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How I Learned to Stop Worrying and Love the Crisis

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CESIFO WORKING PAPER NO. 3720
CATEGORY 6: FISCAL POLICY, MACROECONOMICS AND GROWTH
JANUARY 2012

CESifo *Working Paper No. 3720*

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Abstract

We investigate the effects of economic crises on the subsequent economic performance, economic reform, democratization and institutional change. Our analysis is based on a sample of post-communist countries, most of which experienced severe economic crises during the 1990s. We find that the severity of crisis has had a positive impact on the subsequent pace of economic reform, economic growth and, with a delay, on investment and institutional change. Episode of high inflation, moreover, translate into lower subsequent inflation. Crises thus appear to serve as catalysts of reform and institutional change and lead to better long-term economic performance.

JEL-Code: O110, O470, P270.

Keywords: crisis, transition, growth, inflation, reform, institutions.

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January 2012
We benefited from helpful comments and suggestions received from seminar participants at Brunel University, University College London and Université des Sciences et Technologies de Lille 1.

1 Introduction

Why do countries undertake systemic reforms of their economies? An important motivation is the desire and need to improve the wellbeing of their citizens. However, the long-term outcome of economic reforms is uncertain while they are usually associated with substantial costs and economic hardship in the short run (Roland, 2000, chapters 2 and 3). As a result, efficiency-enhancing reforms may be rejected by voters even if they are expected to benefit the majority of them (Fernandez and Rodrik, 1991; Rodrik, 1999) or they may be postponed inefficiently long (Alesina and Drazen, 1991).

Alesina and Drazen (1991) make an intriguing proposition: reforms are postponed because of a war of attrition over who will bear their costs. The economic situation then worsens progressively until, for one of the parties concerned, the cost of postponing the reform any further exceeds the cost of implementing them. They observe, for example, that it is typically easier to drum up wide-spread political support for a stabilization program when inflation reaches hyperinflationary proportions but not during the preceding (often long) period of moderately high inflation. In other words, reform only gets implemented when the underlying situation reaches crisis proportions and becomes unsustainable: things have to get really bad before they can start getting better.

This view has received some empirical support. Bruno and Easterly (1996, 1998) find that growth accelerates following high-inflation crises and that crisis-stricken countries tend to stabilize inflation, liberalize and open up their economies and privatize public assets. Drazen and Easterly (2001), similarly, find that extreme values of inflation and black-market premiums tend to be followed by more dramatic improvements in subsequent performance than moderate ones. Drazen and Easterly consider also the effect of growth crises but fail to find any evidence that they foster subsequent improvements. In contrast, Pitlik and Wirth (2003), who consider both growth and inflation crises, find that deep crises of either type foster subsequent economic reform whereas moderate crises have little or no effect.

Crises can also have important political repercussions. On the one hand, the economic and political changes in Eastern Europe during the 1990s and the recent Arab Spring in the Middle East alike were, to a large extent, motivated by the failures of incumbent regimes to improve the wellbeing of their citizens. On the other hand, crises, however, also can hinder reform. The studies of voting behavior in post-communist countries find that costly reforms undermine support for pro-reform parties and may lead to such parties being voted out of office (Fidrmuc, 2000 a,b; Jackson, Klich and Poznańska, 2001; Tucker, 2002). Such political reversals, in turn, may allow the winners of partial reform to capture the government and stall the reform momentum (Hellman, 1998). This suggests that there is indeed a thin line between vicious and virtuous crises (Krueger, 1993): some crises generate political consensus in favor of reform while others instead lead to the reform being abandoned. Nevertheless, when investigating the adverse effect of crises on reform momentum empirically, Pitlik (2011), reassuringly, finds no evidence that crises cause reforms to be reversed.

