Political System Transparency and Monetary Commitment Regimes

J. Lawrence Broz

Introduction

Central bank independence and fixed exchange rates are commitment mechanisms that can assist governments in maintaining credibility for low-inflation monetary policy objectives. In this article, I explore the political factors that shape the choice and effectiveness (in controlling inflation) of these alternatives.

My argument is that the degree of transparency of the monetary commitment mechanism is inversely related to the degree of transparency in the political system. Transparency is the ease with which the public can monitor the government with respect to its commitments. Central bank independence (CBI) and fixed exchange rates (pegs) differ in terms of transparency. While legal CBI is an opaque commitment technology that is difficult to monitor, a commitment to an exchange-rate peg is more easily observed; in the extreme, either the peg is sustained or it collapses. In nations where public decision making is opaque and unconstrained (that is, in autocracies), governments must look to a commitment technology that is more transparent and constrained (that is, fixed exchange rates) than the government itself. The transparency of the peg *substitutes* for political system transparency to assist in engendering low inflation expectations. However, in nations where political decision making is transparent (that is, in democracies), legal CBI can help resolve the time-inconsistency problem and produce low inflation. The openness of the political system allows the attentive public or the political opposition to observe government pressures on the central bank, making it costly for the government to conceal or misrepresent its actions. Informal transgressions of CBI are likely to be

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detected by interested private agents and exploited by the political opposition when the political process is transparent.

This analysis extends the logic of time-inconsistency to the problem of explaining the choice of monetary institutions. If governments sincerely seek to lower inflation by way of an institutional commitment, why do some adopt CBI while others commit to an exchange-rate peg for credibility purposes? My substitution hypothesis hinges on the disparate transparency characteristics of monetary commitments on the one hand and of political institutions on the other. A credible commitment to low inflation requires transparency to detect and punish government opportunism. Transparency, however, can be supplied directly, by way of transparent monetary institutions, or indirectly, via general political institutions. The former are obviously easier to change.

I provide two tests of the argument that the transparency of the monetary commitment and the transparency of the political system are substitutes. First, I estimate the determinants of exchange-rate-regime choice for a panel of more than 100 countries during the period from 1973 to 1995. The expectation is that, all else equal, countries with opaque domestic political systems (autocracies) will have a higher probability of adopting pegged exchange rates than countries with transparent political systems (democracies). For autocracies, a formally independent central bank is not a credible commitment because the opacity of the political system makes it difficult to detect and punish governmental efforts to subvert the autonomy of the central bank. Opaque domestic political institutions should thus be positively associated with fixed exchange rates. The findings indicate that, controlling for other factors, opaque political systems are indeed significantly more likely to peg than transparent systems.

Second, I estimate the institutional determinants of inflation in a cross-section of sixty-nine developed and developing countries. A testable implication of the substitution hypothesis is that a formally independent central bank will be effective in lowering inflation only when the political system is transparent. As proxies for the transparency of the political system, I use (1) an index of democracy and (2) an index of civil liberties. The test involves interacting formal/legal CBI with these measures of political system transparency. I find that the opaque commitment technology (CBI) is modestly effective in limiting inflation in countries with more-transparent political systems. Neither CBI nor political-system transparency is associated with lower inflation independently; a negative relationship between CBI and inflation is found only when political openness imparts the necessary transparency to this opaque monetary commitment. On the other hand, the transparent commitment technology (pegging) constrains inflation even in the absence of democratic institutions or extensive civil freedoms.

The article is organized as follows. I first describe briefly the time-inconsistency problem in monetary policy and the transparency characteristics of alternative institutional solutions to it. I then examine the transparency aspects of political systems and develop the hypotheses regarding the substitution of commitment mechanism transparency for political system transparency. In the next section, I test

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the substitution hypothesis with respect to the choice of exchange-rate regimes. Finally, I test the implication that CBI lowers inflation in the context of transparent political systems. I conclude with a discussion of additional implications and future research.

Time-Inconsistency in Monetary Policy

There is broad consensus among economists that inflation is detrimental to growth and that successful monetary policy—that is, a policy that generates low inflation without incurring large output losses—requires "credibility."[1] The credibility problem relates to the fact that the money supply can be expanded to whatever level by fiat. As discussed in the *Introduction* to this volume,[2] credibility involves persuading private agents that the monetary policymaker will not exploit the flexibility inherent in a fiat standard to achieve short-run output gains.

Although explicit political pressures are absent in the original models of time-inconsistency, the problem generalizes to the introduction of democratic political processes (elections) and rational political actors (politicians, parties, and interest groups). Indeed, William Clark, Robert Franzese, and William Bernhard and David Leblang build such political incentives directly into their explanations of monetary institutions.[3] Yet it is important to note that the classic time-inconsistency problem is not exclusive to democracies. It befalls dictators (benevolent or otherwise) and elected politicians alike because *ex post* economic incentives are sufficient to generate counterproductive policies and inefficiently high inflation. I thus assume that countries with political systems of every stripe must find a resolution to the time-inconsistency problem. While the problem itself extends to all countries, a host of political and economic factors can affect the degree to which politicians behave inconsistently over time. For example, high levels of political instability may shorten the time horizon of leaders and thus weaken their ability to precommit. I control for such factors in the empirical analysis, as data permits. I also control for other considerations, such as the number of veto players[4] and Optimal Currency Area (OCA) criteria.[5]

Transparency in Monetary Commitments

Several solutions have been suggested to enhance the credibility of the monetary policymaker.[6] While these solutions take varied forms—CBI, exchange-rate pegs,

1. See Blackburn and Christensen 1989; and Fischer 1990.
2. Bernhard, Broz, and Clark 2002.
3. See Clark 2002; Franzese 1999; and Bernhard and Leblang 2002.
4. Keefer and Stasavage 2002.
5. Frieden 2002.
6. Mishkin 1999.

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and other nominal anchors such as money growth rules or inflation targeting—they each involve changing the rules or institutional structure of policymaking to limit the scope for discretionary opportunism.[7] Two of the most prominent forms of delegated decision making are CBI and fixed exchange-rate regimes. In theory, CBI and pegs can both have a positive influence on credibility and thereby on inflation performance.[8] They are not, however, perfect substitutes. One difference involves the degree to which the institutions actually invoke a trade-off between *credibility* and *flexibility*. Another attribute on which they differ is *transparency*—the ease with which the public can monitor government behavior with respect to the commitment.

Ideally, a monetary commitment should impose the constraint necessary to resolve the credibility problem but leave policymakers with enough flexibility to respond optimally to shocks. This is the classic case for discretion in the "rules versus discretion" debate.[9] CBI has apparent welfare advantages over pegging on this account. Empirical evidence suggests that the low-inflation credibility generated by CBI does *not* come at the cost of higher output variability, that is, at the cost of forgone flexibility.[10] In contrast, pegs leave little or no room for policy to perform a stabilizing role, which helps account for the finding that output is more variable in countries with fixed rates.[11] As Maurice Obstfeld and Kenneth Rogoff put it, "the fundamental problem with a fixed exchange rate is that the government must be prepared to forgo completely the use of monetary policy for stabilization purposes."[12] But a peg may improve credibility precisely because it comes at the cost of flexibility. The knowledge that this costly trade-off exists lends credibility to the commitment since it will not be optimal to incur the cost except under the most unusual circumstances.[13] In the spirit of signaling games, the greater the credibility problem, the more likely it is that a country will choose (costly) fixed exchange rates.

