Economic Reforms and Democracy

Evidence of a J-Curve in Latin America

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This article explores the relationship between economic reforms and democracy in Latin America between 1970 and 1995. Existing theories suggest divergent effects across time horizons. The *implementation* of reforms—economic liberalization—may initially destabilize democracy due to popular backlash or overzealous reformers' usurpation of democratic institutions. However, the potential *outcome* of reforms—greater economic liberalism—may later foster or reinforce democracy by dispersing economic assets, making rulers more susceptible to international constraints, or demobilizing social groups that may otherwise make politically destabilizing redistributive demands. Time-series cross-section analyses using an error correction model provide evidence of this J-curve relationship. Although countries engaging in economic reforms may experience a temporary deterioration of democracy, they tend to become more democratic in the long run. Findings are robust to numerous control variables, country and time fixed effects, and specifications using either Polity IV or Freedom House democracy indicators.

Keywords: democracy; democratization; economic reform; J-curve; Latin America; liberalism; liberalization; neoliberal; regime change; transitions; third wave

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What are the effects of economic reforms on democracy? Since the advent of the neoliberal era and the Third Wave of democratization, scholars have devoted countless studies to the analysis of economic and political liberalization. Yet after more than a quarter century of research, observers remain deeply divided on this fundamental question.[1]

Why have scholars been unable to identify the relationship between economic reforms and democracy more definitively? Perhaps no relationship exists. Or perhaps the relationship cannot be readily discerned because it is mediated too strongly by socioeconomic factors, institutional arrangements, and the political strategies of individual reformers.

Without denying the complexity of the relationships between the organization of economic systems and political regime type, we believe that much clarification can be brought to the debate by making an explicit distinction between economic *liberalization* and economic *liberalism*. In the 1980s and 1990s, numerous scholars voiced concerns that economic liberalization—the process of implementing market reforms that increase economic liberty—would undermine democracy, especially in countries in which democratic institutions were new and fragile (e.g., Armijo, Biersteker, & Lowenthal, 1994; Haggard & Kaufman, 1995; Nelson, 1993; Przeworski, 1991). Other scholars, however, have argued that economic liberalism—the degree to which citizens have the liberty to own, use, and exchange assets—helps sustain democracy, either by creating bulwarks against the centralization of political power (Friedman, 1962; Hayek, 1944/1994), making rulers more susceptible to international constraints (Levitsky & Way, 2005; Weyland, 2004), or demobilizing social groups that may otherwise make politically destabilizing redistributive demands (Kurtz, 2004; P. H. Smith, 2005; Weyland, 2004).

These contending viewpoints are by no means incompatible across different time horizons.[2] If both sets of predictions are true, then we would expect economic reforms to have countervailing short-term and long-term effects on democracy. Economic liberalization should undermine democratic institutions in the short run, but increasing economic liberty should also foster or reinforce democracy in the long run. Is there empirical support for such a proposition?

Our econometric analyses provide evidence that a robust J-curve relationship indeed exists between economic reforms and democracy.[3] Although countries engaging in economic reforms may experience a temporary deterioration of democracy, they tend to become more democratic in the long run. These findings are based on an error correction model applied to time-series cross-section data for 16 Latin American countries from 1970 to

1995.[4] The countries analyzed are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Paraguay, Peru, Uruguay, and Venezuela.[5] Our model uses country and time fixed effects and controls for numerous variables, including levels and changes of GDP per capita, inflation, international reserves, external debt divided by GDP, agricultural share of GDP, urbanization, and population. Findings remain robust when distinguishing between reforms by authoritarian and democratic regimes.

This study thus makes several significant contributions to the existing literature on the relationship between economic reforms and democracy. First, we develop an analytical framework that reconciles the conflicting theories discussed above by emphasizing the distinction between economic liberalization (i.e., the implementation of reforms) and economic liberalism (i.e., the outcome of reforms). Second, our application of an error correction model allows us to test simultaneously for these countervailing effects across time horizons. Third, this study provides what we believe to be the first quantitative analysis of this dynamic relationship in the Latin American context.[6] Finally, our analysis reveals insights into long-standing political economy debates concerning shock therapy versus gradualist strategies of economic reform, highlighting a trade-off between the severity and duration of the short-term costs associated with economic liberalization.

The Logic of the Debate

We contend that much of the disagreement over the impact of market reforms on democracy results from the different emphasis that scholars place on the consequences of economic liberalization—the implementation of reforms—versus the effects of increased economic liberalism—the outcome of reforms. At the risk of oversimplification, we suggest that the main currents of the debate in the Latin American context can be well encompassed in the typology presented in Figure 1.[7]

Scholars who perceive destabilizing effects of market reforms on democracy often focus on two scenarios. Both refer to economic liberalization—the process of implementing reforms:

1. *Popular backlash*: The introduction of market reforms entails short-term social costs, which produce a politically destabilizing popular backlash.
2. *Elite usurpation*: The implementation of reforms requires the concentration of political power, risking the usurpation of democratic institutions by overzealous reformers.

Figure 1
Economic Liberalization Versus Economic Liberalism

FOCUS

	ECONOMIC LIBERALIZATION (Implementation of Reforms)	*ECONOMIC LIBERALISM (Outcome of Reforms)*
POSITIVE		• **Dispersion of Power** - Hayek (1944) - Friedman (1962) - Dominguez (1998) • **International Constraints** - Weyland (2004) - Levitsky and Way (2005) • **Social Demobilization** - Kurtz (2004) - Weyland (2004) - Smith (2005)
IMPACT ON PROCEDURAL DEMOCRACY		
NEGATIVE	• **Popular Backlash** - Przeworski (1991) - Nelson (1993) • **Elite Usurpation** - Przeworski (1991) - O'Donnell (1994) - Haggard and Kaufman (1995)	

By contrast, three primary scenarios underlie the thinking of scholars who argue that market reforms foster or reinforce democracy. All three pertain to economic liberalism—the degree of economic liberty in a given country:

1. *Dispersion of power*: Freer markets disperse economic resources, allowing those with economic power to offset the influence of those with political power.
2. *International constraints*: Higher levels of trade and capital flows increase international constraints on domestic politics, facilitating enforcement of democratic norms.
3. *Social demobilization*: Market reforms demobilize labor and peasant movements, reducing their capacity to make politically destabilizing redistributive demands.