We therefore explore the effect of crises on a broad range of outcomes, both economic and political. One problem in this respect is that episodes of crises and fundamental reforms are relatively rare. Therefore, rather than address this issue in a large sample of countries with only few observations of crises or reform, we focus on a sample of countries that are rich both in reform and crisis episodes: the post-communist countries. These countries were all characterized by a high degree of government interference in their economies, high to exclusive public ownership of productive assets and high to complete central control over prices. All experienced deteriorating economic performance in the course of the 1980s which

eventually lead to (attempted) systemic reforms in the early 1990s. There was, however, substantial variation in terms of reforms implemented and their outcomes. Some countries implemented ambitious reforms early on and, in a space of a few years, managed to put in place Western-style democratic regimes and market-economy system. Others muddles through, reversed previously implemented reforms and/or suffered state capture by interest groups. In terms of growth, countries such as Poland, Czech Republic but also Uzbekistan experienced relatively mild recessions and started recovering after 2-5 years. Other post-communist countries saw their output falling by as much as two-thirds (Moldova, Tajikistan) or even three quarters (Georgia) of the pre-transition level, with the recession lasting in some cases for as long as a decade. While most transition economies experienced episodes of high inflation, some managed to bring inflation under control quickly while others suffered protracted periods of high inflation or hyperinflation. While some post-communist countries became members of the OECD and EU, some others reverted back to authoritarian regimes or became, at least temporarily, failed states.

We use the variation in the severity of transition-induced crises as well as the economic and institution outcomes to analyze the legacy of crises. The scope of our analysis is thus broader than any of the previous contributions. With respect to identifying crises and their severity, we consider both growth and inflation. In turn, we consider the effect of crises on the subsequent economic reform, democratization, multiple measures of economic performance and institutional change.

After briefly introducing the data in the following section, section 3 presents the results of our analysis of the impact of crises on economic liberalization, growth, investments, inflation and institutional change and section 4 summarizes our findings.

2 Data

The analysis covers all post-communist countries for which data are available. Altogether, we use data on 29 countries[1] that used to belong to the Soviet zone of influence, including the former constituent republics of the Soviet Union, Yugoslavia and Czechoslovakia. Our data therefore the years 1990 to 2008. The starting point is limited by data availability: little information on these countries is available for the earlier years. Furthermore, the reforms we consider were initiated mostly after 1990 (the main exception is former Yugoslavia which experienced limited and partial reforms already during the 1980s). We include data through to 2008 so as to eliminate the current on-going economic crisis. The aftermath of the current crisis is not fully known yet so that including it would only serve to interfere with the effects of the transition-induced crises.

To capture the countries' progress in implementing market-oriented reforms, we use the average of the eight progress-in-transition indicator compiled and published annually by the EBRD.[2] We exploit the World Bank Development Indicators 2009 as the source of all

[1] Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Monte Negro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

[2] These indicators measure each country's progress in the following fields: price liberalization, foreign exchange and trade liberalization, small scale privatization, large scale privatization, enterprise reform, competition policy, banking reform and non-banking financial institutions. Each indicators ranges from 1 (unreformed centrally-planned economy) to 4+ (liberal market economy). As is common in this literature, we replace plus and minus distinctions by adding and subtracting 0.33 (so that 4+ becomes 4.33 while 4- is 3.67). We do not use the more

macroeconomic variables, except for unemployment rates which we obtained from the EBRD Transition Reports (various issues). We use the average Freedom House democracy index[3] and Kaufmann and al.'s (2009) governance indicators to take account of the progress in political and institutional transitions. Finally, we code whether countries were engaged in military conflict (external or internal) based on the Correlates of War (2010) dataset.

3 Long-term Effect of Crises

As the first step in our analysis, we need a variable to measure the severity of transition-induced recession. To do this, we compute the cumulative output fall (in percent) since 1989. We only consider the overall contraction of output and not the subsequent recovery (which we seek to explain). That means that once output reaches the bottom of its post-1989 trajectory, we keep the cumulative output fall at the level attained at this lowest point.[4] Our objective is to see whether the severity of transition-induced recession has had a lasting impact on the subsequent pace of market-oriented reform, economic performance and other outcomes of interest. Furthermore, we construct a "time after crisis" variable which takes the value 0 during the crisis, and becomes a time trend thereafter. We interact this time variable with output fall to test whether the effect of the crisis diminishes or strengthens over time.