While CBI would seem to have efficiency advantages over pegs in terms of the credibility-flexibility trade-off, the two institutions differ on another dimension—*transparency*. This difference is potentially important, because a commitment is only effective in producing desired goals insofar as it is verifiable.[14] Transparency

7. Decentralized enforcement via reputation is theoretically possible but rare in practice, perhaps due to the costliness of the long transition during which a reputation for low inflation is established.

8. See Bernhard, Broz, and Clark 2002.

9. Fischer 1990.

10. See Debelle and Fischer 1994; and Alesina and Summers 1993. For surveys, see Eijffinger and de Haan 1996; and de Haan and Kooi 2000. For theoretical treatments addressing this paradox, see Lohmann 1992; and Walsh 1995.

11. Ghosh, Gulde, Ostry, and Wolf 1997.

12. Obstfeld and Rogoff 1995, 74. Obstfeld and Rogoff review other problems of using pegs to buy credibility for monetary policy, for example, the likelihood of costly speculative attacks, the transmission of shocks from the anchor country to the domestic economy, and conclude that reducing domestic inflation is better addressed through "the basic reform of domestic monetary policy institutions." See also Mishkin 1999.

13. Flood and Isard 1989.

14. This point is addressed in an emerging literature on the verifiability of exchange-rate commitments. See Frankel, Schmukler, and Serven 2000. A simple peg to the dollar is easier to verify than an

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is the ease with which the public can verify and punish government misbehavior with respect to an institutional commitment. A peg has a clear advantage over CBI in this respect because an exchange-rate target is a simple and clear promise to which the government can be held accountable. When a government adopts policies that are inconsistent with maintaining an exchange-rate target, the eventual result is a currency collapse.[15] If the government does not put its financial house in order, wage and price inflation will not be checked. The exchange rate will become steadily overvalued, and intervention in support of the currency will drain international reserves. Anticipating the exhaustion of the country's reserves, speculators will run the central bank, thus forcing abandonment of the peg—a highly visible event. Doubts about the timing of a market attack on a currency are less important than the fact that it is bound to happen if a government's policies are inconsistent with the peg.[16]

The simplicity and clarity of an exchange-rate target make it a transparent commitment because the interested public can directly monitor broken promises by the government.[17] This transparency, in turn, enables the public to hold the government directly accountable if it abandons the peg. Indeed, Richard Cooper found that a devaluation roughly doubled the chance that a government would fall.[18] In addition, finance ministers who presided over a devaluation were more than twice as likely as non-devaluing ministers to lose their jobs in the year following the devaluation. When governments shoulder direct responsibility for a transparent exchange-rate commitment, they pay political costs when the commitment is broken.[19]

CBI, by contrast, is an opaque commitment mechanism in the sense that it is quite difficult for the public to monitor what the government does in relation to a central bank.[20] Even specialists find it tremendously hard to measure the *actual* autonomy of central banks, which is essential for credibility.[21] Most specialists construct cross-sectional indices of formal/legal CBI from observable features of central bank laws: appointment procedures, dismissal and length-of-tenure rules, and the like. But a simple reading of central bank laws is a highly imperfect measure of CBI. The actual independence of the central bank is what enhances credibility, and laws alone

intermediate regime, such as a crawling peg to a basket of currencies. Here I draw the comparison between CBI and simple pegs.

15. Aghevli, Khan, and Montiel 1991.

16. For a critique of the "self-fulfilling" currency crises literature, see Bordo and Schwartz 1997.

17. See Bruno, di Tella, Dornbusch, and Fischer 1988; Giavazzi and Pagnano 1988; and Canavan and Tommasi 1997.

18. Cooper 1971.

19. See Bernhard 1998; Edwards 1996; and Collins 1996.

20. Monitoring CBI takes on various meanings in the literature. On the one hand, there is the statistical problem of finding meaningful measures of CBI. See Bernhard, Broz, and Clark 2002. On the other, there is the problem of monitoring the decision process of the central bank. Here, I am concerned with the ability of the public (wage and price setters) to monitor what the government does in relation to the central bank.

21. See Eijffinger and de Haan 1996, 22–28; and de Haan and Kooi 2000.

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can hardly determine this.[22] Governments can apply many forms of *informal* pressure on central banks short of changing the bank's legal independence—the mere threat to revoke some or all of that independence can do the trick.[23] Moreover, meddling governments can attribute any *ex post* change in central bank policy to an unanticipated monetary disturbance, and the public would be hard pressed to refute the claim. The public's ability to distinguish the impact of instability in money demand (velocity shocks) from government interference is further complicated by the uncertain time lags with which changes in base money are transmitted to inflation.[24]

The opaque nature of the CBI commitment suggests that the credibility of CBI is not established by the ability of the public to directly observe broken promises, as with fixed exchange rates. Actual CBI depends on the government's commitment to it: delegating monetary policy to an independent central bank does not solve the credibility problem, "it merely relocates" it to the government that makes the delegation decision.[25] Something must make the government's CBI commitment credible, and the transparency of the political system is a likely candidate.

Transparency in Political Systems

Governments create the institutions that constrain their own discretion. If there are no political costs to governments of revising or overturning the constraining institution, the commitment arrangement provides no credibility gains. When a government can renege without cost on a commitment arrangement, the arrangement will have no more effect on inflation expectations than when the government conducts monetary policy on its own.[26] Before costs can be imposed, however, opportunism must be detected. If a government violates its promise and the public cannot detect the violation, or cannot distinguish meddling from an unanticipated disturbance, the government will bear few, if any, costs from acting opportunistically. In the absence of transparency and costs, the commitment will not be credible.

In the case of a peg, transparency and political costs are built into the commitment mechanism. By pegging, the government makes an easily verifiable commitment and bears political costs when it breaks that commitment. CBI, in contrast, is not directly observable and therefore cannot, on its own, generate the political costs required to adequately guarantee a commitment to low inflation. How then can it be made credible? I argue that transparency in political systems can provide the necessary monitoring and enforcement functions. Transparency in the political

22. Efforts to develop indicators of actual independence have been fraught with difficulties. See Bernhard, Broz, and Clark 2002.
23. See Havrilesky 1995; and Forder 1996.
24. Herrendorf 1999.
25. McCallum 1995, 210.
26. See Jensen 1997 for a formal treatment.

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system means that public decisions are made openly, in the context of competing interests and demands, political competition, and sources of independent information. Governments will have greater difficulty hiding their actions and avoiding the costs of opportunism when the political system is transparent. When government discretion is constrained by transparent political institutions, even an opaque monetary technology such as CBI may be credible.

The argument borrows from James Fearon and Donald Wittman, who reason that institutions of political accountability—democratic institutions—facilitate information revelation and thereby improve a government's ability to send credible signals.[27] According to Fearon, governments incur "audience costs" if they make a threat or promise that they later fail to carry out. This suggests a role for political institutions, because the magnitude of these costs should depend on how easily domestic audiences can punish leaders. Fearon hypothesizes that democratic institutions generate higher audience costs, and hence democratic states can send more-credible signals of resolve. While the theory is developed in the context of signaling between nations during international disputes, it is more general and can be applied to the credibility of monetary commitment.