Taken together, these theoretical arguments generate two hypotheses that can be tested using quantitative indicators of democracy:

Hypothesis 1. Economic reforms decrease democracy scores in the short
   term, due to the effects of economic liberalization.

Hypothesis 2. Economic reforms increase democracy scores in the long
   term, due to the effects of economic liberalism.

It should be emphasized that these hypotheses refer to the effects of economic reforms on the formal institutions of procedural democracy.[8] We recognize that procedural definitions of democracy and quantitative approaches to the study of democracy in general circumvent important considerations pertaining to the quality of democracy, but we leave this line of inquiry for future research.

The remainder of this section examines the theoretical logic underlying these hypotheses. Later sections test these hypotheses using econometric analyses.

Negative Effects of Economic Liberalization

Economic liberalization often entails short-term social hardships and political instability, and many scholars argue that these destabilizing effects pose a threat to democratic institutions. Przeworski (1991) provides the most succinct and elegant summary of the premises underlying these concerns: "[Market] reforms necessarily cause a temporary fall in aggregate consumption. They are socially costly and politically risky . . . they hurt large social groups and evoke opposition from important political forces. And if that happens, democracy may be undermined or reforms abandoned, or both" (p. 136).

The expected tensions between economic liberalization and democracy can be disaggregated into two distinct but related arguments. The first we call the *popular backlash* scenario. According to this logic, market reforms entail high social costs, including a short-term decline in GDP, a jump in inflation, and increasing unemployment. These social costs are thought to trigger popular backlash, as expressed by electoral revolts against reformers, strikes, or riots. In turn, this backlash stalls the process of economic liberalization. The result is a stop-and-go pattern of reform that exacerbates social costs, thereby eroding public confidence in democratic institutions and increasing the likelihood that frustrated elites will resort to nondemocratic forms of governance (Nelson, 1993; Przeworski, 1991; Walton & Ragin, 1990). The Caracazo—the February 1989 riots that occurred in the midst of Venezuelan market reforms, prompting a military response resulting in hundreds of civilian deaths—could potentially be considered a paradigmatic example of the popular backlash scenario (Hernandez, 2004, p. 138).

Scholars focusing on the destabilizing effects of economic liberalization often link the risk of popular backlash to a second scenario, which we call the *elite usurpation* argument. Given that politicians and technocrats recognize that market reforms are likely to face significant political opposition, they may resort to such tactics as policy-making by presidential decree, bait-and-switch campaign strategies,[9] and the isolation of economic reform teams from congressional and public oversight. These undemocratic political tactics may then have an enduring impact on forms of governance (Haggard & Kaufman, 1995; O'Donnell, 1994; Przeworski, 1991). President Fujimori's *autogolpe* in Peru and President Menem's flurry of executive decrees and efforts to pack Argentina's Supreme Court are oft-cited examples from the early 1990s of the elite usurpation scenario (Graham, 1995; Mauceri, 1995; O'Donnell, 1994; W. C. Smith, 1991).

Positive Effects of Economic Liberalism

Although some scholars argue that the process of implementing economic reforms destabilizes democracy, others focus on how the outcome of these reforms—greater economic liberalism—can foster or reinforce democratic institutions. Scholars who perceive an affinity between economic liberalism and procedural democracy offer three sets of theories.

The first, which we refer to as the *dispersion of power* argument, has been most forcefully articulated by prominent economists such as Friedrich Hayek (1944/1994) and Milton Friedman (1962). Warning that centralized socialist planning would destroy democracy, Hayek and Friedman stressed that the dispersion of economic resources is essential for providing a check against the concentration of political power. In Friedman's (1962) words, "The kind of economic organization that provides economic freedom directly, namely, competitive capitalism, also promotes political freedom because it separates economic power from political power and in this way enables the one to offset the other" (p. 10). For some analysts of Latin American politics, the dispersion of power argument similarly applies to the political effects of dismantling statist development models. The reduction in state control of economic assets, combined with fewer opportunities for state intervention in the private sphere, may serve to reduce the risk of political centralization. Jorge Dominguez, for example, writes that "While not an absolute guarantee against authoritarianism, freer markets can be an important check on the abuse of state power. They would, for instance, have left less room for arbitrary state actions of the sort that were prevalent across much of Latin America from the mid-1960s to the late 1980s"

(Dominguez, 1998, p. 73; also see Bunce, 2001, p. 52).[10] In short, such arguments claim that market reforms can have positive dispersion of power effects on democracy.

Those who believe that economic liberalism helps sustain democracy also draw attention to a second effect of market reforms. In a world economy that is becoming increasingly integrated, freer markets reinforce international constraints on democratic backsliding (Levitsky & Way, 2005; Pevehouse, 2002; Weyland, 2004). Higher levels of trade and capital flows increase the influence of international financial institutions, transnational social networks, and outside governments in domestic political affairs. These international forces can then play a powerful role in promoting political openness through a number of mechanisms: Political conditionality clauses can be inserted into trade agreements, wealthy democracies such as the United States can use loans to gain political leverage, interaction between business elites in established democracies and developing democracies can spread democratic norms, and so on. For instance, Weyland (2004, p. 139) cites the example of international pressure applied on President Fujimori of Peru after he disbanded the legislature in 1992. To sustain the ongoing support of the United States and the International Monetary Fund, Fujimori was forced to maintain at least the basic institutions of procedural democracy. In general, these arguments suggest that market reforms can have positive *international constraints* effects on democracy.

Other scholars focus on what we term the *social demobilization* argument and thereby draw attention to a "darker side" (Weyland, 2004, p. 143) of the ways in which economic liberalism may reinforce procedural democracy.[11] Adherents to this position argue that economic reforms undermine the mobilizational capacity of social groups whose redistributive demands have traditionally destabilized democracies in Latin America (Kurtz, 2004; P. H. Smith, 2005; Weyland, 2004). In this view, higher levels of economic liberalism are accompanied by deindustrialization, growth in the size of the informal sector, labor market deregulation, and the privatization and modernization of traditional peasant landholding arrangements—all of which impede workers' and peasants' ability to organize collectively. Elites may thus find that democracy today poses less of a risk to their wealth and power than it did a generation ago, for market reforms have defanged the threat of the Left by demobilizing its constituents (P. H. Smith, 2005). In turn, elites may become less prone to resort to undemocratic measures to protect assets and maintain social order.