We first consider the impact of output fall on progress in implementing market oriented reform. The dependent variable is the speed of reform, proxied with the first difference in the average of eight EBRD progress-in-transition indicators. Each regression includes the lagged level of this index to account for the past level of reform: holding everything else constant, a country can implement more reform if its starting level of reform is low. We also include the lagged level of the average Freedom House democracy index to account for the possible reform-fostering effect of democratization (Fidrmuc, 2003) and a dummy for countries experiencing a military conflict. Except for the war dummy, all independent variables are included in lags in order to avoid any endogeneity problems. All regressions are fixed-effects panel regressions.

The results of this analysis are presented in Table 1. Column (1) presents the most parsimonious specification. We find that the lagged reform index slows down reform; this is not surprising given that the reform index is bound from above. The level of past democracy, on the other hand, fosters economic reform. Not surprisingly, countries affected by war make less progress with respect to reform. Finally, the primary variable of interest, output fall, is positive and highly significant: countries that experienced a deeper contraction, ceteris paribus, respond to this by accelerating economic reform.

It is possible, however, that this effect is found only because output fall is correlated with some other influential variable. In column (2), we therefore replace output fall with lagged per-capita GDP (in thousands of PPP US dollars) to capture the effect of the level of economic development on progress in reform. Its effect is negative and significant – richer countries implement less reform – which is similar to the positive effect of output fall in

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recently available EBRD indicators of infrastructure reform, only the eight original indicators measuring progress in Washington-consensus reform (liberalization, stabilization and privatization).

[3] Specifically, this index is the average of the Freedom House measures of political freedoms and civil liberties, rescaled so that higher values correspond to more democracy. It ranges between 1 (autocracy) to 7 (fully free).

[4] In several cases, a country in question experienced a double-dip recession. One example is Russia where output initially started to recover in 1997 only to fall further in 1998 following its economic and financial crisis. In that case, we consider the deeper dip out of the two as the bottom of the transformational recession (the second dip in 1998 in Russian case).

column (1). However, when we include both output fall and GDP per person side by side in column (3), only output fall remains significant while GDP per capita now has no effect on reform. In column (4), we add lagged inflation (in logs to reduce the influence of episodes of extremely high inflation). Its effect is positive and significant: a recent experience of high inflation helps accelerate reforms. Yet, the effect of output fall remains strongly significant and essentially unchanged. Finally, the last column introduces quadratic polynomial of the time that elapsed since the end of crisis: on its own and interacted with output fall.[5] The quadratic time trend can potentially capture the time-specific profile of reform while the interaction term between time and output fall will show whether the effect of crises on subsequent reform strengthens or diminishes over time. None of these variables are significant: the effect of crises on reform does not vary over time.

Next, in Table 2, we consider the effect of crises on the disaggregated EBRD sub-indexes. These regressions replicate column (4) of Table 1, except the dependent variable and the lagged index of reform now is the sub-index denoted in the heading of each column. The results are remarkably consistent across the eight sub-indexes and are similar to those obtained with the average index: lagged sub-index of reform has a negative effect, lagged democracy has a positive effect and output fall again displays a positive and strongly significant effect on subsequent progress in reform. Hence, having experienced a crisis in the past stimulates progress across all aspects of the reform program. While the coefficients estimated for the various sub-indexes are quite similar to each other (and to that reported in column 4 of Table 1), the crisis effect is particularly pronounced for removal of price controls, liberalization of foreign trade and small-scale privatization.