Audience costs are the domestic political costs the government would bear if it failed to make good on a promise. In the case of a promise to respect the independence of the central bank, the *attentive* audiences include social actors with a stake in low inflation and the political opposition. Among the constellation of private interests that most strongly support CBI is the financial services sector.[28] As creditors, banks are natural allies of the central bank and make up a powerful low-inflation constituency.[29] In the United States, for example, the Federal Reserve relies on the support of the banking industry when its independence is threatened.[30] Other allies of CBI include pensioners and institutional investors in fixed-rate corporate and government debt. These pro-CBI audiences, not individual voters, have special incentives to monitor government–central bank relations and report government misdeeds.

Where political institutions allow for the expression and representation of societal preferences, pro-CBI audiences will find politicians willing to defend the central bank. With support from their inflation-averse principals, these politicians may gravitate toward legislative committees or cabinet ministries that control monetary legislation.[31] When inflation-averse politicians sit on committees or ministries with agenda power and oversight responsibilities for monetary policy, informal pressures on the central bank are very likely to come to light. More generally, electoral competition provides opposition politicians with incentives to guard the central bank from government interference. The incentives to reveal information will be greater

27. See Fearon 1994; and Wittman 1989.
28. See Posen 1995; Havrilesky 1990; and Woolley 1984.
29. Faust 1996.
30. See Auerbach 1985; Woolley 1984; and Kettl 1986.
31. See Shepsle 1978 for a consistent theory of "self selection."

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when the low-inflation political party is in the minority or is a member of the governing coalition.[32] When the opposition has a strong preference for low inflation, the government will tread on CBI only at its own peril.

Civil liberties, particularly the freedom of expression, increase the transparency of the political process and make it easier for the public to obtain information on government reneging. Where media sources are independent of the government, the public can better monitor the government's behavior with respect to the central bank, even to the point of differentiating monetary expansions due to political pressure from expansions that result from changes in velocity or other "uncontrollable" forces. In the United States and other open societies, the financial press closely monitors relations between the government and the central bank and provides analyses of policy changes. Back-channel political pressures on Federal Reserve officials are not secret for long, and media coverage has proven to be costly to the offending administrations.[33]

The monitoring role of interested domestic audiences and the magnitude of the costs these audiences can impose depend on the basic characteristics of the political system. In a transparent polity, civil liberties are afforded to a heterogeneous population, political parties compete openly for votes in regular and free elections, and the media is free to monitor the government. Political process transparency lowers the costs to the attentive public of detecting government manipulation of monetary policy and raises the costs to the government of interfering with the central bank. Inflation hawks in society and political challengers have interests in exposing violations of the CBI commitment; this puts constraints on the government's ability to conceal or misrepresent its actions. Political competition ensures that opposition politicians and perhaps even the mass public will capitalize on the information and impose costs on the government.

In opaque political systems, where there are severe restrictions on political expression, electoral and partisan competition, and the media, the audience costs of subverting CBI are low. Domestic anti-inflation groups and the political opposition cannot perform their monitoring and sanctioning roles. Without political transparency, an opaque monetary commitment like CBI is not likely to be credible. Autocrats may find that legal CBI is not effective in lowering inflation. Credibility-seeking autocratic governments must look to a more transparent monetary commitment, like pegging.

In sum, a monetary commitment need not be *directly* transparent to impose costs on a government. CBI is not directly transparent. However, the costs needed to render an opaque commitment credible can be obtained *indirectly* by way of a political system that is itself highly transparent. In the following section, I lay out some testable implications.

32. Bernhard 1998a.

33. Kettl 1986, 130–31. Kettl documents how Nixon's "dirty tricks" against Arthur Burns backfired and embarrassed the administration.

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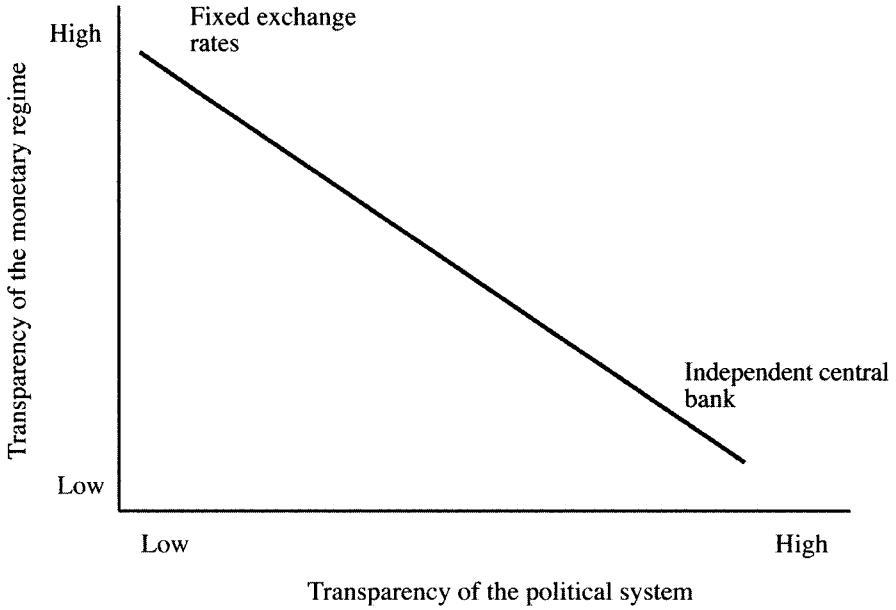


FIGURE 1. *Substitute sources of transparency*

Political Institutions and Monetary Commitments as Substitutes

Transparency is a necessary characteristic of any credible government commitment. The public must be able to know when the government violates a commitment to impose audience costs. Transparency can be purchased by way of an easily observed commitment technology or generated indirectly via transparent political institutions. Commitment mechanisms and political institutions are *substitute* sources of transparency.

Figure 1 depicts this negative relationship: the more transparent the political system, the less transparent the monetary commitment. CBI is the less transparent but more flexible commitment technology. It is associated with transparent political systems. A fixed exchange rate is the more transparent but less flexible technology. It is found more often in opaque political systems. When the political process is very open, CBI is rendered transparent indirectly through active monitoring by interested private and political agents. When political decision making is opaque, the government can import transparency by way of a peg—a commitment that is more transparent and constrained than the government. The transparency of the monetary commitment *substitutes* for the transparency of the political system to engender low inflation expectations.

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The foregoing analysis suggests the following hypotheses. (1) *Countries with opaque political systems will have a higher probability of adopting a peg than countries with transparent political institutions.* This tests the argument that the choice of exchange-rate regime is shaped by political system transparency. The propensity to choose a pegged regime should be negatively associated with the transparency of the political system. (2) *Legal CBI has a negative effect on inflation in politically transparent nations.* Since only legal CBI is directly observable, I test the implication that the effectiveness of statutory CBI in limiting inflation is conditional upon the transparency characteristics of the domestic political system. Note that this argument bears some similarity to Philip Keefer and David Stasavage's point that a legally independent central bank reduces inflation when the political system has multiple veto gates.[34] The arguments are not mutually exclusive: the number of veto players in a political system may have an effect on inflation performance independent of the degree of political transparency. I thus control for veto players in my analysis.

Evidence, Part I

The first test is to examine whether the transparency of the domestic political system affects the choice of exchange-rate regime. My substitution hypothesis predicts that countries with opaque domestic political institutions (autocracies) will have a higher probability of fixing the exchange rate than countries with transparent political institutions. CBI is not a credible option for autocracies because the closed nature of public decision making renders it difficult to detect and sanction governmental interference with the central bank. Sincere governments that want to establish low-inflation credentials must look to a commitment mechanism that is more transparent than the political system. The propensity to peg should thus be negatively associated with the transparency of domestic political institutions.