Whereas the dispersion of power, international constraints, and social demobilization arguments focus on how the *outcome* of economic reforms (greater

liberalism) fosters or reinforces procedural democracy, the popular backlash and elite usurpation arguments focus on how the *process* of economic reforms (liberalization) destabilizes democratic institutions. This distinction is critical. Although scholars continue to vigorously debate the effects of market reforms on democracy, much of this contention boils down to whether particular analysts focus on the short-term effects of economic liberalization, or the longer term effects of economic liberalism. These viewpoints need not be incompatible. Market reforms may indeed undermine democracy in the short term, due to destabilizing effects of economic liberalization. But market reforms may also foster or reinforce democracy in the long term, due to effects of economic liberalism. Do these two countervailing effects coexist? The econometric analyses below explicitly test each hypothesis in the Latin American context.

Overview of Variables

Democracy and Economic Reform

Definitions of democracy are highly contested (Collier & Levitsky, 1997). Since we hold no illusions of resolving these disputes, we adopt a procedural definition of democracy, deferring to the precedent set by recent quantitative studies that analyze how economic reforms affect political regimes (e.g., Fish, 1998, 2005; Kurtz & Barnes, 2002). In the tradition of Schumpeter (1950), Dahl (1971), O'Donnell and Schmitter (1986), and Huntington (1991), we take democracy to mean a set of institutions that ensures checks and balances on the centralization of power, provides for free and fair elections of key policy makers, and protects civil liberties that enable adult citizens to make uncoerced and informed political decisions.

Like the definition of democracy, the positive and negative attributes of competing measures of political openness have been thoroughly analyzed (Munck & Verkuilen, 2002). We do not rehash these debates here. We choose the Polity IV composite index as our primary dependent variable and use the Freedom House composite index to confirm findings. The Polity IV composite index represents the difference between the project's democracy and autocracy indices (Marshall & Jaggers, 2002). This composite index ranges from –10 to 10, with higher values representing more democratic regimes. A country's rating is based on three categories: executive recruitment, executive constraints, and political competition. The Freedom House composite index, meanwhile, is measured on a 1 to 7 scale, with lower values representing

more liberal regimes. The composite index is the average of two subindices, one representing multiple indicators of political liberties and the other measuring protection of civil liberties (Freedom House, 2005). We reverse the scale of the Freedom House composite index to facilitate comparison of findings with Polity IV scores so that higher values represent more liberal regimes.

Our primary independent variables measure economic liberalization and economic liberalism. Both variables are based on a composite index of structural reforms in 16 Latin American countries for the years from 1970 to 1995. This index was compiled by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC; Morley, Machado, & Pettinato, 1999).[12] The structural reforms index ranges from 0 to 1, with higher numbers assigned annually to countries with more liberalized economies. The index measures trade reform, domestic financial liberalization, privatization, liberalization of external capital transactions, and tax reform. As discussed in the *Model Specification* section below, the error correction model used in this study includes variables for both changes and levels of this index. The change variable measures the implementation of reforms (economic liberalization), and the level variable measures the outcome of reforms (increased economic liberalism).

Control Variables

Although our primary concern is the effect of economic reforms on democracy, we include numerous controls to avoid spurious correlation. First, we control for the level of economic development, which has been frequently hypothesized to affect democracy (e.g., Bollen & Jackman, 1985; Lipset, 1960; Przeworski, Alvarez, Cheibub, & Limongi, 2000). The analyses include the log of GDP per capita, in real terms and adjusted for purchasing price parity, taken from the Heston-Summers-Atens (2002) Penn World data set. Likewise, we control for numerous measures of economic performance, which may be associated with both economic reform and democracy. Our control variable for economic growth is the change in log GDP per capita (real and purchasing price parity adjusted), again using the Heston-Summers-Atens Penn World Data Set. We also include levels and changes of log inflation, log of nongold international reserves, and external debt-GDP ratio, using data from the World Development Indicators (WDI).[13] Finally, drawing from recent quantitative studies on democracy, we use WDI data to control for agricultural share of GDP, urbanization, log population, share of fuel exports in trade, and energy consumption per capita.

Model Specification

This article uses an error correction model to examine the relationship between economic reforms and democracy in Latin America. Scholars analyzing this topic quantitatively in other regions often use levels of democracy scores as their dependent variable (e.g., Fish, 1998, 2005; Kurtz & Barnes, 2002). This approach is problematic when conducting time-series analyses. Democracy scores are typically highly persistent from year to year, which can hinder statistical inference.[14] Despite dramatic authoritarian and democratic breakdowns in the Latin American region between 1970 and 1995, the correlation between current and 1-year lags of Polity IV scores during this period is 0.93. Although we have strong theoretical reasons to believe that democracy scores are not an integrated series, the spurious regression problems afflicting integrated data (Hamilton, 1994) apply equally when data are near-integrated (DeBoef & Granato, 1997, pp. 635-636). Dickey-Fuller tests cannot reject the null hypothesis of a unit root for Polity IV and Freedom House scores, and Hadri's (2000) panel stationarity test rejects a null of stationarity for both indicators. These results suggest that first differencing our data is an appropriate strategy, so we employ $\Delta Y_{i,t}$, the change in democracy score for country i between the years $t-1$ and t, as our dependent variable.[15]

Using a basic first-differences model, however, is theoretically unsatisfying. The first-differences model ($\Delta Y_{i,t} = \alpha_0 + \beta_0 \Delta X_{i,t} + \varepsilon_{i,t}$) suggests that economic liberalization is associated with democracy scores in the short run but that there are no effects of market reforms on democracy lasting more than 1 year (Beck, 1992, pp. 67-68). By contrast, an error correction model allows us to investigate the dynamic nature of the relationship, thereby enabling us to test the hypothesis that economic liberalization undermines democracy in the short term but fosters democracy in the long term. Error correction models are often used to analyze cointegrated data, but can also be used to model long-memoried data (Beck, 1993; Keele, 2004), such as democracy scores in the Latin American context. This article uses the single-equation method of estimating error correction models, which explicitly does not require the assumption of cointegrated series.[16] In the bivariate case, a single-equation error correction model can be expressed as the following:

$$\Delta Y_{i,t} = \alpha_0 + \beta_0 \Delta X_{i,t-1} + \gamma(Y_{i,t-1} - \beta_1 X_{i,t-1}) + \varepsilon_{i,t}.$$

