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 paper 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. We argue that the explanation lies with a combination of polarized political competition and limited access to credible information and test our theory using survey data of around 10,000 firms from the World Bank-EBRD's Business Environment and Enterprise Performance Survey (BEEPS) from 27 post-communist countries and five OECD countries. Methodologically, we propose a means of controlling for reporting and suppression bias in these surveys when an anchoring vignette is not available.

Introduction

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 percent 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 percent of Brazilian firms, 70 percent of Peruvian firms, and 60 percent 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 percent of firms consider it a serious problem, and in South Asia, where 35 percent 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 et. al. 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 macro-economic 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 tested systematically.

[1] Authors' calculations from data at www.enterprisesurveys.org.

This paper is one of the first to systematically identify 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 firm's 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 due to 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 post-communist countries and five 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 micro economic 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 paper aims to advance our understanding of political risk and its effects on the economy in three respects. First, instead of treating country risk investment ratings

by multinational investors as a proxy for actual levels of policy uncertainty, we disentangle various sources of managers' perceptions of policy uncertainty in both foreign and domestic firms. We analyze national and firm-level determinants of firms' perception of uncertainty using a multilevel modeling technique (Gelman et al. 2007).

Second, contrary to the existing literature that assumes linearity between the degrees of political openness ("regime type") and policy uncertainty, we demonstrate that the type of political competition—i.e., whether the competition is programmatic or clientelistic—has substantial effects on firms' perception of policy uncertainty. Contrary to studies that associate programmatic competition with good causes such as better electoral accountability, public goods provisions, and economic growth (Keefer and Khemani 2003; Stokes 2005; Keefer 2007), we show 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 paper complement a growing literature on the ill effects of hybridism on various aspects of political behavior, including the propensity towards violent conflict and the likelihood of state failure (Snyder and Mansfield, 1995; Gates et al. 2006, Robertson 2007). 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 focus on the relationship between the types of political competition and the economy, suggesting an additional channel through which hybrid political institutions may affect economic performance.

The Puzzle: Democracy, Authoritarianism and Policy Uncertainty

We begin with a puzzle. Figure 1 shows that firms in hybrid or semi-democratic regimes such as Georgia, Ukraine and Romania report greater concern about policy uncertainty than their counterparts in more democratic or more autocratic countries.[2] Our dependent variable is the firm's response to the following question from the BEEPS Survey: 'How problematic is policy uncertainty for the operation and growth of your business?' Respondents were asked to reply on a scale from zero to three with zero representing 'no obstacle' and three representing 'major obstacle.'[3] The democracy indicator is the Polity IV variable which measures the extent to which democratic or autocratic 'authority patterns' are institutionalized in a country. It takes into account the degree of competition for office among political elites and the extent to which non-elites participate in political processes.[4]

Scholars have delineated several types of mixed or hybrid political organization, among them the 'competitive authoritarian' regimes defined by Levitsky and Way (2002), the 'institutionally inconsistent' political systems analyzed by Gates et al. (2006) and the 'ambiguous' cases described by Diamond (2002). The dominant feature of these political

[2] Note that the dots on the graph are calculated as country means.

[3] 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. While we might expect the first to be determined largely by the political environment, the second is likely to be affected by firm-specific factors, such as sector and type of operation. We control for both national and firm-specific factors.

[4] The correlation coefficient between the uncertainty variable and the square of the polity variable is negative as expected and significant at the 1 percent level. The graph also shows the 95 percent 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 BEEPS survey was extended to the five European countries only in 2005, so we lack information for previous years. We are aware that Polity IV score has issues such as coding accuracy and inter-coder reliability. We check the robustness of the inverted U shape using different measures of democracy. Figure A1 in the appendix shows the same measure of policy uncertainty plotted against Freedom House's index of free press score for 2005. The same relationship appears in the two other years for which we have comparable data. The results are also robust to a stock measure of democracy devised by Gerring, Bond, Barndt and Moreno (2005) which is constructed as the weighted sum of each country's Polity IV score from the Polity IV dataset between 1900 and the present year, with greater weight given to more recent years.

systems is a system of regular, contested elections which are sufficiently unpredictable in outcome for incumbents to have to take them seriously but which nonetheless do not meet the procedural standards to be considered democratic (Levitsky and Way 2002; Robertson 2007)[5]. In this paper 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?

[Figure 1 here]

Political Competition and Uncertainty: Linearity vs. Non-linearity

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 due to electoral change and a lack of insulation from special interest politics (Hirschman 1979; Olson 1989; Przeworski 1988); others have argued that policy uncertainty should be lower under democracy because democratic

[5] As Levitsky and Way put it, 'Although elections are regularly held and are generally free of massive fraud, incumbents routinely abuse state resources, deny the opposition adequate media coverage, harass opposition candidates and their supporters, and in some cases manipulate electoral results' (Levitsky and Way 2002, 53).

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 (North and Weingast 1989; Bates 2001). There is also empirical evidence that democratic governments generally show greater respect for property rights (Clague et. al. 1996).[6] 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.[7] 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 (Rogowski 1987; Treisman 2000; Haggard and McCubbins 2001)**.** However there is, as one might expect, a strong empirical correlation between the degree of democracy across countries, as captured by Polity IV, and the extent of checks on the executive.[8] 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 other sets of possible explanations for why firms in these countries might report a higher level of concern over policy uncertainty.[9] The first of these has to do with uncertainty generated by the process

[6] 'All lasting representative governments that have been observed, however wise or unwise their laws may be, always have extensive property and contract rights' (Clague et al. 1996, 3).
[7] Henisz (2000), for instance, finds that political systems with fewer veto points, and hence fewer checks on reversals in economic policy-making, are associated with lower investment risk.
[8] The correlation between Polity2 scores from our dataset and a standard measure of checks on the executive from the Database of Political Institutions is 0.68 and is significant at the 1 percent level.
[9] Snyder and Mansfield (1995) find that partial democracies were much more likely to become involved in international wars than authoritarian regimes or liberal democracies. A more recent survey of episodes of political 'instability' has found that more than one third of all such episodes between 1955 and 2001 occurred in partial democratic regimes, even though these accounted for less than 15 percent of all country-years in the sample (Goldstone et al. 2005, 17).