I use cross-country, time-series data to test the prediction. The panel has yearly observations on as many as 152 countries during the 1973–95 period. Data availability constraints on some covariates reduce the sample size to around 2,300 observations (109 countries). The dependent variable is the exchange-rate regime, coded as an ordered categorical variable from data generously provided by Ilan Goldfajn and Rodrigo Valdés.[35] The original series has ten regime categories that I reduce to four, so as to collapse all currencies pegged to a single currency or basket of currencies into a single category. The highest value indicates a pegged regime, and lower values are progressively more flexible: 4 = Fixed (pegged to the dollar,

34. Keefer and Stasavage 2002.

35. The series, developed for Goldfajn and Valdés 1999, covers ninety-three countries. I filled in data on fifty-nine other countries from the original source, the International Monetary Fund's (IMF's) annual *Exchange Arrangements and Exchange Restrictions*, which provides a summary of each country's officially reported exchange arrangement as of December of each year.

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some other currency, the SDR, or a basket of currencies); 3 = Limited Flexibility (for cases such as the European Monetary System [EMS]); 2 = Managed Floating; and 1 = Free Floating.[36] The variable of interest is POLITY, an aggregate index of the "general openness of political institutions" from Polity III.[37] It is constructed by subtracting the Polity III "Democracy" score from the "Autocracy" rating, according to the emerging standard in the literature.[38] POLITY ranges from −10 (most autocratic) to 10 (most democratic) and provides a fairly good stand-in for the openness of public decision-making. Table 1 contains summary statistics.

In the initial specification, I control only for level of economic development, so as to isolate the effects of political institutions from the effects of development. The term for development is WEALTH (gross domestic product [GDP] per capita), which is included to control for potential differences between rich and poor countries in the propensity to peg; such differences might be correlated with the level of democracy (the sample correlation between polity and wealth is $r = 0.47$.)[39] More controls are added later to check robustness. All regressions include a lagged dependent variable. Given the ordered categorical nature of the dependent variable, I estimate the determinants of exchange-rate-regime choice using an ordered probit model with robust standard errors. Table 2 presents the results.

The strongest and most consistent result is that exchange-rate regimes are slow to change: the lagged dependent variable is highly significant and has a large value. Although regime choice is path-dependent, it is influenced by other factors. Model 1 considers the relationship between political system characteristics and exchange-rate-regime choice, controlling for level of economic development. The estimated coefficient of POLITY, my proxy for political transparency, is negative and highly significant ($z = -4.41$), which suggests that the propensity to peg is inversely related to the level of political system transparency. It is also quantitatively large: when POLITY is set at its highest level (10) and all other variables are held at their means, the predicted probability of choosing a fixed exchange rate (Category 4) is 0.68, with a 5 percent margin of error.[40] In contrast, when POLITY is set at its lowest level (−10), the predicted probability of pegging is 0.53. Being autocratic increases the probability of pegging by a statistically significant 15 percent.

Of course, other factors influence the choice of exchange-rate system, and some may be correlated with political regime type. The OCA literature points to several considerations.[41] Economic size, openness to trade, inflation performance relative to

36. I experimented with a dichotomous "Fixed-Flexible" dependent variable, and the results were substantively very similar.

37. Gurr, Jaggers, and Moore 1990.

38. Although the Democracy and Autocracy scores are highly correlated ($r = -0.93$), the categories and weights that make up the additive indices are somewhat different. The authors of the series note that the scales were not intended to be used separately.

39. GDP and population data are from World Bank 1997.

40. Predicted probabilities and confidence intervals are estimated with the CLARIFY simulation software from Tomz, Wittenberg, and King 1998. See also King, Tomz, and Wittenberg 2000.

41. See Frieden 2002.

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TABLE 1. *Summary statistics*

	Exchange-rate regressions			
	Mean	*Std. dev*	*Min*	*Max*
Lagged dependent variable	3.3136	1.0307	1	4
POLITY (Low = −10 to High = 10)	−.353	7.95	−10	10
WEALTH (Per capita GDP, $1,000s)	5.7637	6.7043	.1478	24.1361
SIZE (Log of GDP)	3.8544	1.0496	1.3887	6.7364
TRADE OPENNESS (X + M/GDP)	74.2698	47.3279	3.7646	423.325
INFLATION DIFFERENTIAL (Country − World, log)	.07486	.15661	−.2001	2.3778
FINANCIAL OPENNESS (Low = 0 to High = 14)	7.3435	2.4005	2.5	13.5
INT'L RESERVES (in months of imports)	3.2826	2.8713	−.09187	25.1768
FEASIBILITY (% of world on fixed exchange rates)	.6424	.1419	.3666	.8828
GOVERNMENT CRISES (Count)	.1437	.4419	0	5

	Inflation regressions			
All data in period averages (1973–89)	*Mean*	*Std. dev*	*Min*	*Max*
DV: LOG OF AVERAGE INFLATION	1.230	.541	.574	3.001
CBI	.345	.119	.1	.69
POLITY	2.836	7.131	−9	10
CIVIL LIBERTIES	6.182	3.029	.312	10
POLITY × CBI	1.149	2.723	−3.574	6.9
CIVIL LIBERTIES × CBI	2.219	1.499	.056	6.156
WEALTH	5.763	6.704	.1478	24.136
PEG	2.944	.8652	1	4
FINANCIAL OPENNESS	7.565	2.497	3.235	12.794
GOVERNMENT CRISES	.202	.252	0	1.235
FINANCIAL SECTOR SIZE	.504	.366	.069	2.454
CHECKS1	.405	.0367	.329	.477

trading partners, and degree of financial openness are perhaps the most important considerations.[42] The typical finding is that a peg (or a greater degree of fixity) is generally superior for small, open economies that have low inflation differentials with their trading partners and a lower degree of international financial integration. I include controls for these economic determinants in Model 2. Economic SIZE is measured as the log of GDP in constant U.S. dollars. TRADE OPENNESS is exports plus imports as a share of GDP. INFLATION DIFFERENTIAL is the absolute difference between the inflation rate of the country and the world inflation rate, logged. This term is lagged one period to avoid potential endogeneity problems. FINANCIAL OPENNESS is a

42. See Edison and Melvin 1990.

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TABLE 2. *Political transparency and exchange-rate regime choice, 1973–95*

Dependent variable: exchange-rate regime (Float = 1 to Fixed = 4)	*(1) Baseline*	*(2) Optimal currency area controls*	*(3) Other controls*
Lagged dependent variable	1.36***	1.29***	1.24***
	(.061)	(.067)	(.072)
POLITY (from low = −10 to high = 10)	−.020***	−.015***	−.016***
	(.005)	(.005)	(.005)
WEALTH (per capita GDP)	−.011**	.023***	.024***
	(.005)	(.008)	(.009)
SIZE (Log of GDP)		−.239***	−.257***
		(.057)	(.063)
TRADE OPENNESS (X + M/GDP)		.169**	.121
		(.088)	(.097)
INFLATION DIFFERENTIAL (Country − World, logged and lagged)		−.306	−.212
		(.262)	(.261)
FINANCIAL OPENNESS (from low = 0 to high = 14)		−.068***	−.054**
		(.024)	(.026)
INT'L RESERVES (in months of imports)			.041***
			(.014)
FEASIBILITY (% of sample pegging)			1.211***
			(.427)
GOVERNMENT CRISES (Count)			.032
			(.093)
Pseudo R^2	.48	.47	.47
Prob > chi^2	0.00	0.00	0.00
Observations	2300	1983	1531

*$p < .10$, **$p < .05$, ***$p < .01$.