In this model, the dependent variable, $\Delta Y_{i,t}$, represents the change in country i's democracy score between year $t-1$ and year t. With respect to the explanatory variables, $Y_{i,t-1}$ is country i's democracy score in the previous year $t-1$, $\Delta X_{i,t-1}$ is the change in this country's economic reform score between the year $t-2$ and $t-1$, and $X_{i,t-1}$ is the level of economic reforms in country i in the year $t-1$.[17] Within the error correction model, current changes in Y are related not only to lagged changes in X but also the extent to which the lagged levels of Y and X are outside an equilibrium relationship. This equilibrium relationship reflects the theory that economic and political liberty tend to move together in the long run. The parameter β_0 represents the short-term association between economic reform and democracy, whereas β_1 measures their long-term relationship (Durr, 1993, p. 166).

In the model that we estimate, we include a vector of control variables as well as country and time fixed effects. An F test confirmed the importance of specifying a least squares dummy variable model instead of a pooled OLS model—the null hypothesis that country fixed effects are not jointly significant is rejected at the 99.9% confidence level. Time fixed effects are included to control for temporal factors, such as demonstration effects, common exogenous shocks, and the diffusion of ideological beliefs during the Third Wave of democratization (Huntington, 1991).

Following the technique advocated by Beck and Katz (1995, 2004), this analysis also uses panel corrected standard errors, which mitigate groupwise heteroskedasticity and contemporaneous correlation of errors. We also take steps to address serial correlation of errors. The use of first-differenced data in this model greatly reduces autocorrelation for each variable.[18] In addition, for all regressions discussed below, we correct for panel-specific, first-order autoregression using the Prais-Winsten technique.

Results

Primary Findings

Econometric analyses provide empirical evidence of a J-curve relationship, consistent with theoretical arguments presented above. Using the methodology described in the preceding section, a basic error correction model with country and time fixed effects is estimated in column 1 of Table 1. Changes in the ECLAC structural reforms index are negatively associated with changes in democracy scores and are statistically significant at the 99% level of confidence. More specifically, the coefficient on Δ Structural Reform Index, −10.99, suggests that a country increasing its structural

Table 1
Error Correction Model: Polity IV and Economic Reform

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Δ Structural Reform Index$_{t-1}$	−10.99	−10.97	−12.27	−14.12	−14.25	−13.79	−13.55
	(3.77)**	(3.76)**	(3.83)**	(3.90)**	(3.92)**	(3.87)**	(3.84)**
Δ Log GDP per Capita$_{t-1}$		−1.07	−1.02	−0.32	0.28	0.20	0.06
		(2.56)	(2.57)	(2.66)	(2.73)	(2.69)	(2.76)
Δ Log Inflation$_{t-1}$			−0.15	−0.17	−0.18	−0.17	−0.18
			(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Δ Log International Reserves$_{t-1}$				0.91	0.89	0.90	0.92
				(0.33)**	(0.34)**	(0.33)**	(0.33)**
Δ External Debt/GDP$_{t-1}$					2.80	3.00	3.31
					(3.86)	(3.89)	(3.84)
Δ Agriculture Share$_{t-1}$						−0.02	−0.04
						(0.08)	(0.08)
Δ Urbanization$_{t-1}$							1.69
							(0.65)**
Polity IV Score$_{t-1}$	−0.25	−0.26	−0.26	−0.27	−0.27	−0.27	−0.28
	(0.05)**	(0.05)**	(0.05)**	(0.05)**	(0.05)**	(0.05)**	(0.05)**
Structural Reform Index$_{t-1}$	5.63	6.50	6.97	9.18	9.47	9.48	8.48
	(2.35)*	(2.46)**	(2.51)**	(2.65)**	(2.70)**	(2.66)**	(2.69)**
Log GDP per capita$_{t-1}$		2.08	2.17	4.12	4.29	4.60	4.28
		(1.57)	(1.56)	(1.57)**	(1.60)**	(1.61)**	(1.56)**
Log Inflation$_{t-1}$			0.15	0.07	0.07	0.05	0.05
			(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
Log International Reserves$_{t-1}$				−0.97	−0.98	−1.03	−0.98
				(0.33)**	(0.33)**	(0.33)**	(0.33)**

(continued)

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Table 1 (continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
External Debt/GDP$_{t-1}$	-4.04				0.79	0.57	-0.19
	(1.50)**				(1.54)	(1.59)	(1.55)
Agriculture Share of GDP$_{t-1}$						0.09	0.12
						(0.05)	(0.05)*
Urbanization$_{t-1}$							0.02
							(0.09)
Constant		-20.65	-22.07	-19.31	-20.39	-23.02	-23.36
		(12.70)	(12.65)	(12.77)	(13.07)	(13.14)	(13.97)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	400	400	400	400	400	400	400
R^2	0.24	0.24	0.25	0.27	0.27	0.28	0.29

Note: Entries are OLS coefficients with panel-corrected standard errors in parentheses; the model corrects for panel-specific AR(1).
*$p < .05$; **$p < .01$.

reform index from 0.50 to 0.60 through economic reforms (on a scale from 0 to 1) would be predicted to experience a deterioration of democracy in the following year measuring 1.1 Polity IV units (on a scale from –10 to 10). However, this short-term decline in democracy scores is soon reversed by a long-run positive association between the level of the structural reform index and democracy scores. This long-term relationship is significant at the 95% level, as captured by the coefficient and standard error on the Structural Reform Index variable. The *J-Curve* section of this article interprets the magnitude of the long-term effect.