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 both over their content and how they are implemented (Przeworski, 1994; Hellman, 1998).[10]

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 and Roessler 2006, 365). This suggests another possibility: that the higher levels of policy uncertainty we associate with intermediate regimes are not so much due to transition costs but to their particular form of vigorous but unfair political competition.

The Argument: Types of Political Competition and the Informational Environment

We argue that firms' perceptions of policy uncertainty are influenced by the interaction between the types of political competition and the information environment in

[10] We therefore see what McDermott (2002) has described as two 'simultaneous, interdependent experiments – micro level experiments by firms… to reorganize common assets and macro-level experiments by policy-makers to build new institutions.'

which it takes place. The level of political competition is not in itself indicative of the potential for policy swings, since parties often compete on personal characteristics and issues other than economic policy (Cox 1990; Müller and Strøm 1999; Kitschelt and Wilkinson 2007). Therefore, instead of simply considering degrees of political openness, 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 literature provides competing logics linking programmatic competition with firms' perception of policy uncertainty (Kitschelt et al.; Keefer 2005). On the one hand 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 due to the clearer indication they provide of forthcoming policy changes (Snyder and Ting 2002; Keefer 2005).[11] 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.[12] In their study of OECD countries Alt and Lassen (2006) show

[11] Snyder and Ting (2002) develop a model in which parties function as 'brands' to voters, aggregating ideologically similar candidates and signaling their preferences to voters.

[12] The literature is largely silent on the relationship between clientelistic political competition and policy uncertainty. On the 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 (2007) 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 test this theory directly for want of cross-national data on clientelistic polarization.

that, in those polities that lack fiscal transparency, party polarization is associated with higher levels of pre-election fiscal manipulation.

This literature has provided contradictory predictions in part because it links the type of political competition either with the predictability of policy changes from the public's point of view (e.g., Keefer 2007), or with actual levels of policy volatility (e.g., Shi and Svensson 2002, Tabellini 2004, Alt and Lassen 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, while it increases uncertainty where transparency is low even after controlling for actual levels of macro and micro economic policy volatility.

Translating Risk into Uncertainty: 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, 539). Firms may face a higher risk of sharp policy swings, and *potentially* higher uncertainty in polities where political competition is programmatic and polarized. [13]

[13] Our paper concerns the determinants of policy uncertainty, rather than policy risks (i.e., actual level of volatility and swings), so we do not provide the results of systematic first-stage analysis on the determinants of policy volatility. Furthermore, conceptually "policy uncertainty" could be interpreted by respondents in a variety of ways that goes beyond policy volatility and swings. We do, however, include

However, whether or not the higher policy risk associated with the type of political competition translates into firms' perceived uncertainty depends on the degree to which observers of the political process are able to assign probabilities to possible outcomes and adjust their behaviors accordingly. How the media transmits information about forthcoming policy changes that are associated with political competition is a key determinant of the extent to which risk translates into perceived uncertainty. When credible information about possible policy changes is not available to entrepreneurs, we expect that they experience higher levels of uncertainty even after controlling for actual level of volatility in economic policy. When firms have access to credible information about forthcoming policy changes, their perceived uncertainty is low even though the risk of policy swings may be high.

From the above discussion, we 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 post-communist 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).[14] Our dependent variable *uncertainty* is the firm's response to the BEEPS question on the effect

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macro and micro indicators of policy volatility (i.e., fiscal and inflation volatility) as control variables in our estimates of policy uncertainty.

[14] 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 (ICS). Responses to our dependent variable in the BEEPS are coded on a 4-point scale as follows: 0='no obstacle', 1='minor obstacle', 2='moderate obstacle', 3='major obstacle'. Those in the ICS meanwhile are coded on a 5-point scale: 1='no obstacle', 2='minor obstacle', 3='moderate obstacle', 4='major obstacle', 5='very severe obstacle'. We see no easy way of reconciling these categories.

of policy uncertainty on the operation and growth of its business as reported above. The responses are coded on a four 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 (DPI). 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 two if the chief executive's party is left (right) and the opposition party is right (left); it takes a value of one if the executive's party is centrist and the others left or right; and it takes the value zero 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 non-competitive.[15] An important limitation of this coding is that it does not distinguish between polities in which competition is programmatic but non-polarized and those in which political competition is either

[15] Frye (2007) constructs an alternative measure of polarization as the percentage of seats held by the largest liberal (neo-communist) party when a neo-communist (liberal) holds the executive. The advantage of this measure is that is gives us more detailed information about how powerful the communist force is in a given polity. On the other hand it does not capture the distance between non-communist parties. Nor does it take into account changes in the policy platforms of communist parties over time (such as any generalized tendency towards moderation).

clientelistic or personalized (see A2. Coding of Polarization Variable in appendix).[16] We discuss the implications of this below.[17]

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"*).[18] We prefer this measure because it corresponds most closely to our theory. The World Value Survey data are available for 24 of the 27 post-communist countries and all five of the OECD countries in our data.[19] We also use the press freedom score from Freedom House (*Free press*), rescaled so that it is increasing in democracy.[20] 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 et al's (2003) media ownership data to calculate the share of top five daily newspapers owned by private companies in each country (*private_press_share*).[21]

[16] This coding issue, while conceptually problematic, does not affect our empirical results. There is only one country where government's and major opposition parties compete on the same platform according to DPI's coding: Tajikistan (left vs. left) in 2002 and 2005. We analyzed the same model with Whitefield's expert survey of political parties in 13 post-communist countries to check for the accuracy of coding in DPI and the robustness of our results. While these data quantify expert opinion about the degree to which major parties are programmatic or clientelistic in a seven point scale and, hence, are a good measure for programmatic competition, they do not document left or right positions of parties. Thus they are not a good measure for polarization. We thank Stephen Whitefield for sharing his expert survey data.

[17] Note that our theory does not make any prediction about the level of policy uncertainty under clientelistic or personalized political competition.