Note: Ordered probit specification with robust (White's heteroskedastic-consistent) standard errors in parentheses.

fourteen-point scale derived from the IMF's *Exchange Arrangements and Exchange Restrictions*, using the method developed by Dennis Quinn.[43]

The most important result in Model 2 is that the POLITY coefficient estimate remains significant and negative—the controls do not undermine this key finding. However, including SIZE does lead to a sign reversal in the WEALTH coefficient, the control for economic development. While collinearity between these terms is high ($r = 0.54$), the results suggest that, controlling for size, richer countries tend to prefer more fixity in their exchange rates. One interpretation, often heard in the context of the EMS, is that wealthy countries desire stable exchange rates as a means of lowering the transaction costs of international trade and investment.[44] Jeffry

43. Quinn 1997. I thank Istvan Majoros for extending Quinn's series to developing countries. Data on economic size, trade, and country inflation rates are from World Bank 1997. World inflation rates used for the differential are from IMF 1998.

44. Frankel 1995.

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Frieden provides a more political interpretation.[45] As for SIZE, the result confirms the implications of the OCA approach: the larger the economy, the stronger the case for flexible rates.

The other controls have the expected signs. The negative sign on the inflation differential indicates that the more divergent a country's inflation from the world rate, the greater the need for frequent exchange-rate changes. Divergent inflation rates make it difficult to sustain a fixed rate.[46] A high degree of international financial integration also mitigates fixed exchange rates: FINANCIAL OPENNESS is negative and significantly related to pegging, presumably because a high degree of capital mobility makes it difficult to maintain a peg.

Other influences are examined in Model 3. First, I include the size of a country's foreign currency reserves, INT'L RESERVES, measured in months of imports. Larger reserves should make it easier to sustain a peg. The coefficient estimate is positive and significant—but very likely endogenous. Peggers would certainly try to maintain larger reserves than countries on more flexible regimes.

More important as a control is the general "feasibility" of fixed exchange rates over time, given structural changes in the international environment, global shocks, and changes in expert opinion. There has been a steady decline in the number of pegging countries over time. In 1973, 87 percent of the world's nations pegged; by 1995, the figure had dropped to 36 percent. The oil shocks of the 1970s, the debt crisis of the 1980s, large fluctuations in the value of the major currencies, increasing international capital mobility, and a number of dramatic speculative currency attacks surely influenced this shift away from currency pegs.[47] Rather than include a time trend, I follow Frieden, Piero Ghezzi, and Ernesto Stein and use a variable—FEASIBILITY—that measures the percentage of countries of the world with pegs.[48] I expect the sign to be positive, as it is. The choice of a fixed exchange rate is positively and significantly related to the general climate of opinion regarding pegging. Note that, even though this is a large effect, the POLITY result hardly changes from the previous specification.

Several studies on exchange-rate-regime determination include a term for political instability.[49] The argument is that breaking from a promise to maintain a currency peg is a highly visible and politically costly occurrence, relative to gradual depreciation under a floating regime. Therefore, where political instability is high, governments with tenuous political support and short time horizons will be less likely to choose a fixed exchange-rate regime *ex ante*. I use GOVERNMENT CRISES to gauge the degree of political instability and expect the sign to be negative.[50] The

45. Frieden 2002.

46. I also included a dummy variable for hyperinflation (> 200 percent inflation), on the idea that these countries may seek the discipline and credibility of a fixed rate. Though correctly signed, the term was not significant ($z = 0.56$)

47. See Obstfeld and Rogoff 1995; Eichengreen 1994; and Edwards and Savastano 1999.

48. Frieden, Ghezzi, and Stein 2001.

49. See Edwards 1996; and Frieden, Ghezzi, and Stein 2001.

50. Banks 1994.

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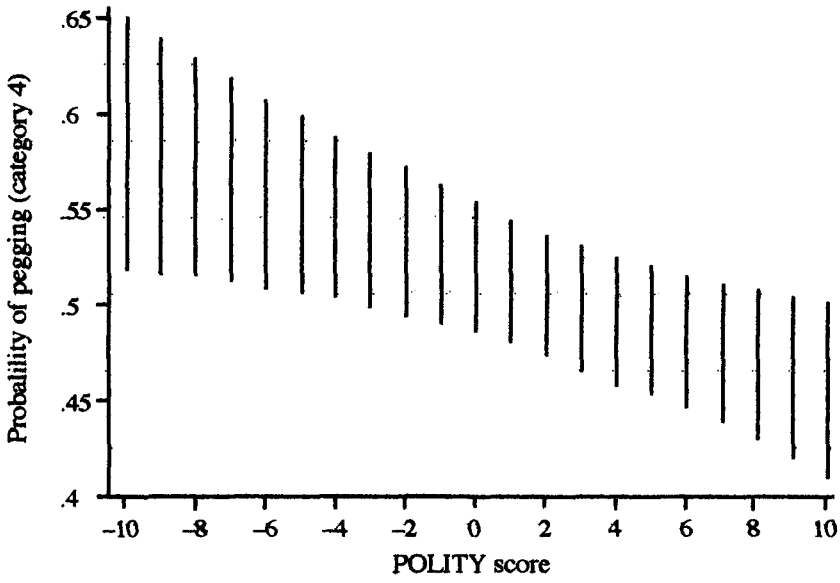


FIGURE 2. *Predicted probability of fixing the exchange rate by POLITY score*

Note: Predicted probabilities are based on estimates from Table 1, Model 3. Vertical lines indicate 95 percent confidence intervals. Simulations were performed with CLARIFY (Tomz et al. 1998).

variable is a count of "any rapidly developing situation that threatens to bring the downfall of the present regime."

The coefficient for GOVERNMENT CRISES is neither negative nor significant. I experimented with other indicators of political instability, such as the number of cabinet changes, riots, strikes, demonstrations, and revolutions.[51] These results (not reported) were more consistent with the prevailing view in that the coefficients in every case were negative. None, however, was statistically significant.

To examine the substantive effect of democracy on exchange-rate-regime choice, I conducted Monte Carlo simulations with estimates from the fullest specification (Model 3). Figure 2 demonstrates what happens to the predicted probability of adopting a fixed exchange rate as POLITY is allowed to vary over its entire observable range and all other covariates are held at their means. The figure shows that authoritarian polities are significantly more likely than democratic polities to adopt fixed exchange rates. The probability of adopting a peg is around 58 percent if a country is completely authoritarian and about 44 percent if it is fully democratic. While the prediction is relatively tight for democratic regimes, the confidence intervals widen once the Polity score falls below negative seven. In fact, the

51. Ibid.

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probability of pegging for the most authoritarian polities varies by so much that, at the lower bound on the interval (0.51), it approaches, but does not overlap, the upper bound for fully democratic regimes (0.48). Although authoritarian countries can sporadically exhibit probabilities close to those of some weakly democratic nations, the probability of pegging remains significantly more likely for these nations.

