compared to presidential systems (Haggard & McCubbins, 2001; Rogowski, 1987; Treisman, 2000). However, there is a strong empirical correlation between the degree of democracy across countries, as captured by Polity IV, and the extent of checks on the executive.[4] This then would also lead us to expect a linear rather than the U-shaped relationship between democracy and uncertainty that we observe in our data.

The emerging literature on "hybrid" regimes points to two possible explanations for why firms in these countries might report a higher level of concern over policy uncertainty. The first of these has to do with uncertainty generated by the process of change itself, or what we might call dynamic uncertainty. Like other systems transitions, market reform involves the substitution of one set of rules for another. Until the new rules are broadly accepted, however, there is likely to be uncertainty over both their content and how they are implemented (Hellman, 1998; Przeworski, 1991).

Furthermore, there is the possibility that the development of new institutions may be stalled or reversed. Frye (2002), for instance, shows that concern over policy uncertainty is likely to be higher in the presence of ex-communist, or what he calls "anti-system," parties that threaten policy reversals. He has found that growth has tended to fall in the year preceding an election in these polities but that the effect is absent in countries where there is a political consensus. He argues that the explanation lies in the discouraging effect of uncertainty on firm investment and expectations, though he provides no micro-level evidence of the mechanism.

But scholars have also increasingly begun to think of hybrid regimes not as a transitional arrangement but as "consisting of relatively established institutional forms that are likely to remain for the foreseeable future" (Howard & Roessler, 2006, p. 365). This suggests another possibility: that the higher levels of policy uncertainty we associate with intermediate regimes are not so much because of transition costs but their particular form of vigorous but unfair political competition.[5]

The Argument: Types of Political Competition and the Informational Environment

We argue that firms' perceptions of policy uncertainty are influenced by the interaction between political competition and the information environment in which it takes place. In particular, we distinguish two types of political competition as determinants of the perceived level of policy uncertainty—one type characterized by competition between personalized or clientelist parties and the other by competition between programmatic parties. The level of political competition is not in itself indicative of the potential for policy swings, we argue, because parties often compete on personal characteristics and issues other than economic policy (Cox, 1987; Kitschelt & Wilkinson, 2007; Müller & Strøm, 1999).

The literature provides competing logics linking programmatic competition to firms' perception of policy uncertainty (Keefer & Khemani, 2005; Kitschelt & Wilkinson, 2007). On one hand, one could argue that programmatic parties with a well-established reputation for advocating particular positions on issues of broad public concern are likely to be associated with lower policy uncertainty than clientelistic parties because of the clearer signal they provide of forthcoming policy changes (Keefer & Khemani, 2005; Snyder & Ting, 2002). But there is scant systematic empirical evidence to support this argument (Fowler, 2006).

On the other hand, polarized programmatic competition—where parties with widely different economic platforms compete—may be associated with greater policy swings and more reversals than clientelistic competition and hence with a higher level of perceived uncertainty.[6] In their study of Organisation for Economic Co-operation and Development (OECD) countries, Alt and Lassen (2006) show that, in those polities that lack fiscal transparency, party polarization is associated with higher levels of preelection fiscal manipulation.

This literature has provided contradictory predictions in part because it links the type of political competition either to the predictability of policy changes from the public's point of view (Keefer, 2007) or to actual levels of policy volatility (Alt & Lassen, 2006; Shi & Svensson, 2006) but does not consider these two factors simultaneously. We demonstrate that both predictions are conditionally valid in that the effect of programmatic competition on the firms' perception of uncertainty is conditional on the information environment in which the competition takes place. Polarized programmatic competition reduces uncertainty where transparency is high, whereas it increases uncertainty where transparency is low even after controlling for actual levels of macro- and microeconomic policy volatility.

Translating Uncertainty Into Risk: The Role of Information

The information environment plays a key role in determining how programmatic competition affects the economy. Consider the classic distinction between risk and uncertainty: "Risk" describes situations in which probabilities are available to guide choice, and "uncertainty" describes those in which information is too imprecise to be summarized by probabilities (Runde, 1998, p. 539). Firms may face a higher likelihood of policy swings and potentially higher uncertainty in polities where political competition is programmatic and polarized. However, whether or not this potential is experienced as uncertainty by firms depends on the degree to which observers of the political

process are able to assign probabilities to possible outcomes and adjust their behavior accordingly. We therefore hypothesize that firms' perceptions of policy uncertainty should be higher in polities where political competition is programmatic and polarized and information about possible policy changes is not credible.