[18] 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 calculated the difference between the proportion of positive answers and negative answers in each country to ensure the comparability.

[19] The survey excludes Kazakhstan, Tajikistan and Uzbekistan.

[20] Available at http://www.freedomhouse.org/template.cfm?page=203&year=2004.

[21] The pair-wise correlation coefficient among the three information variables is summarized below:

	Free Press	Media_trust_diff	Press_private_share
Free Press	1.0000		
Media_trust_diff	0.2983	1.0000	

Since our argument is conditional in nature—i.e. 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 the coefficient on this term should be negative, consistent with polarized political competition leading to greater uncertainty under conditions of limited freedom of information.[22]

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 micro economic policy volatility, and incumbent turnover. *Transition* represents the cumulative degree of economic liberalization from 1990 to 2005 and is based on data from the EBRD's transition index.[23] The literature on transitional economies suggest that firms in polities that are experiencing major liberalization might report higher concern for uncertainty as suggested by a notion of 'valley of transition' or J-curve (Przeworski 1994; Hellman 1998).

Press_private_share 0.7108 0.2467 1.0000

Theoretically, the privately owned media can be as corrupt as state-owned media particularly when they have strong ties with political parties. Investigating the link between media ownership structure, the quality of reporting, and firms' assessment of such information is, however, a task for another paper, which is currently in progress.

[22] Can political polarization and credibility of information be endogenous? The correlation between the two variables is intermediate at 0.39 which suggests that programmatic polarization is moderately associated with more credible information available to the public (contrary to the partisan bias argument about the U.S. media). It is difficult to disentangle this endogeneity more systematically, however. We cannot estimate the effect of political polarization on the credibility of information by controlling for the level of democracy because democracy scores and free press index are highly correlated at 0.83.

[23] 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. Our variable is the change in the index between 1990 and 2005.

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.[24] *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 four years, as calculated by the OECD.[25] *Inflation Volatility* captures variability in inflation and is calculated as standard deviations of inflation data taken from the IMF's *International Financial Statistics* for eight-year period from 1998 to 2005. Since standard deviations of inflation have very high variability, we use the natural logarithm of inflation volatility.[26]

Finally, a dummy variable, *Incumbent Stays*, takes a value of one if the incumbent president or party retained power as a result of presidential or parliamentary elections between 2002 and 2005 and zero otherwise. We include this variable to demonstrate the relative validity of our argument about polarized political competition by controlling for the short-term effects of incumbent turnovers. The coding for this variable is derived from Hale (2005): the "Nations in Transit" analyses prepared by Freedom House and newspaper reports.[27]

National and firm level controls:

[24] This can also be thought of as controlling for the observable consequences of variation in veto players or checks on executive decision-making.

[25] 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.

[26] The correlation between budget and inflation volatility is low at .11 so we include both of these variables in two of the four specifications. We also experimented with consumer price index, but CPI highly correlates with inflation volatility measure at .61. Hence, we chose inflation volatility as a measure of macro economic policy volatility.

[27] We do not include any measure of democracy, such as the PolityIV scores, because our independent variables are conceptually similar to and empirically correlated with its components i.e. political competition and civil rights. To test for the electoral cycles, we carefully matched the BEEPs survey data which was consistently conducted in March and April of 2002 and 2005 and dates for general elections in all of these countries.

We employ two variables intended to capture the degree of external constraint on government policy-making. *IGO* is the number of international organizations in which a country has full membership in any given year; *EU* is coded as one if the country was a member of the European Union in that year and zero otherwise.

We also include a number of firm-level controls. *Foreign* is the proportion of the firm's equity that is foreign-owned. We might expect foreign firms to have a different frame of reference from domestic firms, perhaps comparing their experience internationally rather than over time. We might also expect them to be less circumspect in expressing discontent with the government's performance than their domestic counterparts. *Specificity* is coded one if the firm offered training to its skilled workers in the previous year and zero otherwise. This is intended to control for the possibility that policy uncertainty is a more serious problem for industries characterized by high asset specificity (Alt et al.1999; Iversen and Soskice 2001; Mares 2005). As an alternative measure, we include a dummy variable *Lobby* which takes the value of one when a firm reported having lobbied the government in the previous year and zero otherwise. *Firm Age* is the number of years the firm has been in operation and *Size* is the number of employees.

Finally, firms' perceptions of uncertainty are not conditioned solely by their external political and economic environment. They are also determined by individual or group-specific attributes that make them more or less risk-averse. Thus, we also include the firms' responses to other similarly framed questions about constraints on investment as controls, as listed in the appendix. The intention is to control for firm manager-specific factors that might influence responses to the question on policy uncertainty—such as a

general tendency to complain or 'kvetch'.[28] Table 1 summarizes the theorized influences on firms' perception of policy uncertainty. Descriptive statistics for all variables are contained in the appendix (Table A3).

Results:

Since our data is two-tiered (firm and country-level) we employ a generalized linear latent and mixed model (Gelman et al. 2007). We use ordered probit estimation as the dependent variable is ordinal. We cluster error terms by country and year to incorporate country-specific and year-specific effects[29]. 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. The table below summarizes our results.

[Table 2 here]

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: the coefficient on *polarize* has the expected positive sign and is significant in all of the four specifications. 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 coefficient on the interaction term (*Polarize_freepress*) is negative and significant, suggesting that as information becomes

[28] This is important because, even if respondents answer honestly, we can not be sure that they have understood the question in the way it was intended or that respondents in different firms have understood it in a similar manner to each other. This problem, which is commonly referred to as 'differential item functioning', is often encountered in survey-based research, particularly in the context of health outcomes (King et al. 2004). It is also relevant in this case because the categories according to which our dependent variable is measured are entirely subjective, making them potentially incomparable across firms.

[29] We use STATA's version 8 "gllamm" command.

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 (Henisz 2000; Tsebelis 2002; Fowler 2006).

Table 3 reports the results of analysis similar to that in Table 2 but using the two other measures of 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 coefficients of the polarization and information environment alone prove to be unstable, yet the interaction terms (polarization and information) have systematic reductive effects on policy uncertainty in all of the four models.