Overall, these findings indicate support for the transparency hypothesis. Autocratic systems lack the transparency to make an internal monetary commitment (for example, CBI) credible. Autocracies thus substitute the transparency of a visible commitment to a foreign currency peg for the transparency they lack internally. An alternative explanation based upon "Political Capacity" reasoning might be that autocrats peg because they are more insulated from domestic audiences and thus bear lower political costs if the peg collapses.[52] That is, lower political costs *ex post* increase the likelihood that autocracies will choose a peg *ex ante*. I find this argument unconvincing. On the one hand, even autocratic governments must have societal support—if only from the military and the nationalist economic elite—to stay in power. Promising to maintain a peg, and then devaluing, is perhaps the surest way to undermine the support of these groups, since a strong and stable currency is a visible and powerful symbol of the national "honor" to the military and a source of cheap imported luxury goods to the elite. On the other hand, pegging is an inefficient means of generating credibility, given domestic alternatives that do not require as great a loss of policy flexibility. My point is that internal options are not available to autocracies due to the lack of political transparency. Pegging is, as Frederic Mishkin puts it, the "stabilization policy of last resort" for these countries.[53]

Evidence, Part II

In this section, I use cross-country data to test the implication that formal/legal CBI will have a negative impact on inflation only in countries with transparent political systems. A more direct test of the relationship between political transparency and CBI is not possible because the credibility of CBI, or *actual* CBI, is unobservable. However, since we can observe the kind of CBI obtained through legislation, it is possible to examine the implication that formal/legal CBI is rendered credible by an open political system. The sample consists of sixty-nine developed and developing countries during the 1973–89 period. Each observation pertains to a single country, with all values in period averages. The sample and averaging protocol is determined by data availability on CBI, which is from Alex Cukierman, Steven Webb, and Bilin Neyapti.[54] This measure is an aggregate index of formal/legal CBI derived from

52. See Bernhard, Broz, and Clark 2002.

53. Mishkin 1999, 31.

54. Cukierman, Webb, and Neyapti 1992. Cukierman et al. have data on legal CBI for seventy-two countries for four periods (1950–59, 1960–71, 1972–79, and 1980–89), with each observation pertaining

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sixteen criteria found in central bank statutes. Legal CBI is an appropriate indicator because my argument predicts when formal/legal independence will have an impact on inflation performance. Specifically, I expect a high value of CBI to have a negative impact on inflation only when the domestic political system is transparent. By incorporating political system characteristics, I hope to improve upon existing studies that consistently fail to find support for the argument that CBI *on its own* lowers inflation in samples that include developing countries.[55]

The dependent variable is the inflation rate, measured as the log of the average annual change in the consumer price index.[56] I use two alternative proxy indicators for the transparency of political systems: POLITY and CIVIL LIBERTIES. POLITY is from Polity III, as described previously.[57] A high value corresponds to a political system in which leaders are freely chosen from among competing groups and individuals who were not designated by the government. This maps loosely to one conception of political transparency inasmuch as it captures the ability of the *political opposition* to openly scrutinize the government and compete freely in elections. CIVIL LIBERTIES is an alternative indicator, from the Gastil/Freedom House series.[58] Although there is extensive overlap in the two series ($r = 0.90$), CIVIL LIBERTIES is explicitly designed to pick up the ability of *private individuals and groups* to monitor and criticize the government and to freely engage in social, political, and economic activity. Freedom of expression and the media weigh heavily in this index. Overall, the civil liberties index is slightly closer than polity to my conception of political transparency, in that it captures the ability of social actors to monitor government opportunism. To test my conditional argument, I multiply each proxy by CBI and expect the estimated coefficient of the interaction term to be negative.

I use ordinary least squares (OLS) to estimate the effect of CBI, conditioned on the level of political transparency. Table 3 reports the results using the POLITY proxy. The baseline specification (Model 1) is a regression of the log of average inflation on CBI, POLITY, and WEALTH. WEALTH, measured as per capita GDP, is included to control for differences between rich and poor countries in the toleration for inflation;

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to one decade in one country. I dropped Romania, Taiwan, and Yugoslavia due to missing data on regressors. I chose to restrict the analysis to a simple cross-section for two reasons. First, the post-1973 period provides a better (unbiased) sample for testing the political determinants of monetary credibility because the Bretton Woods fixed exchange-rate system operating before 1973 limited $n - 1$ nations' (all but the United States) ability to pursue independent monetary policies. Second, central bank statutes vary very little over time relative to across countries; the country scores are in most cases identical across subperiods.

55. Cukierman, Webb, and Neyapti 1992 find that legal CBI is associated with lower inflation in twenty-one industrial countries but not in fifty-one developing nations. Other studies using legal indices fail to extend the findings to broader samples. See de Haan and Kooi 2000.

56. I take the log to reduce the importance of outlying observations, as in Romer 1993. Inflation data are from World Bank 1997.

57. I filled in missing data for three countries (Bahamas, Barbados, and Malta) with Gastil/Freedom House "Political Rights" scores, transformed to a twenty-point scale.

58. Freedom House 1999.

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TABLE 3. *Democracy, central bank independence, and inflation*

Dependent variable: log of average inflation, 1973–90	*(1) Baseline*	*(2) CBI conditioned on polity*	*(3) Exchange rate commitment*	*(4) Controls*
Constant	1.254***	1.064***	1.456***	2.818***
	(.156)	(.218)	(.309)	(.694)
CBI (from low = 0 to high = 1)	.457	1.049	1.135*	1.292**
	(.437)	(.673)	(.662)	(.606)
POLITY (from low = −10 to high = 10)	−.012	.034	.032	.029
	(.009)	(.022)	(.023)	(.021)
WEALTH (Per capita GDP)	−.025***	−.023***	−.026***	−.004
	(.009)	(.009)	(.009)	(.012)
POLITY × CBI		−.138**	−.140**	−.126*
		(.069)	(.070)	(.066)
PEG (Floating = 1 to Fixed = 4)			−.134**	−.113*
			(.060)	(.068)
CHECKS1 (logged count of "veto players")				−2.695
				(1.678)
FINANCIAL OPENNESS (low = 0 to high = 14)				−.063**
				(.030)
GOVERNMENT CRISES (Count)				.730**
				(.302)
FINANCIAL SECTOR SIZE (Liquid Liabilities/ GDP)				−.360
				(.256)
R^2	0.17	0.21	0.25	0.47
p-value for F	0.00	0.00	0.00	0.00
Observations	68	68	68	66

*$p < .10$, **$p < .05$, ***$p < .01$.

Note: Ordinary least squares with White's heteroskedastic-consistent standard errors in parentheses.

these differences could be correlated with democracy.[59] The coefficient estimate of CBI has a *positive* effect on inflation, but the relationship is not significant. The positive sign suggests that countries with high average rates of inflation have central banks that are at least statutorily independent, contrary to the view that legal CBI lowers inflation on its own.[60] POLITY and WEALTH are negatively associated with inflation, but only the latter coefficient is statistically significant, and highly so. It is

59. GDP and population data are from World Bank 1997.

60. Cukierman, Webb, and Neyapti 1992 find that legal CBI is negatively but not significantly related to inflation in their seventy-two-country sample. My specification differs in the time period on which averages are taken (see above) and in the transformation of the dependent variable. To constrain inflation outliers, I use the log of inflation, while they use $D = \pi/(1 + \pi)$, where π is the inflation rate and D is the transformed inflation rate. I ran my model using their transformation, and the results (available on request) are not substantively different. In fact, my variables of interest increase in magnitude and significance.