So far, we have shown that having experienced a crisis fosters economic reform. Inasmuch as economic reform improves economic policy making, the legacy of past crisis should, indirectly, improve economic performance too. We now turn, in Table 3, to investigating whether crises affect economic performance also directly. The dependent variable is the growth rate of per-capita GDP. Each regression controls again for lagged reform index, to account for the possible indirect effect. We also control for investment to in GDP ratio and involvement in military conflicts. Reform progress, as expected, has a positive coefficient: countries that have implemented more ambitious reform are rewarded by faster growth. Somewhat surprisingly, investment is never significant. Military conflicts impose a heavy penalty on economic performance. Past output contraction translates into faster subsequent growth. This effect is again robust to controlling for economic convergence by including lagged GDP per person (which appears with negative coefficient, as is standard in the growth literature, but is not significant when included alongside output fall, see columns 2 and 3) and inflation (which lowers growth, see column 4). Finally, in column (5), we again introduce the quadratic polynomial of time since end of crisis and its interactions with output fall. The quadratic time trend is not significant but the interaction terms are. Specifically, we observe an inverted U-shaped pattern: the positive effect of the crisis initially strengthens but eventually declines again.[6]

In Tables 4 and 5, we consider the effect of output fall on investment to GDP ratio and the ratio of inward FDI to GDP. Investment is an important determinant of growth (even though the preceding set of regressions failed to confirm this for our set of countries). FDI, besides

[5] We also test for non linear effect of output fall itself by introducing it in quadratic form but it was insignificant. This result is available upon request.

[6] We also introduce a quadratic term of output fall. We found a U shaped relationship between output fall and growth. Yet, the minimum of the function stands at 13.1, which is below the lowest observed output fall in our sample (Belarus in 1992 with an output fall of 13.35). Therefore, output fall has always a positive effect on growth.

bringing in additional capital into the country, can also be associated with important technological spillovers. The regressions follow similar structure as those in preceding Tables. Again, the lagged reform index has a strong positive effect on investment and also on FDI (although the coefficients estimated for the latter are not always significant). The effect of past crises, however, now appears significantly negative: having had a crisis in the past discourages both domestic investment and inflow of investment from abroad. For investment, however, this is counterbalanced by a positive time-varying effect of past crises, as reflected in the positive interaction between output fall and time since crisis. Hence, investment declines in the aftermath of crises but then catches up later.

Table 6 considers the effect of crises on inflation, which however is never significant. Hence, crisis, at least inasmuch as it is measured by economic contraction, does not affect subsequent inflation (we consider the effect of high-inflation episodes on subsequent inflation below).

As discussed in the introduction, crises may also affect political developments and quality of institutions. We now turn to this possibility. In Table 7, we consider the impact of past crises on democratization as measured by the average of indexes of political freedoms and civil liberties reported by the Freedom House. The dependent variable is the first difference of this measure and regressions control also for the lagged level of democracy. Since we found earlier that crises translate into faster economic reform and that democratization also correlates with economic reform, we expected to find a positive effect again. Surprisingly, we find the reverse: the deeper the crisis, the slower the subsequent democratization process. This effect is very robust to the inclusion of other variables, including GDP per capita (which has a positive, although not always significant, effect on democratization) and inflation (which slows down democratization). We again allow the effect to vary over time but the interaction terms are not significant. Finally, we also introduce a quadratic term of the output fall to allow for nonlinearity in the effect (results available upon request). We find a U-shaped effect, with the minimum attained for output fall reaching 39.5 percent: only deep enough crises appear to foster democratization.

To assess the effect of crises on institutional quality, we use the governance indicators constructed by Kaufmann, Kraay and Mastruzzi (2009). Kaufmann et al. aggregate information from a host of other sources and surveys assessing quality of institutions in six areas: control of corruption, voice and accountability, political stability, government effectiveness, regulatory quality, and rule of law. The indicators are constructed so that higher values always correspond to better institutions. Their coverage, however, is limited: the indicators are available at semi-annual frequency from 1996 to 2000 and then annually from 2002. Because of this, we are unable to use lags of these variables: we therefore use lags of both economic reform (EBRD) and democracy (Freedom House) indexes instead (Table 8).[7] Both of these indexes are positive; the effect of economic reform is always strongly significant while that of democracy is significantly positive in three regressions out of six. There are thus important spillovers from economic policy and democratization to institutional quality. The effect of past crises, however, is never significant. However, the time-varying effect is U-shaped, with the quadratic term always significant. This implies that although past crises may initially lead to a worsening of institutions in the short term, this is followed by an improvement later on: when it comes to crises, good things come to those who wait.