Testing the Argument

Our test focuses on around 10,000 firms operating in postcommunist countries in Europe and the former Soviet Union and the five OECD countries that were included in the 2002 and 2005 BEEPS survey (Germany, Greece, Ireland, Portugal, and Spain).[7] Our dependent variable uncertainty is the firm's response to the BEEPS question on the effect of policy uncertainty on the operation and growth of its business as reported above. The responses are coded on a 4-point scale as follows: 0 = *no obstacle*, 1 = *minor obstacle*, 2 = *moderate obstacle*, and 3 = *major obstacle*.

Political Polarization and Access to Information

Our two main explanatory variables are intended to capture political polarization and the informational environment in which political competition takes place. For the first, we use the polarization measure (polarize) from Keefer and Knack's Database of Political Institutions. This captures the maximum distance between the chief executive party's platform—Left, Right, or Center—and those of the three largest government parties and the largest opposition party in the legislature under a system of competitive elections. Thus, polarize takes a value of 2 if the chief executive's party is Left (Right) and the opposition party is Right (Left); it takes a value of 1 if the executive's party is Centrist and the others Left or Right; and it takes the value 0 if the platforms of the executive and other parties are identical, if the chief executive's party has an absolute majority in the legislature, or if elections are noncompetitive. An important limitation of this coding is that it does not distinguish between polities in which competition is programmatic but nonpolarized and those in which political competition is either clientelistic or personalized (see Coding of the Polarization Variable in the appendix).[8] We discuss the implications of this below.

For our measure of the informational environment, we experiment with three different indicators. The first is the degree of trust citizens have in domestic media, as reported by the World Value Surveys (trust_media_diff).[9]

We prefer this measure because it corresponds most closely to our theory.[10] We also use the press freedom score from Freedom House (free press), rescaled so that it is increasing in democracy.[11] This captures the extent to which the media is perceived as *not free*, *partly free*, or *free* and is available for all the countries in our sample. Finally, recent work suggests that the ownership structure of the media affects the quality and credibility of information. Therefore, we use Djankov, McLiesh, Nenova, and Shleifer's (2003) media ownership data to calculate the share of top five daily newspapers owned by private companies in each country (private_press_share).[12]

Because our argument is conditional in nature—that is, the effect of potential policy swings on perceived policy uncertainty depends on the credibility of information available to respondents—we include an interaction term between polarization and each of the three information variables. Our expectation is that this term should have reductive effects on reported levels of uncertainty, consistent with polarized political competition leading to greater uncertainty under conditions of limited freedom of information.

Alternative Hypotheses and Controls

We test three alternative hypotheses for why firms in hybrid regimes tend to report higher concern for policy uncertainty: transition costs, macro- and microeconomic policy volatility, and incumbent turnover. Transition represents the cumulative degree of economic liberalization from 1990 to 2005 and is based on data from the European Bank for Reconstruction and Development's (EBRD) transition index.[13] The literature on transition economies suggests that firms in polities experiencing major liberalization might report higher concerns over uncertainty, as suggested by the notion of a "valley of transition" or J curve (Hellman, 1998; Przeworski, 1991).

Because firms' perception of policy uncertainty may simply be a function of actual levels of economic policy volatility, we include two variables intended to capture the sharpness of changes in economic policy. Budget volatility captures variability in fiscal policy and is calculated as the median of the year-to-year changes in budget allocation across functional categories for the previous 4 years, as calculated by the OECD.[14] Inflation volatility captures variability in inflation and is calculated as standard deviations of inflation data taken from the International Monetary Fund's International Financial Statistics for the 8-year period from 1998 to 2005. Because standard deviations of inflation have very high variability, we use the natural logarithm of inflation volatility.