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not surprising that richer countries have lower inflation rates, although the causal mechanism is not clear.

Model 2 tests the argument that the effect of legal CBI is conditional on the level of political system transparency. The coefficient on the interaction term is negative and significant as expected, and the fit of the model improves slightly. CBI is associated with lower inflation when a nation's political system is more democratic (more transparent). Some simple algebraic manipulation of the coefficients reveals that the conditional effect of CBI on inflation is negative for nations with polity scores above eight.[61] Thus, CBI has a negative influence on inflation only in the most democratic states. The reason may be that it takes strongly democratic institutions to enable society's inflation hawks to monitor the many ways that governments tamper with the policy independence of the central bank.

Another part of my argument is that countries that peg will enjoy lower inflation irrespective of the transparency of their political systems. Pegging is a very transparent and therefore credible commitment in its own right. Model 3 includes an indicator of each country's exchange-rate regime, PEG, coded as before on a four-point ordinal scale. As pegging puts tight constraints on monetary policy, I expect a negative association with inflation. The coefficient estimate for peg is correctly signed and significant. This suggests that a transparent commitment to a peg reduces inflation regardless of regime type. This specification also has slightly more explanatory power than the previous model, and the POLITY $\times$ CBI interaction term is virtually unchanged.

Model 4 includes other factors that might influence inflation and be related to my variables of interest. One variable in particular is crucial given its importance in another paper in this volume. Keefer and Stasavage argue that the effectiveness of legal CBI in limiting inflation increases with the number of veto players required to reverse a delegation of authority to the central bank.[62] We therefore must determine whether political system transparency plays a role independent of the number of effective checks and balances in a political system. To control for the effect of multiple veto players, I use the log of CHECKS1 from the *Database of Political Institutions*, as in Keefer and Stasavage.[63] CHECKS1 counts the number of veto players in a political system, adjusting for whether these players are independent of each other, as determined by the level of electoral competitiveness in a system, their respective party affiliations, and electoral rules (open versus closed list).

Other controls include the degree of political instability, the level of financial openness, and the size of the financial sector. Cukierman, Sebastian Edwards, and Guido Tabellini find that inflation is higher in countries that are less politically

61. To examine the impact of one term of an interaction variable on the dependent variable, take the partial derivative of the dependent variable with respect to the single term in question (Friedrich 1982). Since $\exists_{CBI} = 1.049$ and $\exists_{Polity*CBI} = -.138$, δYinflation/δCBI is only negative when POLITY is more than eight. I thank Joseph Gochal for illustrating this procedure.

62. Keefer and Stasavage 2002.

63. Beck, Clarke, Groff, Keefer, and Walsh 2000.

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stable because political instability reduces policymakers' time horizons and ability to precommit.[64] My measure of political instability is GOVERNMENT CRISES, from Arthur Banks.[65] A high level of financial openness (few barriers to limit the integration of national and international financial markets) imposes monetary policy discipline regardless of the degree of CBI because interest rates are constrained to world levels. FINANCIAL OPENNESS is from the IMF annual report *Exchange Arrangements and Exchange Restrictions*, coded as before on Quinn's fourteen-point scale.[66] Another potentially contaminating factor is the degree of financial sector opposition to inflation. Adam Posen argues that the level of financial sector opposition to inflation is the underlying cause of both inflation performance and CBI.[67] I use FINANCIAL SECTOR SIZE, as measured by liquid liabilities to GDP.[68] The ratio of liquid liabilities to GDP is a general indicator of the size of financial intermediaries relative to the size of the economy. It is frequently used as an overall measure of financial sector development. I assume that a bigger financial sector means more financial opposition to inflation. These data are from another World Bank series.[69]

Model 4 results indicate that more veto players reduce inflation but the relationship is not quite significant at the 10 percent level. Financial openness and political instability are significantly related to inflation and in the expected directions. Financial openness, however, tends to be characteristic of rich countries. (The bivariate correlation between FINANCIAL OPENNESS and WEALTH is 0.72.) This collinearity leads to a sharp change in the wealth coefficient and suggests that we should not read too much into these estimates. The coefficient for GOVERNMENT CRISES, on the other hand, is meaningful. Inflation performance is influenced strongly by the underlying level of political instability.[70] Finally, financial sector size relative to all economic activity has a negative but insignificant effect on inflation.

The key point is that introducing these controls does not alter the basic story. The estimate for POLITY × CBI remains at a similar magnitude and significance level, although peg falls slightly in significance. CBI remains associated with lower inflation in strongly democratic countries, and fixed exchange rates still improve inflation performance.

The models in Table 4 replicate the analysis using CIVIL LIBERTIES as the proxy for political system transparency. Not surprisingly, the results are very similar. However, the size and the significance level of the interaction variable of interest, CIVIL

64. Cukierman, Edwards, and Tabellini 1992.
65. Banks 1994.
66. Quinn 1997.
67. Posen 1995.
68. Liquid liabilities, also known as broad money or M3, are the sum of currency plus demand and interest-bearing liabilities of banks and other financial intermediaries.
69. Beck, Demirgüa-Kunt, and Levine 1999.
70. I ran regressions with other measures of political instability (riots, strikes, demonstrations, and revolutions), and each was negatively associated with inflation, although only riots and demonstrations were significant.

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TABLE 4. *Civil liberties, central bank independence, and inflation*

Dependent variable: log of average inflation, 1973–90	*(1) Baseline*	*(2) CBI conditioned on civil liberties*	*(3) Exchange-rate commitment*	*(4) Controls*
Constant	1.296***	.447	.849*	2.309***
	(.151)	(.379)	(.463)	(.695)
CBI (from low = 0 to high = 1)	.432	3.115**	3.198**	3.139**
	(.438)	1.374)	(1.371)	(1.320)
CIVIL LIBERTIES (from low = 0 to high = 10)	−.004	.114***	.106**	.101**
	(.022)	(.040)	(.042)	(.043)
WEALTH (per capita GDP)	−.032***	−.027***	−.029***	−.008
	(.009)	(.009)	(.009)	(.013)
CIVIL LIBERTIES × CBI		−.380***	−.382***	−.346**
		(.146)	(.149)	(.148)
PEG (Floating = 1 to Fixed = 4)			−.124**	−.112*
			(.062)	(.068)
CHECKS1 (count of "veto players," log)				−2.657
				(1.662)
FINANCIAL OPENNESS (low = 0 to high = 14)				−.064**
				(.029)
GOVERNMENT CRISES (Count)				.665**
				(.302)
FINANCIAL SECTOR SIZE (Liquid Liabilities/ GDP)				−.407
				(.255)
R^2	0.17	0.23	0.27	0.46
p-value for F	0.00	0.00	0.00	0.00
Observations	69	69	68	66

*$p < .10$, **$p < .05$, ***$p < .01$.
Note: Ordinary least squares with White's heteroskedastic-consistent standard errors in parentheses.

LIBERTIES × CBI, improve over prior estimates using the polity measure. This may be due to the fact that civil freedoms are closer to my concept of political transparency than the democracy indicator. Freedom of expression, organization, and dissent is a precondition for effective monitoring of government commitments. The ability to openly denounce the government when it meddles in central bank affairs is a crucial first step in applying audience costs. Once the transgression is exposed (by the media, for example), democratic institutions allow for sanctioning by way of electoral competition.