Finally, economic crises tend to be manifested not only in output contractions but also in high inflation. We therefore construct another variable capturing cumulative inflation. This is

[7] Note that as the indicators are not available before 1996, the early transition period is dropped from the analysis.

an index of the overall cumulative price increase since 1989 (i.e. value of 2 corresponds to a doubling of the price level, 10 implies a ten-fold increase in prices, etc.). Once inflation has been stabilized, the index stays at the level attained at the time of stabilization. We define stabilization as inflation of 80% pa or lower: most countries in our data set succeed in controlling inflation after it has been brought down to two-digit levels, therefore this threshold tends to be indicative of a successful stabilization. The cumulative inflation variable thus captures the legacy of high inflation in the past even after run-away inflation has been stopped. All regressions, reported in Table 9, again control for the level of the reform index (which is not consistently significant) and for being involved in a military conflict (not surprisingly, wars are associated with much higher inflation). We also include our measure of output fall and GDP: neither appears significant as a determinant of inflation. However, cumulative inflation is significantly negative in every regression: having a legacy of high inflation in the past exerts a negative effect on subsequent price growth. This stands in contrast with the insignificant effect of output fall: when it comes to inflation, countries learn a lesson from past high-inflation episodes but not from recessions.

4 Conclusions

In this paper, we investigate the effect of crises on economic reforms, economic performance, democratization and institutional change. To this effect, we utilize the experience of the post-communist countries, virtually all of which experienced crises (extraordinarily severe crises in some cases) following the demise of communism and central planning in the early 1990s. Our results suggest that crises indeed serve as a catalyst for reforms: history of having experienced a crisis in the past is associated into greater economic reform and better institutions (although the institutional improvement only occurs with a delay). Crises also translate into better economic performance: they are followed by higher growth, lower inflation and, with a delay, higher investment. Our results thus offer support for the 'crises beget reform' hypothesis put forward by Alesina and Drazen (1991), and suggest that the favorable effect of crises goes beyond accelerating economic reform.

A plausible implication of our results is that seeking to ferestall crises at all costs, as is the case with the current and on-going bailouts of Greece and other peripheral Eurozone countries, need not necessarily be productive: the short-term gain so obtained may come at a cost of postponing or even avoiding reform and, in turn, lower long-term economic growth.

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Table 1 Output Fall and Progress in Market-oriented Reform

Dependent variable:	EBRD index (first difference)				
	(1)	(2)	(3)	(4)	(5)
Lagged EBRD index	-0.278	-0.185	-0.302	-0.277	-0.297
	(0.014)**	(0.012)**	(0.017)**	(0.019)**	(0.022)**
Lagged Democracy	0.079	0.059	0.077	0.065	0.063
	(0.008)**	(0.008)**	(0.008)**	(0.009)**	(0.009)**
War	-0.085	-0.108	-0.064	-0.104	-0.087
	(0.027)**	(0.032)**	(0.030)*	(0.031)**	(0.032)**
Lagged outputfall	0.006		0.007	0.006	0.005
	(0.001)**		(0.001)**	(0.001)**	(0.001)**
Lagged gdp p.c.		-0.013	0.005	0.008	-0.006
(thousands)		(0.004)**	(0.004)	(0.004)*	(0.006)
Lagged inflation				0.013	0.019
				(0.004)**	(0.005)**
Outputfall*time					0.0001
					(0.0002)
Outputfall*time²					-5.96e-06
					(1.68e-05)
Time after crisis					0.004
					(0.011)
Time after crisis²					0.000
					(0.001)
Constant	0.265	0.421	0.241	0.23	0.358
	(0.031)**	(0.038)**	(0.040)**	(0.049)**	(0.064)**
Observations	550	524	524	495	495
Number of Countries	29	29	29	29	29
R-squared	0.45	0.39	0.48	0.5	0.52

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 2 Output Fall and Sub-indexes of Progress in Market-oriented Reform