We also use a dummy variable, incumbent stays, that takes a value of 1 if the incumbent president or party retained power as a result of presidential or

Table 1. Theorized Influences on Firms' Perception of Policy Uncertainty

	Country Level	Firm Level
Actual level of policy uncertainty ("risk")	Types of competition	Sector
	Electoral cycle	Ownership (foreign vs. domestic)
	Budget and inflation volatility	Export
	Levels of political openness	Asset specificity
	Transition costs	Lobbying activity
	External constraints (intergovernmental organizations, EU)	
Perceived/reported level of policy uncertainty ("uncertainty")	Information environment	Respondent's level of education
	Information environment*volatility	Length of time firm has operated
	Ownership (foreign vs. domestic)	
Immeasurable/lack of data	Risk-taking attitudes, etc.	Respondent's personality, gender, experience, nationality
	Culture of risk aversion/ tolerance	

parliamentary elections between 2002 and 2005 and 0 otherwise. The coding for this variable is derived from Hale (2005): the "Nations in Transit" analyses prepared by Freedom House and newspaper reports.[15] Finally, we include a number of additional national and firm-level controls. Table 1 summarizes the theorized influences on firms' perception of policy uncertainty and lists the relevant control variables. Descriptive statistics are contained in the appendix (Table A2). We test for missing data bias and find that missing values are not systematically correlated with our main independent or dependent variables.

Results

Because our data are two tiered (firm and country levels), we employ a generalized linear latent and mixed model with random intercepts (Gelman, Shor, Bafumi, & Park, 2008). We use ordered probit estimation as the dependent variable is ordinal. The multilevel model allows us to compare the effects of firm- and polity-level attributes on perceptions of policy uncertainty within and across countries and over time. Table 2 summarizes our results. We

Table 2. Determinants of the Reported Level of Policy Uncertainty: Multilevel, Ordered Probit Estimation

	(Full)	(Full)	(Non-OECD)	(Non-OECD)
Political competition and informational environment				
Polarize	0.868	0.952	2.515	2.994
	(2.08)*	(2.01)*	(2.40)*	(2.68)**
Free press	–0.001	0.002	0.010	0.014
	(0.55)	(1.27)	(3.59)**	(4.89)**
Polarize_freepress	–0.011	–0.012	–0.032	–0.040
	(2.21)*	(2.04)*	(2.35)*	(2.78)**
Alternative hypotheses: Transition and volatility				
Transition	0.031	0.017	–0.056	–0.059
	(6.72)**	(0.78)	(3.85)**	(5.01)**
Budget volatility	0.259	–0.099	0.138	–0.441
	(0.39)	(2.24)	(0.12)	(0.47)
Inflation volatility		0.213	0.091	0.065
		(8.69)**	(2.82)**	(2.15)*
Incumbent stays	–0.248	–0.256	–0.285	0.035
	(6.39)**	(6.13)**	(3.61)**	(0.49)
External constraints				
Intergovernmental organizations	–0.004	–0.005	–0.002	–0.005
	(2.62)*	(2.34)*	(0.63)	(1.65)
Firm-level controls				
Firm size	0.016	0.017	–0.028	–0.022
	(0.77)	(0.78)	(1.03)	(0.81)
Foreign	–0.106	–0.099	–0.021	–0.017
	(2.39)*	(2.24)*	(0.40)	(0.32)
Export	0.046	0.041	0.138	0.139
	(1.19)	(1.06)	(2.92)**	(2.94)**
Firm age	0.004	0.004	0.003	0.003
	(5.18)**	(5.06)**	(2.61)**	(3.04)**
Lobby			0.180	
			(3.74)**	
Asset specificity				0.080
				(1.71)
Cut_1	0.846	1.226	0.411	0.436
	(4.16)**	(5.17)**	(1.29)	(1.53)

(*continued*)

Table 2. (continued)

	(Full)	(Full)	(Non-OECD)	(Non-OECD)
Cut_2	1.862	2.243	1.524	1.547
	(9.12)**	(9.43)**	(4.79)**	(5.43)**
Cut_3	2.959	3.341	2.724	2.743
	(14.39)**	(13.97)**	(8.51)**	(9.57)**
Observations Level 1 units	6,883	6,883	3,862	3,862
Observations Level 2 units	31	31	26	26
Observations Level 3 units	2	2	2	2

Note: OECD = Organisation for Economic Co-operation and Development. Absolute value of z statistics in parentheses. Anchoring controls (a firm's response to other investment constraints questions) not shown.
*Significant at 5%. **Significant at 1%.

present two groups of models: the first with (columns 1 and 2) and the second without (columns 3 and 4) the five OECD countries from our full sample.