These findings are robust to control variables, which are included incrementally in columns 2 through 7.[19] In these specifications, both the short-term and long-term effects of economic reform are significant at the 99% level of confidence. Results are also robust to using Freedom House scores as an alternate measure of democracy, as shown in Table 2. Across all specifications, the short-term effect of economic reform is significant at the 95% level or higher, and the long-term effect of economic reform is significant at the 99% level.[20]

Particular emphasis should be placed on the robustness of our results to the inclusion of key economic performance variables. Many scholars have suggested that economic performance affects democracy's prospects, and economic crises in particular may destabilize democratic institutions (e.g., Diamond, 1999; Haggard & Kaufman, 1995; Przeworski et al., 2000). Because market reforms may be implemented in response to economic crises (Armijo & Faucher, 2002; Remmer, 1998), we must be careful to disentangle the political effects of reforms from the political effects of economic crises. Our model consequently controls for lagged values of levels and changes of log GDP, log inflation, log of nongold international reserves, and external debt-GDP ratio.[21] Findings for both Polity IV and Freedom House scores are statistically significant and comparable in magnitude when controlling for economic crises.[22]

Causality

The error correction model provides evidence of a negative association between economic reform and democracy in the short run and a positive association between economic reform and democracy in the long run. Although these findings are consistent with the theoretical arguments predicting a J-curve relationship, we emphasize that they do not establish causality. Endogeneity frequently threatens causal inference in social science research and is a serious concern for scholars analyzing economic

Table 2
Error Correction Model: Freedom House and Economic Reform

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Δ Structural Reform Index$_{t-1}$	−2.06	−1.98	−1.78	−2.10	−2.15	−2.17	−2.05
	(0.83)*	(0.82)*	(0.82)*	(0.82)*	(0.83)**	(0.83)**	(0.82)*
Δ Log GDP per capita$_{t-1}$		0.12	0.12	0.25	0.28	0.26	0.12
		(0.63)	(0.63)	(0.66)	(0.66)	(0.65)	(0.65)
Δ Log inflation$_{t-1}$			−0.02	−0.02	−0.02	−0.02	−0.02
			(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Δ Log international reserves$_{t-1}$				0.11	0.10	0.11	0.13
				(0.07)	(0.07)	(0.07)	(0.07)
Δ External debt/GDP$_{t-1}$					0.16	0.24	0.18
					(0.93)	(0.93)	(0.93)
Δ Agriculture share of GDP$_{t-1}$						−0.02	−0.02
						(0.02)	(0.02)
Δ Urbanization$_{t-1}$							0.29
							(0.17)
Freedom House Score$_{t-1}$	−0.22	−0.23	−0.23	−0.24	−0.24	−0.24	−0.24
	(0.04)**	(0.04)**	(0.04)**	(0.04)**	(0.04)**	(0.04)**	(0.04)**
Structural Reform Index$_{t-1}$	2.37	2.49	2.23	2.58	2.69	2.74	2.54
	(0.49)**	(0.49)**	(0.48)**	(0.52)**	(0.53)**	(0.53)**	(0.53)**
Log GDP per capita$_{t-1}$		0.41	0.38	0.64	0.72	0.80	0.78
		(0.33)	(0.33)	(0.32)*	(0.33)*	(0.34)*	(0.33)*
Log Inflation$_{t-1}$			−0.03	−0.04	−0.04	−0.05	−0.04
			(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Log International Reserves$_{t-1}$				−0.15	−0.15	−0.16	−0.16
				(0.06)*	(0.07)*	(0.07)*	(0.07)*

(continued)

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Table 2 (continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
External Debt/GDP$_{t-1}$					0.26	0.24	0.13
					(0.32)	(0.32)	(0.32)
Agriculture share of GDP$_{t-1}$						0.02	0.02
						(0.01)*	(0.01)*
Urbanization$_{t-1}$							−0.02
							(0.02)
Constant	−0.36	−3.60	−3.14	−2.33	−2.97	−3.62	−1.63
	(0.33)	(2.67)	(2.65)	(2.84)	(2.99)	(3.01)	(3.47)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	384	384	384	384	384	384	384
R^2	0.28	0.28	0.29	0.30	0.30	0.31	0.32

Note: Entries are OLS coefficients with panel corrected standard errors in parentheses; the model corrects for panel-specific AR(1).
*$p < .05$; **$p < .01$.

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reforms and democracy. The econometric specifications in this study use lagged values of independent variables, a technique that mitigates but does not resolve concerns such as reverse causality. Granger causality tests support the J-curve hypothesis, providing evidence that changes and levels of economic reforms predict democracy scores but not vice versa.[23] However, short of employing alternative identification strategies, such as the use of instrumental variables, we hesitate to make causal claims.[24] We consider the identification of a J-curve to be a major finding and leave empirical testing of the underlying causal mechanisms as a task for future research, as discussed in greater detail in our conclusion.

Robustness to Regime Type

Given that our sample includes instances of economic reforms implemented by both authoritarian and democratic regimes, an important question is whether the J-curve relationship holds across regime types. Theory suggests that the scenarios discussed in *The Logic of the Debate* section apply to both democracies and nondemocracies but may be less pronounced under authoritarianism. With respect to the popular backlash scenario, only the strictest totalitarian regimes eliminate protests and strikes entirely, and evidence suggests that authoritarian regimes may ratchet up repression to quell unrest induced by economic reforms (Pion-Berlin, 1983). The elite usurpation hypothesis, however, may be less applicable. If an authoritarian leader has already disbanded the legislature and packed the judiciary, it is not clear which checks and balances would be usurped. In the case of long-term effects, the dispersion of power and international constraints arguments suggest that economic reforms could further the cause of democracy, even when implemented under authoritarian conditions. Dispersing economic assets can make opposition to authoritarian leaders more viable, and integration into the world economy can increase susceptibility to international pressures. However, predictions of the social demobilization argument are more ambiguous: Reforms might undermine the organizational capacity of social groups that would otherwise push for political liberalization.

To test whether the relationship between economic reform and Polity IV or Freedom House scores differs across regime type, we interacted a dummy variable for authoritarian regime with the independent variables for both changes in and levels of economic reform.[25] Although estimates for both Δ Structural Reform Index and Structural Reform Index remain statistically significant and comparable in magnitude, neither interaction variable was significant, suggesting no differential relationship across regime types. As

a result, the findings of this article can be interpreted as robust regardless of whether economic reforms are conducted by democratic or nondemocratic regimes.