Dependent variable:	Large-scale Privatization	Small-scale Privatization	Enterprise Reform	Price Controls	Foreign Trade	Competition Policy	Banking	Security Markets
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged EBRD	-0.241	-0.309	-0.402	-0.524	-0.392	-0.286	-0.316	-0.270
sub-index	(0.025)**	(0.022)**	(0.030)**	(0.034)**	(0.028)**	(0.029)**	(0.030)**	(0.028)**
Lagged Democracy	0.073	0.089	0.102	0.077	0.079	0.060	0.095	0.057
	(0.017)**	(0.015)**	(0.014)**	(0.020)**	(0.020)**	(0.012)**	(0.016)**	(0.013)**
War	-0.127	-0.087	-0.137	-0.016	-0.264	-0.050	-0.110	0.022
	(0.064)*	(0.060)	(0.052)**	(0.081)	(0.076)**	(0.051)	(0.058)	(0.053)
Lagged outputfall	0.006	0.011	0.008	0.013	0.013	0.005	0.009	0.005
	(0.001)**	(0.002)**	(0.001)**	(0.002)**	(0.002)**	(0.001)**	(0.001)**	(0.001)**
Lagged gdp p.c.	-0.005	-0.006	0.017	0.015	0.006	0.022	0.022	0.018
(thousands)	(0.007)	(0.007)	(0.006)**	(0.009)	(0.009)	(0.006)**	(0.007)**	(0.007)**
Lagged inflation	0.005	0.018	0.007	0.037	0.002	0.007	0.008	-0.008
	(0.008)	(0.007)*	(0.006)	(0.009)**	(0.010)	(0.006)	(0.007)	(0.006)
Constant	0.194	0.349	-0.002	0.977	0.547	0.009	-0.099	0.044
	(0.102)	(0.095)**	(0.082)	(0.130)**	(0.121)**	(0.080)	(0.093)	(0.083)
Observations	495	495	495	495	495	495	495	495
Number of Countries	29	29	29	29	29	29	29	29
R-squared	0.27	0.43	0.35	0.45	0.38	0.21	0.28	0.19

All regressions include country-specific fixed effects. Standard errors in parentheses. Lagged EBRD sub-index is the same index as that denoted in the column heading. Significance: * 5%; ** 1%

Table 3 Output Fall and Economic Growth

Dependent variable:	GDP p.c. growth rate				
	(1)	(2)	(3)	(4)	(5)
Lagged EBRD index	4.031	7.612	4.158	2.273	1.804
	(0.725)**	(0.520)**	(0.854)**	(0.731)**	(0.880)*
Lagged Investment	0.009	-0.063	0.018	-0.017	-0.018
	(0.058)	(0.057)	(0.058)	(0.044)	(0.046)
War	-12.359	-14.932	-12.957	-9.455	-8.251
	(1.717)**	(1.752)**	(1.753)**	(1.334)**	(1.359)**
Lagged outputfall	0.246		0.248	0.327	0.259
	(0.043)**		(0.049)**	(0.040)**	(0.042)**
Lagged gdp p.c.		-0.613	-0.134	-0.259	-0.480
(thousands)		(0.182)**	(0.201)	(0.149)	(0.233)*
Lagged inflation				-1.404	-1.001
				(0.162)**	(0.185)**
Time*outputfall					0.027
					(0.010)**
Time²*outputfall					-0.002
					(0.001)*
Time after crisis					-0.239
					(0.424)
Time after crisis²					0.023
					(0.027)
Constant	-16.473	-10.567	-16.062	-8.709	-7.236
	(1.819)**	(1.849)**	(2.109)**	(1.932)**	(2.536)**
Observations	505	503	503	479	479
Number of Countries	29	29	29	29	29
R-squared	0.49	0.46	0.49	0.67	0.69

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 4 Output Fall and Investment