Of our country-level controls, the coefficient on *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 A4 in the appendix.

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 the cross tabulation below. 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 moderate polarization is associated with an increase in the level of policy uncertainty of about half a point on the four-point scale (or from it being a 'minor' to a 'moderate' constraint on investment). The opposite happens in a freer information environment: reported concerns over policy uncertainty decrease as the degree of polarization increases, though by a smaller amount.

The difference between high and low information environments in reported levels of policy uncertainty is greatest for polities where there is polarized political competition. In such polarized polities, the quality of the information environment is sufficient to affect a one-point change on the four-point scale of policy uncertainty (e.g. to make uncertainty a 'major', rather than 'moderate' obstacle). This result confirms our argument about the perverse effects of programmatic competition conditioned by the informational environment.

[Table 4 here]

Table 5 shows those cases in which a country shifted from one category to another between 2002 and 2005. Note that in eight out of the full sample of 26 cases on which the multilevel analysis is based there was such a change. In six of those eight countries, in which a change in polarization or information environment did occur, the effect on uncertainty was in the expected direction. The two exceptions were Croatia and Estonia (in bold) both of which moved from a state of maximum polarization to clientelistic competition in an environment of high information, yet experienced a significant reduction in the perceived level of policy uncertainty.

[Table 5 here]

Sources of Reporting Bias: Suppression

Next we ask whether this perceived relationship is to due to 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 those 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?

Testing for suppression 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 under-report 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 with some independent measure of policy uncertainty, but we are unable to identify an indicator that is both objective and causally independent. Instead we choose 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. Both sets of indicators are shown in the table below.[30]

[Table 6 here]

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

[30] The data on licenses and contract enforcement are taken from the World Bank's Doing Business project which measures the extent of regulatory restrictions on private sector activity worldwide. In this case we use composite measures comprising the number of procedures, time and cost required to obtain a construction permit and file a lawsuit. The underlying data and a fuller explanation of how they are collected are available at www.doingbusiness.org.

between the subjective and objective measures, such as degree of foreign ownership and the length of time the firm has been in operation.[31] 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 7 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.

[Table 7 here]

Conclusions:

The principal contribution of this paper has been to demonstrate and account for the non-linear 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 post-communist countries and a small sample of OECD countries, tend to be greater in polities with polarized 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 while poor access to information impedes firms' capacity to assess this risk and

[31] We also experiment with including the manager's level of education – not reported here, because it was included in the BEEPS questionnaire in only a minority of countries – but we find it makes no substantive difference to the results. Dexter, Bauer, and Poole (1963).

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 paper 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.

In concluding, we discuss some limitations of our research and suggest avenues for future research. First, while our theory is general and can be tested in other regions, empirically we had to confine our analysis to Eastern, Central, and Western European cases due to the availability of time-series firm-level survey data. It would be interesting to know if our findings travel to other developing regions.[32] Second, compared to the accumulation of studies on the effect of party polarization on public policy and the economy, we know much less about the effect of clientelistic competition. Theorizing linkages between different types of clientelistic competition (e.g., personal, intra-party), polity volatility and the economy would be a promising line of research (Keefer 2007).

[32] The time-series firm-level survey data such as BEEPs was not available for Latin America, Africa, and Asia.

Third, investigating the link between media ownership structure and firms' assessment of political risk would be another profitable line of future research. Finally, it would be fruitful to think more about how firms' perceptions of policy uncertainty interact with social protection policies—a topic that has received considerable attention in advanced industrial democracies but much less in developing or transition countries (Scheve and Slaughter 2004, Iversen 2005).

References:

Alt, James E., Fredrik Carlsen, Per Heum, and Kare Johansen. 1999. "Asset Specificity and the Political Behavior of Firms: Lobbying for Subsidies in Norway." *International Organization* 53 (1):99-116.

Alt, James E., and David Dreyer Lassen. 2006. "Transparency, Political Polarization, and Political Budget Cycles in OECD Countries." *American Journal of Political Science*, 50(3).

Bates, Robert H. 2001. *Prosperity and Violence*. New York: Norton.

Bertrand, Marianne and Sendhil Mullainathan, 2001. *Do People Mean what they Say? Implications for Subjective Survey Data.* Massachusetts Institute of Technology, Department of Economics, Working Paper Series.

Brunetti, Aymo, Gregory Kisunko and Beatrice Weder. 1998. "Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of the Private Sector." *The World Bank Economic Review* 12(3): 353-384.

Clague, Christopher, Philip Keefer, Stephen Knack and Mancur Olson. 1996. "Property and Contract Rights under Democracy and Dictatorship." *Journal of Economic Growth* 1(2): 243-76.

Diamond, Larry. 2002. "Thinking about Hybrid Regimes." *Journal of Democracy* 13(2):21-35.

Djankov, Simeon, Caralee McLiesh, Tatiana Nenova, Andrei Shleifer. "Who Owns The Media?" *Journal of Law and Economics*, Vol XLVI (2), October 2003.

Dyczok, Marta. 2006. "Was Kuchma's Censorship Effective? Mass Media in Ukraine before 2004." *Europe-Asia Studies* 58(2): 215-238.

Fowler, James. 2006. "Elections and Markets: the Effect of Partisanship, Policy Risk, and Electoral Margins on the Economy." *The Journal of Politics* 68(1): 89-103.

Frye, Timothy. 2002. "Perils of Polarization: Economic Performance in the Post-communist World." *World Politics* 54(4).

Gates, Scott, Havard Hegre, Mark P. Jones and Havard Strand. 2006. Institutional Inconsistency and Political Instability: Polity Duration, 1800-2000. *American Journal of Political Science* 50(4): 893-908.

Gerring, John, Philip Bond, William T. Barndt and Carola Moreno. 2005. "Democracy and Economic Growth, a Historical Perspective." *World Politics* 57(1): 323-64.

Goldstone, Jack A., Robert H Bates, Ted Robert Gurr, Michael Lustik, Monty G. Marshall, Jay Ufelder and Mark Woodward. 2005. *A Global Forecasting Model of Political Instability*, Paper Presented at the Annual Meeting of the American Political Science Association, Washington DC.