The results provide strong support for the hypothesis that firms experience higher levels of policy uncertainty in polities characterized by larger programmatic differences between parties. This result holds both for the full sample and for the non-OECD countries. The results also provide substantial support for our principal hypothesis about the relationship between the types of political competition and access to credible information. The interaction term (polarize_freepress) has reductive effects on uncertainty, suggesting that as information becomes more credible, polarization reduces firms' perceived level of policy uncertainty. This is also consistent with the argument that programmatic competition or divided government reduces uncertainty in advanced industrial democracies by signaling clear policy platforms to voters and by providing checks on the incumbent government (Fowler, 2006; Henisz, 2000; Tsebelis, 2002).

Table 3 reports the results of analysis similar to that in Table 2 but using the two other measures of the information environment. Column 1 reports the results using a measure of the percentage of readership share of the top five daily newspapers owned by private companies. Columns 2 to 4 report the results with World Value Survey's "trust in media" responses. The direction and significance of the effects of the polarization and information variables by themselves are unstable, yet the interaction terms (polarization

Table 3. Multilevel, Ordered Probit Analysis With Different Measures for Information Environment

	(1)	(2)	(3)	(4)
Political competition and informational environment				
Polarize	0.092	0.358	0.229	0.315
	(0.77)	(3.95)**	(2.60)**	(3.77)**
Private press share	–0.177			
	(1.57)			
Polarize_privateshare	–0.026			
	(2.09)*			
Media trust diff		0.015	0.010	0.011
		(6.93)**	(3.87)**	(4.68)**
Polarize_mediatrust		–0.006	–0.004	–0.005
		(4.41)**	(2.42)*	(3.45)**
Alternative hypotheses: Transition and volatility				
Transition	–0.029	–0.030	–0.046	–0.028
	(3.58)**	(3.73)**	(4.51)**	(2.17)*
Budget volatility	2.596	2.719	2.302	2.269
	(7.59)**	(6.73)**	(4.74)**	(5.63)**
Inflation volatility			0.026	0.073
			(0.68)	(2.08)*
Incumbent stays	–0.287	–0.130	–0.140	–0.283
	(4.27)**	(1.90)*	(2.09)*	(2.85)**
External constraints				
Intergovernmental organizations	0.010	0.006	0.003	0.006
	(4.23)**	(3.22)*	(1.31)	(3.19)**
Firm-level controls				
Firm size	–0.0318	–0.042	–0.030	–0.040
	(1.21)	(1.59)	(1.13)	(1.50)
Foreign	–0.0157	–0.035	–0.025	–0.029
	(0.30)	(0.69)	(0.48)	(0.56)
Export	0.119	0.125	0.131	0.137
	(2.54)*	(2.74)*	(2.86)**	(2.97)**
Firm age	0.002	0.003	0.003	0.003
	(2.98)*	(3.18)*	(3.36)**	(3.07)**
Lobby			0.162	0.166
			(3.48)**	(3.56)**
Asset specificity				
Cut_1	1.077	1.761	1.301	1.681
	(4.59)**	(6.16)**	(4.01)**	(4.76)**
Cut_2	2.178	2.842	2.383	2.763
	(9.23)**	(9.90)**	(7.32)**	(7.69)**

(continued)

Table 3. (continued)

	(1)	(2)	(3)	(4)
Cut_3	3.348	4.036	3.580	3.958
	(14.05)**	(13.95)**	(10.93)**	(10.98)**
Observations Level 1 units	3,953	3,950	3,950	3,950
Observations Level 2 units	26	28	28	28
Observations Level 3 units	2	2	2	2

Note: Absolute value of *z* statistics in parentheses. Anchoring controls (a firm's response to other investment constraints questions) not shown.
*Significant at 5%. **Significant at 1%.

and information) have systematic reductive effects on policy uncertainty in all four models.

Of our country-level controls, the effect of transition is consistently significant—though, contrary to our expectations, firms in countries that have experienced significant market-oriented liberalization tend to report lower not higher concerns over uncertainty. High inflation volatility is associated with higher concern for policy uncertainty, as expected. Our measures of budget volatility, incumbency, and membership in international organizations do not appear to have substantial or statistically significant effects on perceived uncertainty. We report the coefficients on firms' responses to other questions about constraints on investment, which we include to control for individual level biases, in Table 4.

The behavior of our firm-level control variables reveals a few surprises. The coefficients on the asset specificity, firm size, and ownership variables are not significant. Larger firms do not appear to express greater concerns over policy uncertainty, nor do those that are foreign owned. Meanwhile, exporters tend to consider policy uncertainty a more serious constraint than domestically oriented firms. So do firms that engage in political lobbying. This may simply be evidence of reverse causation—firms lobby because they are more vulnerable to future policy swings.