Dependent variable	Investment				
	(1)	(2)	(3)	(4)	(5)
Lagged EBRDindex	4.246	1.808	4.242	5.018	6.681
	(0.516)**	(0.401)**	(0.643)**	(0.752)**	(0.852)**
War	-4.086	-3.383	-4.386	-4.333	-1.949
	(1.283)**	(1.344)*	(1.331)**	(1.420)**	(1.390)
Lagged outputfall	-0.171		-0.171	-0.182	-0.205
	(0.028)**		(0.036)**	(0.041)**	(0.042)**
Lagged gdp p.c.		0.562	0.148	0.115	0.021
(thousands)		(0.142)**	(0.164)	(0.164)	(0.243)
Lagged inflation				0.123	-0.025
				(0.174)	(0.190)
outputfall*time					0.030
					(0.010)**
outputfall*time^2					-0.001
					(0.001)
Time after crisis					-2.254
					(0.430)**
Time after crisis^2					0.102
					(0.027)**
Constant	18.014	13.921	16.948	14.972	14.752
	(0.981)**	(1.271)**	(1.396)**	(1.909)**	(2.492)**
Observations	520	508	508	481	481
Number of Countries	29	29	29	29	29
R-squared	0.15	0.12	0.16	0.19	0.29

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 5 Output Fall and Foreign Direct Investment Inflow

Dependent variable:	Foreign Direct Investment				
	(1)	(2)	(3)	(4)	(5)
Lagged EBRD index	5.266	0.418	5.840	3.409	2.243
	(1.778)**	(1.650)	(2.229)**	(2.758)	(3.249)
War	11.273	17.804	13.285	14.052	14.632
	(4.439)*	(4.487)**	(4.607)**	(4.952)**	(5.215)**
Lagged outputfall	-0.456		-0.523	-0.527	-0.581
	(0.123)**		(0.147)**	(0.154)**	(0.162)**
Lagged gdp p.c.		0.721	-0.023	-0.096	-0.944
(thousands)		(0.459)	(0.499)	(0.518)	(0.824)
Lagged inflation				-0.995	-0.580
				(0.619)	(0.727)
Outputfall*time					0.028
					(0.035)
Outputfall*time^2					-0.002
					(0.002)
Time after crisis					-0.428
					(1.518)
Time after crisis^2					0.088
					(0.095)
Constant	8.692	-1.327	9.772	19.631	25.971
	(4.492)	(4.336)	(5.295)	(7.982)*	(9.875)**
Observations	477	472	472	454	454
Number of Countries	29	29	29	29	29
R-squared	0.07	0.04	0.07	0.08	0.08

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 6 Output Fall and Inflation

Dependent variable:	Inflation			
	(1)	(2)	(3)	(4)
Lagged EBRD index	4.104	51.012	139.601	1,060.744
	(461.71)	(393.82)	(586.14)	(742.235)
War	4,552.84	5,083.95	5,040.40	4,149.849
	(1,126.2)**	(1,172.3)**	(1,192.7)**	(1,268.049)**
Lagged outputfall	4.308		-6.22	24.121
	(24.06)		(30.46)	(33.539)
Lagged Gdp p.c.		-8.138	-23.865	253.472
(thousands)		(128.2)	(149.66)	(231.440)
Outputfall*time				-7.128
				(9.560)
Outputfall*time²				0.362
				(0.657)
Time after crisis				-183.630
				(428.574)
Time after crisis²				0.673
				(27.677)
Constant	-21.855	73.299	189.697	-3,442.930
	(944.906)	(1,181.98)	(1,313.27)	(2,236.885)
Observations	524	512	512	512
Number of Countries	29	29	29	29
R-squared	0.04	0.04	0.04	0.06

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 7 Output Fall and Democratization

Dependent variable:	Democracy (first difference)				
	(1)	(2)	(3)	(4)	(5)
Lagged democracy	-0.343	-0.376	-0.358	-0.366	-0.373
	(0.021)**	(0.022)**	(0.022)**	(0.024)**	(0.025)**
Lagged output fall	-0.005		-0.006	-0.005	-0.007
	(0.001)**		(0.002)**	(0.002)**	(0.003)*
War	-0.551	-0.397	-0.507	-0.381	-0.322
	(0.089)**	(0.092)**	(0.095)**	(0.100)**	(0.104)**
Lagged gdp p.c.		0.032	0.023	0.008	-0.011
(thousands)		(0.010)**	(0.010)*	(0.011)	(0.019)
Lagged inflation				-0.035	-0.034
				(0.011)**	(0.014)*
Outputfall*time					0.001
					(0.001)
Outputfall*time²					-0.0001
					(0.0001)
Time after crisis					-0.062
					(0.031)*
Time after crisis²					0.004
					(0.002)*
Constant	1.810	1.538	1.759	1.966	2.158
	(0.101)**	(0.110)**	(0.123)**	(0.157)**	(0.206)**
Observations	551	525	525	496	496
Number of Countries	29	29	29	29	29
R-squared	0.37	0.38	0.40	0.37	0.38