Haggard, Stephan and Matthew D. McCubbins. 2001. Presidents, Parliaments, and Policy. Cambridge; New York: Cambridge University Press.

Hale, Henry. 2005. "Regime Cycles: Post-Soviet Eurasia." *World Politics* 58(1): 133-165.

Hellman, Joel S. 1998. "Winners Take All: The Politics of Partial Reform in Postcommunist Transitions." *World Politics* 50.2: 203-234

Henisz, Witold. 2000. "The Institutional Environment for Multinational Investment." *Journal of Law, Economics and Organization* 16(2): 334-64.

Hirschman, Albert O. 1992. *Rival Views of Market Society and Other Recent Essays*. Cambridge, Mass.: Harvard University Press.

Hofstede, Geert. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations 2nd ed*. Thousand Oaks, CA: Sage Publications.

Howard, Marc Morje and Philip G Roessler. 2006. "Liberalizing Electoral Outcomes in Competitive Authoritarian Regimes." *American Journal of Political Science*, 50(2): 365-381.

Iarossi, Giuseppe. 2006. *The Power of Survey Design: A User's Guide for Managing Surveys, Interpreting Results and Influencing Respondents*. Washington DC: World Bank.

Iversen, Torben and David Soskice. 2001. "An asset theory of social policy preferences." *American Political Science Review* 95(4): 875-893.

Jensen, Nathan. 2003. "Democratic Governance and Multinational Corporations: The Political Economy of Foreign Direct Investment." *International Organization* 57(3): 587-616.

Keefer, Phillip. 2007. Clientelism, Credibility, and the Policy Choices of Young Democracies. *American Journal of Political Science* 51 (4), 804–821.

Keefer, Philip and Razvan Vlaicu. Democracy, Credibility, and Clientelism. Journal of Law, Economics, and Organization. Forthcoming.

King, Gary, Christopher J. L. Murray, Joshua A. Salomon and Ajay Tandon. 2004. "Enhancing the Validity and Cross-Cultural Comparability of Measurement in Survey Research." *American Political Science Review* 98(1): 191-207.

Kitschelt, Herbert and Steven Wilkinson. 2006. *Patrons, Clients and Policies: Patterns of Democratic Accountability and Political Competition*. Cambridge University Press.

Krastev, Ivan. 2006. "Democracy's 'Doubles.'" *Journal of Democracy*, 17(2): 52-62.

Kuran, Timur. 1995. *Private Truths, Public Lies: The Social Consequences of Preference Falsification*. Cambridge, Mass.: Harvard University Press

Lee, Sang M. and Suzanne J. Peterson. 2000. "Culture, Entrepreneurial Orientation and Global Competitiveness." *Journal of World Business*, 35(4): 401-416.

Levitsky, Steven and Lucan A. Way. 2002. "The Rise of Competitive Authoritarianism." *Journal of Democracy*, 13(2): 51-65.

Loewenstein, G. F., E. U. Weber, C. K. Hsee, and E. S. Welch. 2001. "Risk as Feelings." *Psychological Bulletin* 127: 267–86.

Mares, Isabela 2003. *Politics of Social Risk: business and welfare state development* Cambridge, U.K., New York: Cambridge University Press.

McDermott, Gerald A. 2002. *Embedded Politics: Industrial Networks and Institutional Change in Postcommunism.* Ann Arbor: University of Michigan Press.

McDermott, Rose, Oleg Smirnov and James Fowler. 2008. "On the Evolutionary Origins of Prospect Theory." *Journal of Politics*, forthcoming.

North, Douglass C. and Barry Weingast. 1996. Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England. In *Empirical Studies in Institutional Change*, eds. Lee J. Alston, Thrainn Eggertsson and Douglas C. North. Cambridge University Press.

Olson, Mancur. 2000. *Power and Prosperity*. New York: Basic Books.

Rohrschneider Robert and Stephen Whitefield. 2007. Explaining Party-Citizen Linkages: Programmatism, Charisma and Clientelism in Post-Communist Party Systems. Unpublished manuscript.

Przeworski, Adam. 1988. "Democracy as a Contingent Outcome of Conflicts." In *Constitutionalism and Democracy*, ed. Jon Elster and Rune Slagstad. Cambridge University Press.

Przeworski, Adam. 1991. *Democracy and the Market: Political and Economic Reforms in Eastern Europe and Latin America*. Cambridge: Cambridge University Press.

Rogowski, Ronald. 1987. "Trade and the Variety of Democratic Institutions." *International Organization* 41 (2): 203-223.

Root, Hilton. 2005. *Capital and Collusion*, Princeton University Press, Princeton, NJ.

Runde, Jorgen. 1998. "Clarifying Frank Knight's discussion of the meaning of risk and uncertainty." *Cambridge Journal of Economics* 22: 539-546.

Scheve, Kenneth F and Matthew J. Slaughter. 2004. "Economic Insecurity and the Globalization of Production." *American Journal of Political Science*, 48 (4): 662-674.

Schneider, Friedrich. 2005. *Shadow Economies of 145 Countries all over the World: What do we really know?* Crema Research Working Paper No. 2005-13, http://www.crema-research.ch/papers/2005-13.pdf, Basel.

Snyder, Jack and Edward Mansfield. 1995. "Democratization and the Danger of War." *International Security* 20: 5-38.

Snyder, James M. and Michael M. Ting. 2002. "An Informational Rationale for Political Parties." *American Journal of Political Science*. 46(1): 90-110.

Stasavage, David. 2002. "Private Investment and Political Institutions." *Economics and Politics*, 14(1), 41-62.

Treisman, Daniel. 2000. "Decentralization and Inflation: Commitment, Collective Action, or Continuity?" *American Political Science Review,* 94 (4): 837-857.

Tsebelis, George. 2002. *Veto Players: How Political Institutions Work*. Princeton University Press, Princeton NJ.

World Bank. 2005. *World Development Report, 2005: A Better Investment Climate for Everyone*. Washington, DC.