Dynamic Effects of Economic Reform

The J-Curve

The error correction model captures the interplay between short-run and long-run effects of economic reform. The short-term negative association between economic reform and democracy scores is soon eclipsed by a greater, long-term positive association. This dynamic relationship can be explored further by using regression coefficients to estimate an error correction mechanism.[26] Within the error correction model presented earlier $(\Delta Y_{i,t} = \alpha_0 + \beta_0 \Delta X_{i,t-1} + \gamma(Y_{i,t-1} - \beta_1 X_{i,t-1}) + \varepsilon_{i,t})$, the error correction mechanism is represented by $\gamma(Y_{i,t-1} - \beta_1 X_{i,t-1})$. Substituting in transformed coefficients from the most inclusive Polity IV specification (column 7 in Table 1) yields: $-0.28(Y_{i,t-1} - 30.29 X_{i,t-1})$.[27] In this equation, $Y_{i,t-1}$ is the level of democracy and $X_{i,t-1}$ is the level of economic reform in country i in the year $t - 1$. For clarity, we exclude control variables from the discussion below.

To illustrate the dynamic effects of economic reforms on democracy, assume that a particular country engages in substantial economic reforms in 1985, increasing its ECLAC structural reform index from 0.50 to 0.60 (on a scale ranging from 0 to 1). Between 1970 and 1995, 12 Latin American countries experienced 1-year increases in their structural reform indices of this magnitude or greater, attesting to the frequently rapid nature of economic reforms in the region. Assume for simplicity that our hypothetical country in 1985 has a score of 0 on the Polity IV index, which ranges from –10 (*autocratic*) to 10 (*democratic*).

The predicted effect of these economic reforms in the following year is a 1.36 point decline $(-13.55 \times .10)$ in the country's Polity IV composite index, to -1.36 in 1986. However, these reforms have a positive predicted effect in future years: The coefficient of 30.29 on $X_{i,t-1}$ calculated above suggests that in the long run, the 1985 economic reforms are associated with a 3.03 increase $(30.29 \times .10)$ in the country's Polity IV composite index. Because democracy has deteriorated to a score of -1.36 in 1986, the country is now 4.38 units below the predicted long-term Polity IV score of 3.03, holding other controlled factors constant. The γ coefficient of $-.28$ in the error correction mechanism above indicates the speed with which this

Figure 2
Economic Reform and Polity IV Scores:
J-Curves Across Reform Packages
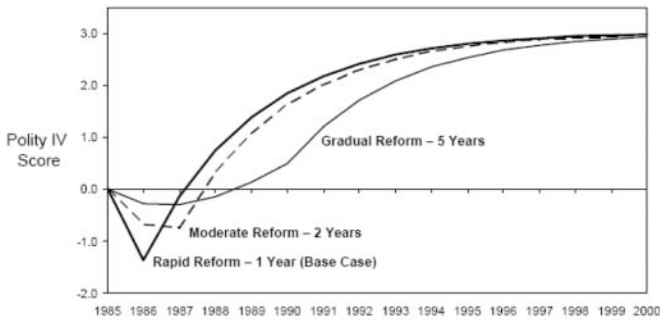
Note: Estimated from coefficients in the most inclusive Polity IV specification (Table 1, column 7). The 1-year base case assumes that a hypothetical country engages in a rapid economic reform package that increases its ECLAC structural reform index from 0.50 to 0.60 between 1984 and 1985. The 2-year moderate case assumes that reforms increase the index from 0.50 to 0.60 between 1984 and 1986. The 5-year gradual case assumes that reforms increase the index from 0.50 to 0.60 between 1984 and 1989.

"error" is narrowed: 28% is corrected between 1986 and 1987. Thus, assuming no further structural reform, the country's democracy score will increase by 1.23 in the following year (.28 × 4.38), to a 1987 score of -0.13 on the Polity IV composite index. This score is now 3.16 units below the predicted long-term score of 3.03, and in the following year, 28% of this remaining gap will be corrected. Thus, in 1988, the democracy score increases by another 0.88 points (.28 × 3.16), increasing beyond its initial starting point (0) to reach 0.75. Through this process, the democracy score gradually reaches its long-term score of 3.03.

These results from the error correction model are presented graphically in the base case of Figure 2. This figure shows a J-curve relationship between economic reforms and democracy, consistent with the theoretical arguments presented above.[28] So far, this analysis has focused on the dynamic effects of one year's economic liberalization. If a country continues to engage in structural reforms, then positive long-term effects of greater economic liberalism will be tempered by short-term negative effects of ongoing reforms. We compare predicted outcomes for rapid versus gradual reform programs in the following section.

Shock Therapy Versus Gradualism: Comparing J-Curves

The error correction model offers important insights into long-standing political economy debates concerning the optimal speed of liberalization—frequently termed the "shock therapy versus gradualism" debate. The shock therapy approach is often associated with Bolivia's Decree 21060, which on August 29, 1985, abruptly ended price controls, unified the exchange rate, eliminated tariffs, and radically curtailed government expenditures. The subsequent taming of hyperinflation, which had reached a stunning 20,000%, turned Bolivia into a potential model for later reformers in several world regions (Sachs, 1987).

Advocates and critics of the shock therapy approach have offered extensive economic rationales for their respective positions (e.g., Roland, 1994; Sachs, 1990). Yet regardless of one's convictions regarding the economic consequences of competing reform strategies, our theoretical and empirical analyses underscore how the speed of reform can also have substantial political implications. As discussed in *The Logic of the Debate* section, numerous scholars argue that the implementation of reforms can destabilize democracy, due to either: (a) popular backlash against hardships of reforms or (b) centralization of executive power as reformers struggle to overcome opposition to economic liberalization. The logic of these scenarios would suggest that short-run negative effects of implementing reforms would, all else equal, be exacerbated when reforms are rapid, for more transitional social and political costs would be imposed in any given year. This position is held by prominent observers of Latin American politics as well as critics of radical reforms in other regions (e.g., Bresser-Pereira, Maravall, & Przeworski, 1993; Cohen, 2000; O'Donnell, 1994; Reddaway & Glinski, 2001). Do the predictions of our error correction model support this hypothesis?