To illustrate the substantive effect of CBI conditioned on the level of civil liberties, I estimated expected values of inflation from Model 2 by holding CIVIL LIBERTIES at a high level (75th percentile), setting WEALTH to its mean, and then increasing CBI incrementally from its lowest to its highest value. I generated

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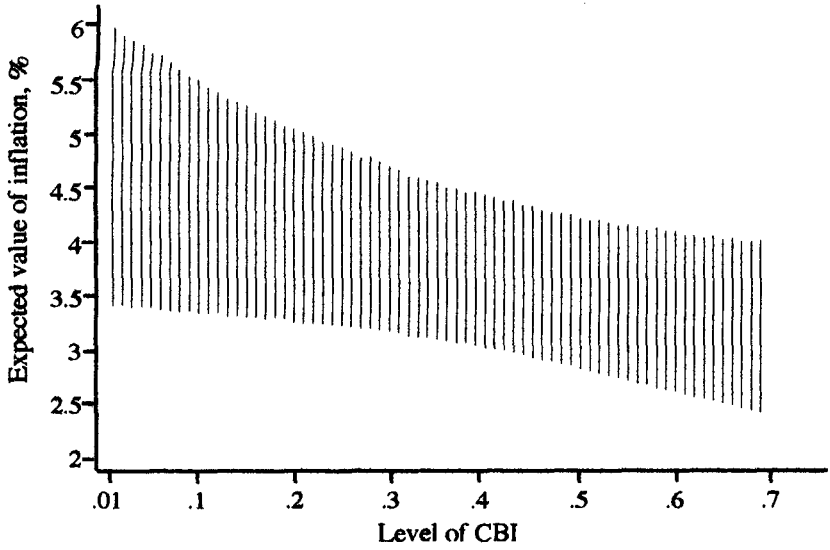


FIGURE 3. *Effect of CBI conditioned on CIVIL LIBERTIES: High CIVIL LIBERTIES (75th percentile)*

expected values and 95 percent confidence intervals using Clarify.[71] As part of the simulation, I exponentiated the expected values to yield more meaningful results—inflation rates rather than logged inflation. Figure 3 shows that there is a slightly *negative* relationship between CBI and inflation in democratic settings. These results provide modest support for the argument that CBI generates lower inflation in the context of transparent political institutions. In democracies, CBI constrains government opportunism and thus provides meaningful information about the commitment to low inflation.

As for autocracies, the effect of CBI is very perverse. Figure 4 replicates the simulation but with CIVIL LIBERTIES set at a low level (25th percentile). There is a *positive* relationship between CBI and inflation in nondemocratic settings. Why a formally independent central bank might raise inflation in the absence of democracy or civil liberties is a legitimate puzzle. It could be that those states that are the least likely to be credible would go to great pains to profess the supposed independence of the central bank. Legal CBI might thus send a preserve signal to wage and price setters, creating an even greater time-inconsistency problem.

Note also that the level of uncertainty surrounding these estimates increases dramatically as CBI increases. This suggests that, when the political system is not transparent, the effect on inflation of a statutorily independent central bank is highly

71. See Tomz, Wittenberg, and King 1998; and King, Tomz, and Wittenberg 2000.

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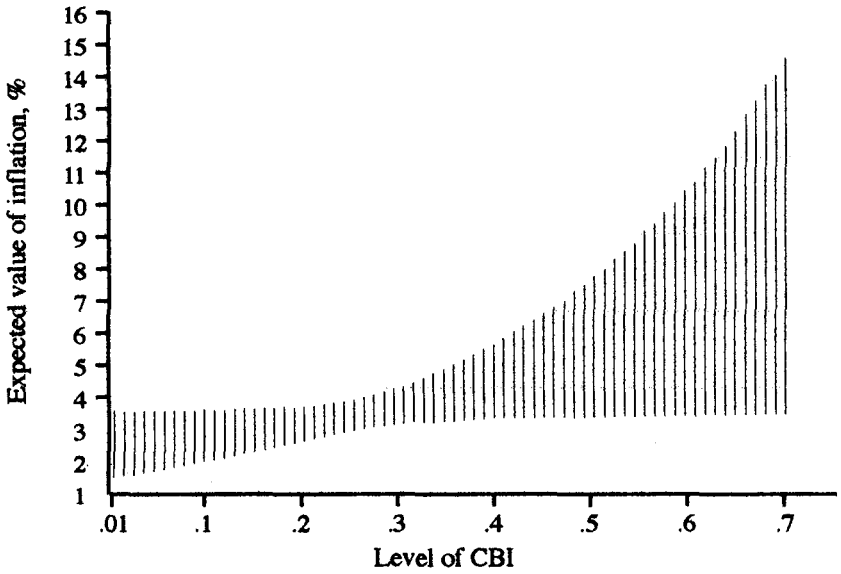


FIGURE 4. *Effect of CBI conditioned on CIVIL LIBERTIES: Low CIVIL LIBERTIES (25th percentile)*

varied. Overall, legal CBI signals little about the commitment to low inflation in autocratic settings.

Conclusion

The underlying presumption of this paper is that governments choose monetary institutions at least in part according to their usefulness in resolving the time-inconsistency problem. Credible monetary commitments must be transparent for governmental opportunism to be detected and punished. Transparency, however, need not be a characteristic of the commitment technology itself. In the case of CBI—an opaque technology—a transparent political system can be a workable substitute. When the political process is open, as in democracies, CBI is rendered transparent indirectly through active monitoring and sanctioning by interested private and political agents. When political decision making is not transparent, as in autocracies, the government can import transparency by way of a commitment technology that is more transparent than the political system. For autocratic governments, a highly transparent monetary commitment such as a peg can substitute for the transparency of the political system to engender low inflation expectations.

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Refinements of the argument are certainly possible. Future work can incorporate more fine-grained differences among democracies and autocracies as they relate to the transparency of political decision making. Among parliamentary systems, coalition governments should be more transparent than single-party governments, as coalition partners will have divergent preferences on monetary policy.[72] Democracies with small electoral districts should be more transparent than those with large districts, since politicians will represent constituents with more heterogeneous monetary interests. The degree of political decentralization should also relate to transparency, with federal democracies more transparent than centralized systems due to the heterogeneity of regional preferences and their representation in strong bicameral institutions.[73] While Mark Hallerberg analyzes the impact of federalism according to the logic of the veto gates model,[74] my inclination is to treat federalism as an alternative source of transparency for government commitment, as Jon Faust does.[75]

Although there is less variation in transparency across autocracies, one possible avenue to explore is the transparency of the succession process. Mancur Olson argues that monarchies with clearly defined and stable succession procedures produce autocrats that take a long-term "encompassing" interest in the productivity of the economy.[76] It follows that, when there is consensus about choosing the next ruler, political transparency and stability are likely to be higher than in systems plagued with succession crises. Nations (autocratic and democratic) also differ on the extent to which they are subject to outside monitoring, as by the IMF.[77] External monitoring by the IMF might create the transparency necessary to make a monetary commitment credible. It might also be the case that foreign investors monitor government commitments and impose audience costs directly, by way of their investment and withdrawal decisions. However, domestic audiences are likely to have advantages over foreign ones in monitoring back-channel government behavior, given their greater familiarity with local political circumstances and dealings. Further research along these lines will help delineate the effects of political transparency on the choice and effectiveness of alternative monetary commitment mechanisms.

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