Figure 1: Political Regime Type and Reported Policy Uncertainty

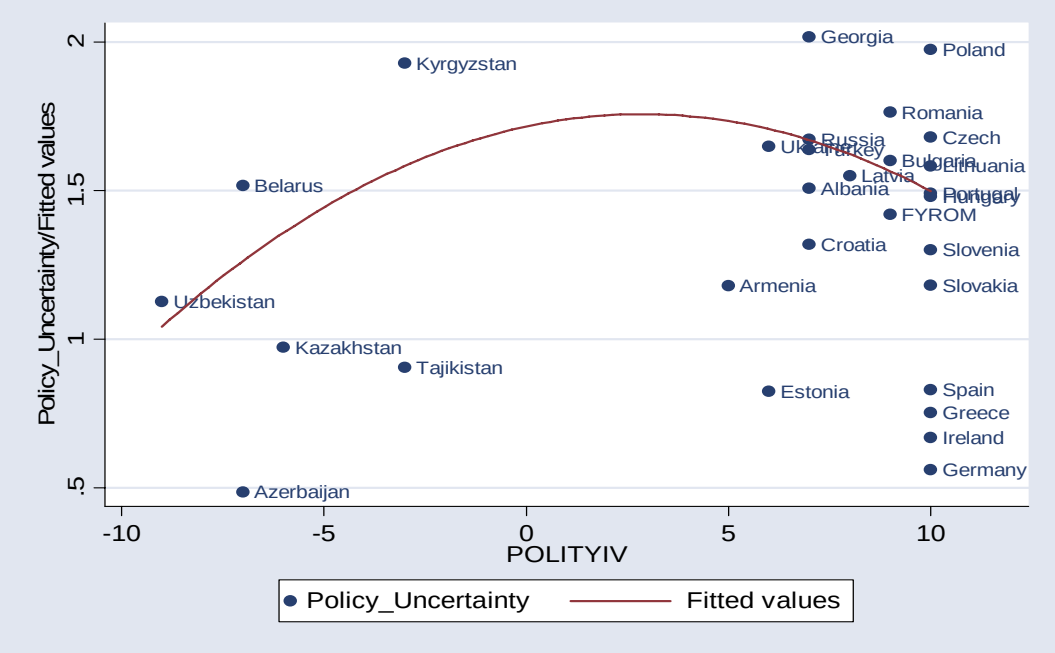


Table 1: Theorized influences on firms' perception of policy uncertainty

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

Table 2: Determinants of the Reported Level of Policy Uncertainty: Multi-level, Ordered Probit Estimation

	(1)	(2)	(3)	(4)
Political Competition and Informational Environment				
Polarize	2.780	3.139	2.515	2.994
	(2.52)*	(3.11)**	(2.40)*	(2.68)**
Free press	0.013	0.017	0.010	0.014
	(4.52)**	(5.34)**	(3.59)**	(4.89)**
Polarize_freepress	-0.037	-0.041	-0.032	-0.040
	(2.61)**	(3.17)**	(2.35)*	(2.78)**
Alternative Hypotheses: Transition and Volatility				
Transition	-0.062	-0.046	-0.056	-0.059
	(5.38)**	(3.05)**	(3.85)**	(5.01)**
Budget Volatility	-0.493	1.447	0.138	-0.441
	(0.56)	(1.08)	(0.12)	(0.47)
Inflation Volatility		0.091	0.065	
		(2.82)**	(2.15)*	
Incumbent Stays	0.063	-0.361	-0.285	0.035
	(0.86)	(3.76)**	(3.61)**	(0.49)
External Constraints				
IGOs		-0.015	-0.002	-0.005
		(4.63)**	(0.63)	(1.65)
EU	0.140			
	(2.11)*			
Firm-level Controls				
Firm Size	-0.031	-0.016	-0.028	-0.022
	(1.14)	(0.61)	(1.03)	(0.81)
Foreign	-0.012	-0.021	-0.021	-0.017
	(0.23)	(0.40)	(0.40)	(0.32)
Export	0.134	0.140	0.138	0.139
	(2.83)**	(2.95)**	(2.92)**	(2.94)**
Firm Age	0.003	0.003	0.003	0.003
	(2.64)**	(2.85)**	(2.61)**	(3.04)**
Lobby	0.170		0.180	
	(3.54)**		(3.74)**	
Asset Specificity				0.080
				(1.71)
cut_1	0.531	0.516	0.411	0.436
	(1.98)*	(1.37)	(1.29)	(1.53)
cut_2	1.644	1.627	1.524	1.547
	(6.10)**	(4.30)	(4.79)	(5.43)**
cut_3	2.841	2.823	2.724	2.743
	(10.48)**	(7.43)	(8.51)	(9.57)**
Obs. level 1 units	3862	3862	3862	3862
Obs. level 2 units	26	26	26	26
Obs. level 3 units	2	2	2	2

Absolute value of z statistics in parentheses

- significant at 5%; ** significant at 1%. Anchoring controls (a firm's response to other investment constraints questions) not shown.

Table 3: Multi-level, 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				
IGOs	0.010	0.006	0.003	0.006
	(4.23)**	(3.22)*	(1.31)	(3.19)**
Firm-level Controls				
Firm Size	-.0318	-0.042	-0.030	-0.040
	(1.21)	(1.59)	(1.13)	(1.50)
Foreign	-.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)**
cut_3	3.348	4.036	3.580	3.958
	(14.05)**	(13.95)**	(10.93)**	(10.98)**
Obs. level 1 units	3953	3950	3950	3950
Obs. level 2 units	26	28	28	28
Obs. level 3 units	2	2	2	2

Absolute value of z statistics in parentheses

- significant at 5%; ** significant at 1%. Anchoring controls (a firm's response to other investment constraints questions) not shown.

Table 4: Information polarization and uncertainty – cross-tabs

	Polarization		
	None (0)	Mild (1)	Strong (2)
Low information (0)	1.63 (4,814)	2.20 (283)	2.03 (865)
High information (1)	1.42 (2,631)	1.19 (1,039)	1.13 (2,981)

Note: The frequency of observation in parentheses. Low: 16<rescaled free press score<72, High: rescaled free press score>71. The cut point for low vs. high information is determined by the median.