We provide a substantive interpretation of our results in Figure 2, which shows the predicted probability of a firm's reporting policy uncertainty as "a major obstacle to doing business" from Model 1 in Table 2. It shows first that, when information is restricted, firms' perceptions of policy uncertainty as a constraint increase as the degree of polarization increases. Specifically, moving from a state of no polarization to a state of polarization in a low information environment is associated with a 10 percentage point increase (20% to 30%) in the probability of a firm reporting policy uncertainty to be a major constraint. The opposite happens in a freer information environment:

Table 4. Anchoring Controls From Regression Table

Telecommunications	–0.052	–0.059	–0.060	–0.055
	(1.51)	(1.69)	(1.73)	(1.57)
Electricity	0.027	0.037	0.031	0.027
	(0.88)	(1.20)	(1.01)	(0.88)
Transport	–0.013	–0.018	–0.014	–0.013
	(-0.43)	(0.60)*	(0.44)	(0.41)
Access to land	0.007	0.007	0.007	0.006
	(0.27)	(0.30)	(0.29)	(0.25)
Tax rates	0.126	0.128	0.125	0.120
	(5.04)**	(5.08)**	(4.97)**	(4.78)**
Tax administration	0.071	0.059	0.062	0.065
	(2.82)**	(2.31)**	(2.44)**	(2.61)**
Customs/trade regulations	–0.020	–0.019	–0.024	–0.019
	(0.87)	(0.82)	(1.00)	(0.81)
Labor regulations	0.114	0.114	0.121	0.130
	(4.64)**	(4.63)**	(4.80)**	(5.16)**
Skills of workers	0.160	0.158	0.159	0.156
	(7.36)**	(7.26)**	(7.31)**	(7.15)**
Licensing permits	0.016	0.022	0.021	0.018
	(0.68)	(0.93)	(0.87)	(0.74)
Access to finance	0.041	0.036	0.040	0.040
	(1.81)	(1.60)	(1.75)	(1.76)
Cost of finance (e.g., interest rates)	0.058	0.064	0.060	0.060
	(2.42)**	(2.67)**	(2.49)**	(2.53)*
Macroeconomic instability (e.g., exchange rate)	0.686	0.694	0.689	0.684
	(30.09)**	(30.21)**	(29.78)**	(29.88)**
Corruption	0.092	0.098	0.098	0.091
	(3.81)**	(4.01)**	(4.05)**	(3.78)**
Crime, theft, disorder	0.071	0.069	0.068	0.068
	(2.90)**	(2.79)**	(2.77)**	(2.76)**
Anticompetitive practice	0.058	0.060	0.062	0.060
	(2.85)**	(2.93)**	(3.01)**	(2.89)**
Legal system/conflict	0.081	0.082	0.075	0.077
	(3.35)**	(3.34)**	(3.05)**	(3.17)**

Note: Absolute value of *z* statistics in parentheses.
*Significant at 5%. **Significant at 1%.

The probability of a firm reporting uncertainty as a major constraint decreases by 15 percentage points (from 31% to 16%) as polarization increases. This confirms our argument about the perverse effects of programmatic competition in poor information environments.[16]