In the *J-Curve* section, we examined the relationship between economic reform and democracy in a hypothetical country implementing substantial economic reforms in a single year, increasing its structural reform index from 0.50 to 0.60. In Figure 2, we compare this rapid reform package to two other reform packages: a moderate one in which the same magnitude of reform is undertaken over 2 years (.05 index increase per year) and a gradual one in which these reforms are carried out over 5 years (.02 index increase per year). Applying the dynamic analysis above to these alternative packages, the error correction model predicts that more gradual reforms entail a less significant decline in democracy scores. Whereas a country engaging in rapid reforms faces the full brunt of the negative effects

of liberalization in the first year, a country opting for gradual reform does not. During each subsequent year of gradual reform, further liberalization undermines democracy, but increased liberalism from reforms already enacted bolsters democracy. Thus, as the gradual reform package continues, negative effects of additional liberalization are partially counterbalanced by the positive effects of previous years' liberalization.

However, gradualism also incurs a cost. Democracy scores ultimately take longer to rise above their initial levels with gradual reform. Thus, there is an apparent trade-off between the severity and duration of the short-term deterioration of democracy following economic liberalization. The model also suggests that a gradual enough reform program has the potential to avoid political hardships almost entirely. In addition, Figure 2 demonstrates that regardless of the speed of reform, the error correction model predicts an identical long-term effect on democracy. The model implies that over the long run, a country will, holding all other variables constant, reach a level of democracy in accordance with its level of economic liberty, regardless of the pace of reform program adopted.

Of course, the implications of these empirical findings must not be stretched too far. The development of democracy is a complex process, and the pace and degree of economic reforms is one of many factors related to the level of democracy in any given country. Further analysis and testing of the hypothesized causal mechanisms underlying the relationships between economic reforms and democracy must be undertaken to understand the actual effects of the pace of reform. Nevertheless, the error correction model offers provocative insights into the dynamic nature of radical versus gradual approaches to economic liberalization.

Conclusion

Overall, this study's empirical findings are consistent with our two initial hypotheses: (a) economic reforms are detrimental to democracy in the short term, due to the destabilizing effects of economic liberalization; and (b) economic reforms foster or reinforce democratic institutions in the long term, due to the effects of economic liberalism. This evidence could be interpreted as not only supporting these hypotheses but also as lending credence to the theoretical arguments on which they are based: (a) Economic liberalization weakens democracy through popular backlash and elite usurpation mechanisms, whereas (b) economic liberalism strengthens democracy through dispersion of power, international constraints, and social

demobilization mechanisms. However, even though the results of our econometric analyses are broadly consistent with these scenarios, we must emphasize that our macro-level study does not provide proof of micro-level causal mechanisms. To explore these mechanisms, further empirical analysis aimed at testing the causal logic of each scenario is necessary.

Such research, relying on both quantitative and qualitative methods, will have to disaggregate the concepts of economic reform and regime type. For example, is economic liberalization associated with an increase in strikes or protests, as the popular backlash scenario would predict? Is economic liberalization accompanied by a centralization of executive power, such as an increased reliance on executive decrees, in accordance with the elite usurpation scenario? Is there a relationship between levels of economic liberalism and the strength or number of opposition organizations and parties, as the dispersion of power argument would suggest? Finding viable indicators to explore these types of questions will prove a challenging task but is essential if the debate is to move beyond analyses of broad patterns to an understanding of the micro-level causal processes underlying these relationships.

Future research should also test the temporal and regional generalizability of the J-curve relationship.[29] To date, the lack of comparable data across regions and, more generally, a lack of time-series data for measures of economic liberalization and liberalism have hampered such research. Fortunately, in upcoming years, promising new indices[30] will enable researchers to test more thoroughly the proposition that particular relationships are regionally or temporally specific (Bunce, 2000; Kwon, 2004). Another important area for future research is the effect of economic reforms on the quality of democracy. For example, scholars examining the social demobilization scenario (e.g., Kurtz, 2004; P. H. Smith, 2005; Weyland, 2004) highlight the possibility that economic reforms may help sustain procedural democracy by undercutting democratic political representation. Recent efforts to develop quantitative indicators of the quality of democracy (e.g., O'Donnell, Cullell, & Lazzetta, 2004) may enable the application of additional tools to this research agenda.

The quantitative study of how economic reforms and democracy are related is still in its infancy. In contrast to long-standing debates over the effects of economic development on political regimes (e.g., Bollen & Jackman, 1985; Lipset, 1960; Przeworski et al., 2000), scholars have only recently begun to apply the tools of statistical analysis to the study of the relationship between economic reform and democracy. Quantitative studies on the political effects of economic reforms have focused almost exclusively on the postcommunist region (Fish, 1998, 2005; Fish & Choudhry, 2007;

Kurtz & Barnes, 2002). This study not only extends the use of quantitative techniques to the Latin American context but also offers novel insights by using an error correction model. The model reveals a critical distinction between the effects of economic liberalization (the implementation of reforms) and increased economic liberalism (the outcome of reforms) on political regimes. In line with theoretical predictions, econometric analyses reveal a robust J-curve relationship: Although countries engaging in economic reforms may experience a temporary deterioration of democracy, they tend to become more democratic in the long run. Our analysis brings clarity to the contradictory findings of previous studies, for we argue that economic reforms have both stabilizing and destabilizing effects on democracy, but across different time horizons. Economic reforms may indeed enhance the sustainability of democracy, but only if political institutions can first weather the storm of economic liberalization.

Notes

1. Within the Latin American context, numerous case studies emphasize tensions between economic reforms and democracy (e.g., Blake, 1998; Conaghan, Malloy, & Abugattas, 1990; Crisp & Levine, 1998; Graham, 1995; Malloy, 1991; Mauceri, 1995; W. C. Smith, 1991, 1993; Weintraub & Bauer, 1992). However, other scholars have recently argued that economic and political liberalization may be compatible (e.g., Armijo & Faucher, 2002; Dominguez, 1998; Remmer, 1998).

2. This point has been recognized by scholars such as Weyland (2004), but to the best of our knowledge has not been tested rigorously.

3. This finding differs from those of Przeworski (1991, ch. 4). Przeworski studies the political effects of an economic J-curve (rising and falling consumption) associated with market reforms but does not assert a J-curve relationship between reforms and democracy.