Table 5: Changes in information, polarization and uncertainty over time

	Clientelistic/No polarization ("0")	*Programmatic polarization ("1")*	*Programmatic polarization ("2")*
Low information	Albania 2005 (1.60) FYROM 2005 (1.56) Ukraine 2005 (1.94)	Ukraine 2002 (2.20)	Turkey 2002 (2.21)
High information	Albania 2002 (2.10) FYROM 2002 (1.82) **Croatia 2005 (1.35)** **Estonia 2005 (0.83)** Lithuania 2005 (1.69) Turkey 2005 (1.59)	Hungary 2005 (1.61)	**Croatia 2002 (1.91)** **Estonia 2002 (1.43)** Hungary 2002 (1.38) Lithuania 2002 (1.80)

Note: The country-year mean value of policy uncertainty in parentheses.

Table 6: 'Subjective' and 'Objective' Indicators – Identifying Suppression Bias

Subjective firm-level variable	Objective country-level variable
Percent sales declared for tax purposes	Size of informal economy (Schneider, 2005)
'Business licenses' as obstacle to investment	Difficulty of obtaining licenses (Doing Business Project, World Bank)
'Judiciary' as obstacle to investment	Difficulty of enforcing contracts (Doing Business Project, World Bank)
'Electricity' as obstacle to investment	Percent electricity losses during transmission (World Development Indicators, World Bank)

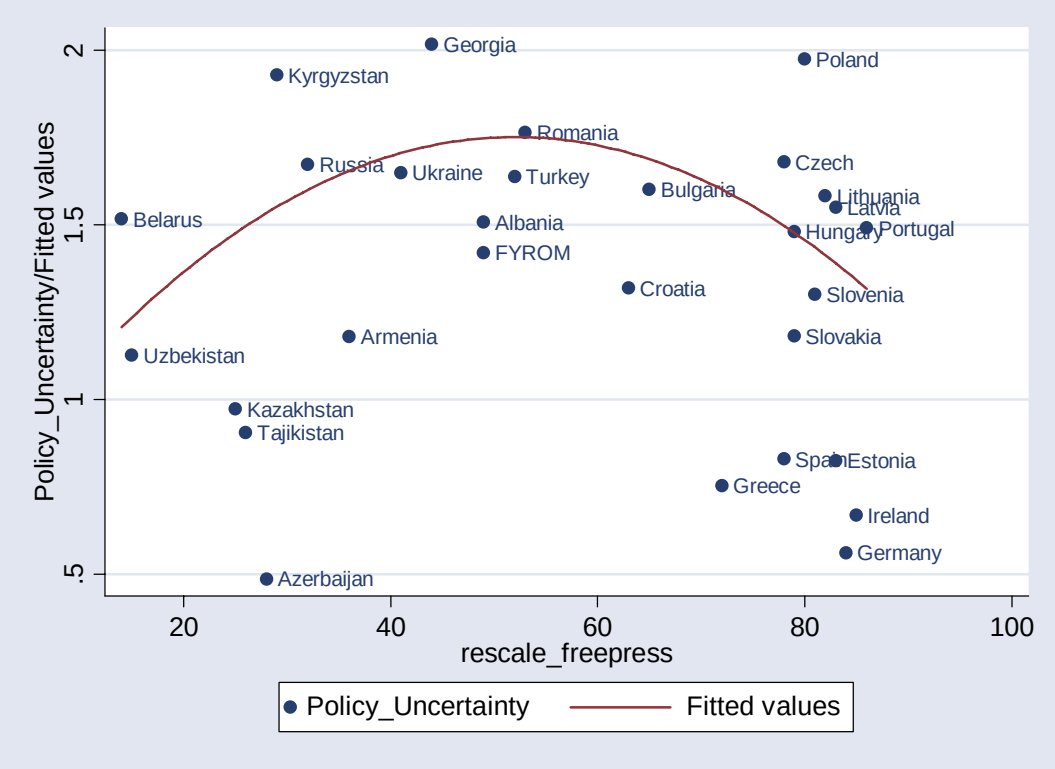
Table 7: Regression Results: Firm-level Regressions of 'Subjective' on 'Objective' Variables

	Tax evasion (1)	Licenses (2)	Contract enforcement (3)	Electricity (4)
Objective variable	0.120 (4.66)**	-0.0003 (4.00)**	0.006 (5.30)**	0.015 (13.51)**
Political openness	0.030 (2.65)**	-0.006 (12.80)**	0.006 (12.22)**	-0.001 (2.88)**
Foreign ownership	-0.047 (-8.50)**	0.000 (2.73)*	0.003 (2.11)*	-0.001 (2.27)*
Years of operation	-0.106 (11.58)**	-0.004 (6.27)**	0.001 (2.31)	-0.001 (1.18)
Constant	8.89 (6.05)**	-	-	-
R-squared	0.013	0.007	0.004	0.008
N	14,171	13,023	14,319	15,284