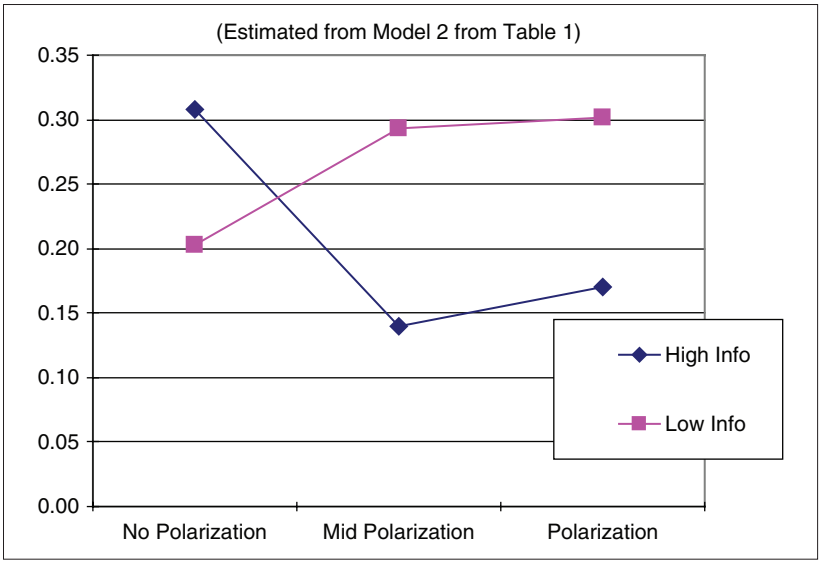

Figure 2. Predicted probability of firm identifying policy uncertainty as a "major obstacle"
Note: "High info" includes countries in a high information environment for which the Freedom House free press score is above the median in our sample. "Low info" includes countries in a low information environment for which the free press score is below the median.

Sources of Reporting Bias: Suppression

Next, we ask whether this perceived relationship is because of reporting bias on the part of firms in authoritarian countries. Our most serious concern is that firms in authoritarian countries may refuse to answer or may provide misleading answers to politically sensitive questions (Kuran, 1995). These include those relating not only to policy uncertainty but also to government efficiency and the incidence of bribe taking by officials. This would explain the left side of the U-shaped pattern above. It might be, for instance, that firms in Uzbekistan and Azerbaijan are less willing to report negative perceptions than firms in, say, Russia and Turkey, for fear that the government will discover their answers and take reprisals. How can we test for this bias?

We do so by comparing the firms' assessments of various constraints on investment with reliable country-level estimates of the same underlying variable. We then relate the difference between these subjective and objective

variables to some measure of freedom of expression. If suppression bias were present, we would expect firms in authoritarian countries to underreport the severity of the constraint relative to those in more democratic countries. Comparing "subjective" and "objective" indicators in this way is an inexact task. Ideally, we would like to compare firms' responses to some independent measure of policy uncertainty, but we were unable to identify an indicator that is both objective and causally independent. Instead, we chose four similar questions from the BEEPS survey that might be considered "sensitive"—and therefore subject to reporting bias—and for which such objective indicators are available. These relate to tax evasion, the functioning of the courts and judiciary, the ease of obtaining business licenses, and the reliability of electricity supply. We pair each with an independently estimated country-level variable that we would expect to be correlated with firm's responses across countries but not subject to suppression bias.[17]

We then regress each of our firm-level indicators on the relevant objective variable and a measure of political openness, in this case a press freedom indicator from Freedom House. We control for other factors that we might expect to influence the gap between the subjective and objective measures, such as degree of foreign ownership and the length of time the firm has been in operation. If suppression bias were present, we would expect the coefficient on the openness variable to be positive and significant. As before, we use ordered probit estimation, except for the tax evasion variable, which is continuous. Table 5 shows the results. For two indicators, informality and contract enforcement, the coefficient on the openness variable is positive and significant. But for the other two, licenses and electricity, it is significant and has the opposite sign of what we would expect. In other words, there is no systematic evidence of bias—in some cases we find that political openness matters, in others not. We interpret this as evidence that, at least in the context of BEEPS, firms in authoritarian countries are as capable of expressing discontent with government polices and performance as those in more democratic ones.

Conclusions

The principal contribution of this article has been to demonstrate and account for the nonlinear relationship between political regime type and firms' perceptions of economic policy uncertainty as a constraint on investment. We have shown that concerns over policy uncertainty, as evidenced by the World Bank–EBRD BEEPS in postcommunist countries and a small sample of OECD countries, tend to be greater in polities with polarized

Table 5. Regression Results: Firm-Level Regressions of "Subjective" on "Objective" Variables

	Tax Evasion (1)	Licenses (2)	Contract Enforcement (3)	Electricity (4)
Objective variable	0.120	–0.0003	0.006	0.015
	(4.66)**	(4.00)**	(5.30)**	(13.51)**
Political openness	0.030	–0.006	0.006	–0.001
	(2.65)**	(12.80)**	(12.22)**	(2.88)**
Foreign ownership	–0.047	0.000	0.003	–0.001
	(–8.50)**	(2.73)*	(2.11)*	(2.27)*
Years of operation	–0.106	–0.004	0.001	–0.001
	(11.58)**	(6.27)**	(2.31)	(1.18)
Constant	8.89	—	—	—
	(6.05)**			
R^2	.013	.007	.004	.008
N	14,171	13,023	14,319	15,284

Note: Absolute value of *z* statistics in parentheses. Ordinary least squares (1) and ordered probit regression (2, 3, and 4).
*Significant at 5%. **Significant at 1%.

political competition but only limited freedom of speech. The reason, as we have demonstrated, is that polarized political competition increases the risk of policy changes, whereas poor access to information impedes firms' capacity to assess this risk and adjust their behavior accordingly. Our results hold even after controlling for actual levels of economic policy volatility, the magnitude of privatization, and other relevant country- and firm-level factors.