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 8 Output Fall and Quality of institutions

Dependent variable:	Control of Corruption	Voice and Account-ability	Political Stability	Gov Effective-ness	Regulatory Quality	Rule of Law
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged EBRD index	0.155	0.192	0.340	0.313	0.270	0.144
	(0.085)	(0.076)**	(0.127)**	(0.078)**	(0.086)**	(0.068)*
Lagged democracy	0.103	0.214	0.027	0.039	0.014	0.068
	(0.026)**	(0.023)**	(0.039)	(0.024)	(0.027)	(0.021)**
Lagged output fall	-0.006	-0.015	0.012	-0.009	0.004	-0.021
	(0.014)	(0.013)	(0.021)	(0.013)	(0.014)	(0.011)
War	-0.002	-0.183	-1.069	-0.148	-0.812	-0.198
	(0.204)	(0.182)	(0.304)**	(0.189)	(0.206)**	(0.164)
Lagged gdp p.c. (thousands)	0.038	-0.018	0.033	0.032	-0.016	0.052
	(0.011)	(0.010)	(0.017)*	(0.011)**	(0.011)	(0.009)**
Lagged inflation (log)	-0.052	-0.010	0.032	-0.007	-0.013	-0.004
	(0.012)	(.010)	(0.017)	(0.011)	(0.011)	(0.009)
Outputfall*time	-0.0013	-0.0009	-0.0008	-0.0020	-0.0011	-0.0006
	(0.0006)*	(0.0005)	(0.0009)	(0.0006)**	(0.0006)	(0.0004)
Outputfall*time^2	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.0000)**	(0.0000)*	(0.0000)*	(0.0000)**	(0.0000)**	(0.0000)**
Time after crisis	0.0348	0.026	-0.042	0.077	0.035	-0.018
	(0.0282)	(0.025)	(0.042)	(0.026)	(0.028)	(0.023)
Time after crisis^2	-0.0053	-0.0023	-0.0007	-0.0058	-0.0019	-0.0027
	(0.0015)**	(0.0014)	(0.0023)	(0.0014)**	(0.0015)	(0.0012)*
Constant	-1.076	-0.828	-1.758	-1.099	-1.124	-0.294
	(0.628)	(0.559)	(0.935)	(0.582)	(0.633)	(0.503)
Observations	278	278	278	278	278	278
Number of Countries	29	29	29	29	29	29
R-squared	0.36	0.46	0.30	0.36	0.51	0.40

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%

Table 9 Cumulative Inflation and Subsequent Inflation

	Inflation		
	(1)	(2)	(3)
Lagged EBRD index	55.355	234.517	231.533
	(484.589)	(422.007)	(619.201)
War	3,839.13	4,217.13	4,219.20
	(1,211.194)**	(1,239.001)**	(1,279.563)**
Lagged outputfall	11.216		0.221
	(26.885)		(33.533)
Lagged gdp p.c.		-42.474	-41.971
(thousands)		(131.345)	(152.015)
Cumulated inflation	-0.002	-0.002	-0.002
	(0.000)**	(0.000)**	(0.000)**
Constant	-92.201	148.483	144.648
	(1,019.0)	(1,237.3)	(1,368.5)
Observations	493	482	482
Number of Countries	27	27	27
R-squared	0.09	0.09	0.09

All regressions include country-specific fixed effects. Standard errors in parentheses.
Significance: * 5%; ** 1%