4. Regressions in this article evaluate the broadest time period possible using reliable data. The primary independent variable analyzed is a composite index of structural reforms compiled by the United Nations Economic Commission for Latin America and the Caribbean. The observed J-curve relationship between economic reform and democracy may or may not continue after 1995; data limitations prevent us from exploring this important question.

5. Reliable structural reform indices are not available for Cuba, Haiti, Nicaragua, and Panama, forcing us to exclude these countries from the analysis.

6. To the best of our knowledge, the only quantitative analysis of economic reforms and democracy in Latin America is Kwon's (2004) study, which focuses narrowly on whether relationships between economic and political liberalization differ across the postcommunist and Latin American regions during the early 1990s. By analyzing only 3 years of data, Kwon's study cannot examine the time dynamics that we clearly believe to be at the heart of this debate. In contrast to the debate in Latin America, several scholars of postcommunist politics use econometrics to analyze the relationships between economic and political liberalization. Fish (1998, 2005) and Fish and Choudhry (2007) identify a positive association between economic reforms and democracy, but Kurtz and Barnes (2002) do not.

7. This typology refers exclusively to the debate as it pertains to Latin America. The debate about economic and political liberalization in other regions, such as in the postcommunist world, may require a different typology. See especially Hellman (1998), Fish (1998, 2005), and Bunce (2000). Also, as with any typology, our depiction of these scenarios and the timing of their effects is stylized. Although each scenario may to some extent predict both short-term and long-term effects, our contention is that the predominant predictions of each scenario are as expressed in the typology.

8. We further discuss the definition and measurement of democracy in the *Democracy and Economic Reform* section of our article.

9. This refers to situations in which candidates run on an antireform platform, only to enact market reforms once elected (Stokes, 2001).

10. This is not to say, of course, that economic reforms have the effect of distributing assets more equally; quite often in Latin America, they have had the opposite result. What is important for the sustainability of democracy, according to adherents of the dispersion of power argument, is that the withdrawal of the state from the economic realm creates a clearer demarcation between those with political power and those with economic power.

11. Adherents to this argument clearly perceive a trade-off between the sustainability of procedural democracy and the quality of democracy; democratic institutions survive precisely because they are not equally democratic for all. Thus, although the social demobilization hypothesis predicts a positive relationship between economic liberalism and procedural democracy, economic reforms are not without costs.

12. The United Nations Economic Commission for Latin America and the Caribbean (ECLAC) also provides data for Jamaica, which is not considered in this study. Note that the ECLAC structural reforms index used in this article is an enhanced and expanded version of an index created by the Inter-American Development Bank (IADB; Lora, 1997, 2001). In addition to more than doubling the number of years covered by the index, the ECLAC index addresses several methodological issues present in both the original and updated IADB index (see Morley, Machado, & Pettinato, 1999, p. 5).

13. To control for inflation, we use GDP deflator (a measure of producer prices) due to greater data availability. All results are robust to using Consumer Price Index data.

14. In a recent article, Fish and Choudhry (2007) recognize and address this issue in the postcommunist context.

15. When first-differenced data are used, Dickey-Fuller tests reject the null hypothesis of a unit root for Polity IV and Freedom House scores, and Hadri's (2000) panel stationarity test does not reject a null of stationarity for both indicators.

16. As discussed by Kelly (2005), the single-equation error correction model does not require the assumption of cointegrated series and is preferred for small samples (Banerjee, Galbraith, Dolabo, & Hendry, 1993; DeBoef, 2001; DeBoef & Granato, 1999).

17. All independent variables are lagged 1 year to mitigate potential endogeneity.

18. The correlation between current and 1-year lags of Polity IV scores is 0.93; the correlation between current and 1-year lags of first-differenced Polity IV scores is 0.05.

19. Findings are also robust to the exclusion of country and time-fixed effects. Some control variables may not appear statistically significant, because country fixed effects make it "difficult for variables that change only slowly to show their impact (when their impact is by and large inter- and not intra-unit)" (Beck & Katz, 2004, pp. 5, 28). Population, oil revenue, and energy consumption per capita did not significantly affect results and are not shown in regression tables due to space constraints.

20. Robust regression techniques using *M*-class estimators provide evidence that results are robust to outliers (Mebane & Sekhon, 2004; Western, 1995). Multiple-year windows for variables were used when conducting robust regression tests, given the particular sensitivity of these techniques to noisiness of data.

21. We thank an anonymous reviewer for encouraging us to examine this issue more comprehensively. We also tested the inclusion of further lags of these variables; results remained robust and comparable in magnitude. Note that ΔLog GDP per capita$_{t-1}$ captures lagged economic growth. Results also remain statistically significant and comparable in magnitude when controlling for log debt service and FDI/GDP ratio. Limited historical data prevented the inclusion of controls for government deficits and unemployment.

22. In addition, we included past changes in democracy scores as independent variables to control for trajectory effects, which may result if adverse economic conditions prompt a military coup, which then results in a newly installed authoritarian government implementing economic reforms (e.g., Argentina following the 1976 coup). Results remained robust.

23. We do not wish to overemphasize these results, for Granger causality tests establish only temporal precedence, not causality.

24. To date, the lack of viable instruments for economic reform has hindered instrumental variables approaches.

25. We experimented with different cutoff points for considering a country authoritarian. Results are robust regardless of the cutoff point.

26. This analysis is adapted from Nathaniel Beck's (1992, pp. 71-73) insightful discussion.

27. Multiplying (0.28) by (30.29) provides the coefficient on Structural Reform Index in Table 1 (8.48).

28. It is important to recognize that the J-curve relationship revealed by the error correction model holds *ceteris paribus*. Without controlling for other factors that also shape the trajectory of democracy, one should not expect to discern a J-curve in casual observation of data sets. This point highlights why the introduction of an error correction model provides substantive insights that have not been readily apparent in the literature to date.

29. The J-curve relationship may be limited to Latin America: Fish and Choudhry (2007) find no evidence of a J-curve in the postcommunist region.

30. See, for example, the Heritage Foundation's *Index of Economic Freedom*, available at http://www.heritage.org/research/features/index/, and the Fraser Institute's *Economic Freedom in the World* reports, available at http://www.freetheworld.com/release.html.

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