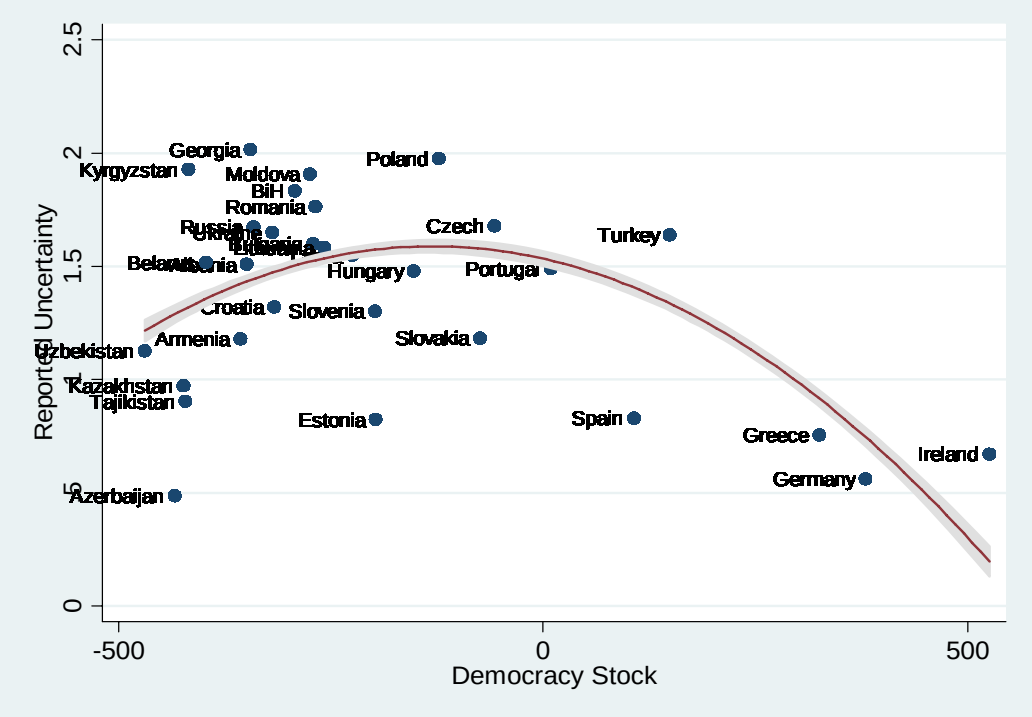
Note: OLS (1), Ordered probit regression (2,3,4); * significant at the 5 percent level; ** significant at the 1 percent level; absolute z-values in parentheses.

Appendix: Charts, Tables and Data Description

Figure A1-1 Freedom House's Free Press Score and Policy Uncertainty



(b) Democracy Stock by Gerring et al. and Policy Uncertainty



A2. Coding of 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 et al.'s coding. The difference concerns the treatment of missing values. Keefer et al. code *polarize* as missing if either one or more of the underlying party identification variables is zero, or if, as in the case of Croatia (2001-4), there is no chief executive. In both cases we recode the relevant observations from missing to zero. Our rationale for doing so in the first case is that failure to classify a party on the RLC scale implies that it is either non-programmatic and that this in turn implies an absence of polarization along such a scale. In the second case, we simply apply Keefer et al's coding rule to the largest government party instead of the chief executive.

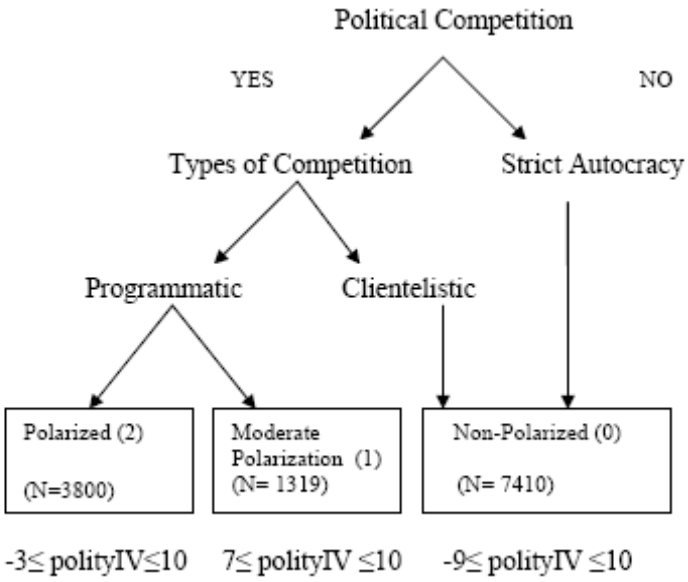


Table A3: Descriptive Statistics:

Variable	Obs	Mean	Std. Dev.	Min	Max
Uncertainty	13371	1.489791	1.162984	0	3
Polariz	12613	.7146595	.9021268	0	2
Free press	13469	61.38355	22.59385	14	86
Polariz_Free Press	11825	49.73387	67.61374	0	172
Media_trust_diff	12364	44.871	24.897	0.099	113.2
Polariz_mediatrust	11477		34.80088		
Private_press_share	12186	0.81461	0.31730	0	1
Polariz_privateshare	8224	0.52403	0.81443	0	2
Firm Size	13469	1.760636	.8054928	1	3
Ownership	13469	1.858341	.3487126	1	2
Exporter	13467	1.79654	.4025869	1	2
Firm age_	13466	17.3817	19.2142	3	202
Skill Specificity	13183	.9178487	.6371895	0	2
Lobby	13465	.7134794	.8608041	0	2
Transition Index	12736	12.06347	8.684575	0	24
Budget Volatility	9990	.1081101	.0617236	.04	.34
InflationVolatility	12010	1.218354	1.359996	-0.697	4.578
Incumbent Stays	13469	.4433885	.4968032	0	1
IGOs	12673	53.94295	16.29104	29	80
EU	12923	.4325621	.4954504	0	1
Anchoring Controls					
c218a	13347	.4563572	.8237142	0	3
c218b	13406	.5265553	.9150426	0	3
c218c	13351	.5268519	.8720428	0	3
c218d	12874	.6057946	.9722479	0	3
c218e	13317	1.6533	1.125575	0	3
c218f	13232	1.419438	1.135054	0	3
c218g	12700	.8651969	1.056749	0	3
c218h	13250	.8635472	.9918261	0	3
c218i	13311	.9727293	1.037722	0	3
c218j	13127	.9309058	1.040632	0	3
c218k	12984	1.17406	1.129612	0	3
c218l	13089	1.372603	1.127622	0	3
c218o	12837	1.006621	1.130074	0	3
c218p	13050	.7638314	1.008969	0	3
c218q	13100	1.204046	1.11987	0	3
c218r	12899	.9258082	1.056623	0	3

Table A4: 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	0.058	0.064	0.060	0.060
(e.g. interest rates)	(2.42)**	(2.67)**	(2.49)**	(2.53)*
Macroeconomic instability	0.686	0.694	0.689	0.684
(e.g., exchange rate)	(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)**
Anti-competitive 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%