A second contribution of the article has been to provide evidence that policy uncertainty is higher when political competition is programmatic rather than clientelistic or personalized. Several scholars have argued that parties with a reputation for clear policy platforms are likely to have a salutary effect on economic performance and democratic accountability. Our results suggest that programmatic competition may have a perverse effect in polities where access to credible information is limited—which has implications for international organizations and others engaged in building programmatic political parties in new democracies. Finally, we have proposed a way to identify and control for suppression bias in survey data even when an anchoring vignette is not available.

Appendix

A1. Coding of the Polarization Variable

Polarize. The principal source of information on the construction of this variable is available at http://siteresources.worldbank.org/INTRES/Resources/DPI2004_variable-definitions.pdf. We use a slightly amended version of Keefer's (2005) coding. The difference concerns the treatment of missing values. Keefer code polarize as missing if either one or more of the underlying party identification variables is 0 or if, as in the case of Croatia (2001–2004), there is no chief executive. In both cases we recode the relevant observations from missing to 0. Our rationale for doing so in the first case is that failure to classify a party on the Right, Center, Left (RLC) scale implies that it is nonprogrammatic and that this in turn implies an absence of polarization along such a scale. In the second case, we simply apply Keefer's coding rule to the largest government party instead of the chief executive.

Table A2. Descriptive Statistics

Variable	Observations	*M*	*SD*	Min	Max
Uncertainty	13,371	1.489791	1.162984	0	3
Polariz	12,613	0.7146595	0.9021268	0	2
Free press	13,469	61.38355	22.59385	14	86
Polarize_freepress	11,825	49.73387	67.61374	0	172
Media_trust_diff	12,364	44.871	24.897	0.099	113.2
Polarize_mediatrust	11,477	34.80088			
Private_press_share	12,186	0.81461	0.31730	0	1
Polarize_privateshare	8,224	0.52403	0.81443	0	2
Firm size	13,469	1.760636	0.8054928	1	3
Ownership	13,469	1.858341	0.3487126	1	2
Exporter	13,467	1.79654	0.4025869	1	2
Firm age	13,466	17.3817	19.2142	3	202
Skill specificity	13,183	0.9178487	0.6371895	0	2
Lobby	13,465	0.7134794	0.8608041	0	2
Transition index	12,736	12.06347	8.684575	0	24
Budget volatility	9,990	0.1081101	0.0617236	0.04	0.34
Inflation volatility	12,010	1.218354	1.359996	–0.697	4.578
Incumbent stays	13,469	0.4433885	0.4968032	0	1
Intergovernmental organizations	12,673	53.94295	16.29104	29	80
EU	12,923	0.4325621	0.4954504	0	1
Anchoring controls					
c218a	13,347	0.4563572	0.8237142	0	3
c218b	13,406	0.5265553	0.9150426	0	3
c218c	13,351	0.5268519	0.8720428	0	3

(*continued*)

Table A2. (continued)

Variable	Observations	*M*	*SD*	Min	Max
c218d	12,874	0.6057946	0.9722479	0	3
c218e	13,317	1.6533	1.125575	0	3
c218f	13,232	1.419438	1.135054	0	3
c218g	12,700	0.8651969	1.056749	0	3
c218h	13,250	0.8635472	0.9918261	0	3
c218i	13,311	0.9727293	1.037722	0	3
c218j	13,127	0.9309058	1.040632	0	3
c218k	12,984	1.17406	1.129612	0	3
c218l	13,089	1.372603	1.127622	0	3
c218o	12,837	1.006621	1.130074	0	3
c218p	13,050	0.7638314	1.008969	0	3
c218q	13,100	1.204046	1.11987	0	3
c218r	12,899	0.9258082	1.056623	0	3

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Notes

1. Authors' calculations from data at www.enterprisesurveys.org.
2. Note that this question contains two components: one relating to the perceived level of policy uncertainty and another relating to how this uncertainty affects firms' operations. It might still be that firms experience a high level of uncertainty but have adapted to it such that it does not affect the operation of their business.
3. The correlation coefficient between the uncertainty variable and the square of the polity variable is negative as expected and significant at the 1% level. The graph also shows the 95% confidence interval for the fitted line (remember that this is based on the full sample of 13,000 firms, not the country means). Unfortunately the Business Environment and Enterprise Performance Survey (BEEPS) survey was extended to the five European countries only in 2005, so we lack information for the previous years.
4. The correlation between Polity IV scores from our data set and a standard measure of checks on the executive from the Database of Political Institutions (DPI) is .68 and is significant at the 1% level.

5. There is prima facie evidence against the alternative hypothesis—that regime transition in itself causes policy uncertainty—in that the correlation coefficient between the change in countries' polity scores between 1995 and 2003 and firms' perceptions of policy uncertainty as a constraint is .02. Most countries underwent little or no change in this period (at most a 2-point change in their polity scores). Meanwhile, the outliers (Belarus and Croatia, which experienced drastic deterioration and improvement in their polity scores respectively) rank similarly for policy uncertainty.
6. The literature is largely silent on the relationship between clientelistic political competition and policy uncertainty. On one hand, we might suppose regional or ethnic favoritism to lead to sharp swings in distributive outcomes, particularly when political competition is dominated by two parties. On the other hand, Keefer and Vlaicu (in press) argue that in new democracies where parties have difficulty in establishing clear platforms, clientelism can contribute to reputation building among voters—the implication being that firms in clientelistic regimes might not suffer unduly from lack of information about future policy changes. Unfortunately we are unable to directly test this theory for want of cross-national data on clientelistic polarization.
7. Unfortunately an incompatibility in questionnaire design prevents us from using similar firm-level data for other developing countries in Africa, Asia, and Latin America from the World Bank's Investment Climate Surveys.
8. This coding issue, although conceptually problematic, does not affect our empirical results. There is only one country where governments and major opposition parties compete on the same platform according to DPI's coding: Tajikistan (Left vs. Left) in 2002 and 2005.
9. This is constructed as the percentage of respondents replying positively to the question, "For each of the following institutions, please tell me if you tend to trust it or not to trust it?" We calculate the difference between the proportion of positive answers and negative answers in each country to ensure comparability.
10. The World Value Survey data are available for 24 of the 27 postcommunist countries and all 5 of the Organisation for Economic Co-operation and Development countries in our data. The survey excludes Kazakhstan, Tajikistan, and Uzbekistan.
11. Available at http://www.freedomhouse.org/template.cfm?page=203&year=2004.
12. The pairwise correlation coefficients among the three information variables are summarized below:

	Free Press	Media_trust_diff	Press_private_share
Free press	1.0000		
Media_trust_diff	.2983	1.0000	
Press_private_share	.7108	.2467	1.0000

13. This is constructed as the mean of a five-scale index of economic reform in six areas: business environment, prices, trade, competition policy, banking, and securities markets. We calculate the difference between the minimum and the maximum value of the index between 1989 and 2002 (for the 2002 BEEPs data) and between 1989 and 2005 (for the 2005 data).
14. Changes in budget allocation are defined as the absolute values of the difference in expenditure shares for each functional classification from year t to year $t + 1$, calculated as a proportion of the year t figure.
15. We do not include any measure of democracy, such as the Polity IV scores, because our independent variables are conceptually similar to and empirically correlated with their components, that is, political competition and civil rights. To test for the electoral cycles, we carefully matched the BEEPs survey data that were consistently conducted in March and April of 2002 and 2005 and dates for general elections in all of these countries.
16. Our hypothesis is also supported if we consider variation in polarization and the information environment within countries between 2002 and 2005. Note that in 8 out of the full sample of 26 cases on which the multilevel analysis is based, there was such a change. In 6 of those 8 cases the effect on uncertainty was in the expected direction.
17. For tax evasion we use the size of the informal economy (Schneider, 2005). For licenses and the judiciary we use data from the World Bank's Doing Business project (www.doingbusiness.org), which measures the extent of regulatory restrictions on private sector activity worldwide. For electricity we use the percentage of losses during transmission from the World Bank's World Development Indicators.

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