CRISES, REFORMS AND IDEOLOGY*

Jan Fidrmuc

Université de Lille, Lille, and PRIGO University, Havířov

Jan.Fidrmuc@gmail.com

David G Mayes

* This research was undertaken while Jan Fidrmuc was visiting the University of Auckland whose hospitality and financial support he gratefully acknowledges. We are indebted to Niklas Potrafke for sharing his ideology data. We received valuable comments and suggestions at seminars at the University of Auckland and Deakin University.

Abstract

We investigate the relationship between economic crises and reforms while taking account of the political orientation (ideology) of the government in office. We find little evidence that crises beget reforms in general. Right-wing governments tend to be associated with greater economic freedom in the wake of periods of high inflation. Economic contractions, on the other hand, have little effect on economic reforms. These results suggest that right-wing governments engage in clientelistic policies: they initiate economic reform in response to inflation, which threatens their core supporters, but not in response to economic contractions. In contrast, the effect of crises on political reform (democratization) is mixed and generally weak.

1. Introduction

Important economic and political changes often happen in the aftermath of large-scale economic upheavals and crises. Examples abound. The communist takeovers in Russia in 1917 and China in 1949 were preceded by major wars and extreme economic hardship. The Great Depression gave rise to the New Deal in the US, and Nazism in Germany. The economic liberalization in China, initiated by Deng in 1978, came against the background of disastrous economic consequences of Chairman Mao's Great Leap Forward and Cultural Revolution. Economic and political changes in Latin America and Eastern Europe during the late 1980s and early 1990s followed in the wake of episodes of (hyper-)inflation and/or protracted economic stagnation. The so-called Arab Spring, likewise, can be directly connected to the economic turbulence and increased hardship during the earlier global economic and financial crisis.

Recognizing the potential connection between important changes in policymaking and preceding crises, Alesina and Drazen put forward an intriguing proposition: a full-blown crisis may in fact help the reform to succeed[1]. According to their *crises beget reforms* hypothesis, unsustainable economic policies, such as excessive budget deficits, are often allowed to continue for a considerable time, even though the associated economic costs are widely recognized.

[1] Alberto Alesina and Allan Drazen, "Why are stabilizations delayed?" American Economic Review 81, no. 5 (1991), 1170-1188.

Such a delay is inefficient, given that it typically only serves to delay the reform rather than remove the need for it. Alesina and Drazen point out that, although it lowers social welfare, the delay may be individually optimal for the various socio-economic groups involved. This is because moderate crises lead to a war of attrition over who will bear the cost of the reform: for example, which taxes will be raised and/or which kinds of public expenditure will be cut. The various groups in the society stand to gain by postponing the reform in the hope that someone else will end up bearing the reform cost. Since none of the groups knows how long the other groups will hold out, the crisis is allowed to fester until one of them throws in the towel. Once that happens, the reform is swiftly implemented and the economy is stabilized. In other words, things may need to get very bad before they start getting better.

Several studies have sought to test the relationship between crises and reform empirically. Bruno and Easterly find that high-inflation episodes tend to be followed by faster growth and lower inflation, as well as economic reform, in particular privatization, liberalization and opening up of the economy[2]. Drazen and Easterly show that extreme values of inflation and black-market premiums tend to be followed by subsequent improvements, in contrast to moderate values of the same variables[3]. Pitlik and Wirth argue that deep crises, whether associated

[2] Michael Bruno and William Easterly, "Inflation Crises and Long-run Growth," *Journal of Monetary Economics* 41 (1998), 3-26.

[3] Allan Drazen and William Easterly, "Do crisis induce reform? Simple empirical test of conventional wisdom," *Economics and politics* 13 (2001), 129-157.

with high inflation or economic contraction, foster subsequent economic reform whereas moderate crises have little or no effect[4]. Fidrmuc and Tichit find that the severity of the so-called transformational recession in the post-communist countries is positively correlated with subsequent progress in implementing market-oriented reform, economic growth and (with a delay) institutional change[5]. They also find that inflation crises are associated with lower subsequent inflation. Finally, Bjørnskov offers a slightly different perspective, by considering whether economically free countries are more or less prone to experience economic crises. He finds that economic freedom is associated with milder and shorter crises[6].

A number of previous studies consider the impact of ideology on policy making. Bjørnskov asks the question whether ideology affects economic performance[7]. He concludes that countries led by right-wing governments tend to put in place better institutions and intervene less in the economy. As a result, such countries report, on average, higher growth rates than countries with left-wing

[4] Hans Pitlik and Steffen Wirth, "Do crises promote the extent of economic liberalization? An empirical test," *European Journal of Political Economy* 19 (2003), 565-581.

[5] Jan Fidrmuc and Ariane Tichit, "How I learned to stop worrying and love the crisis," *Economic Systems*, 37, no. 4 (2013), 542-554.

[6] Christian Bjørnskov, "Economic freedom and economic crises," European Journal of Political Economy, 45, Supplement (2016), 11-23.

[7] Christian Bjørnskov, "Does Political Ideology Affect Economic Growth?" *Public Choice* 123 (2005), 133–146.

governments. Bjørnskov and Potrafke find that right-wing governments in the post-communist countries are more prone to privatize state-owned assets than left-wing governments[8]. Potrafke suggests, similarly, that right-wing governments in OECD countries impose less stringent regulation[9] and shows that ideology shapes the composition of public spending[10]. Finally, Cahan, Dörr and Potrafke suggest that short-term interest rates were lower under left-wing government than under right-wing governments[11]; reassuringly, this pattern disappears when central banks attain independence from government interference.

The relationship between crises and reform may be rather complex. Alesina and Drazen assume that the reform will eventually bring about an improvement for all[12]. The uncertainty in their model stems from distributional conflict about who will bear an asymmetric share of the costs of the reform. Reforms, however, are rarely seen in such a positive light. Even if the reform is expected to deliver an overall

[8] Christian Bjørnskov and Niklas Potrafke, "Politics and privatization in Central and Eastern Europe: A panel data analysis," *Economics of Transition* 19, no. 2 (2011), 201–230.

[9] Niklas Potrafke, "Does government ideology influence deregulation of product markets? Empirical evidence from OECD countries," *Public Choice* 143 (2010), 135–155.

[10] Niklas Potrafke, "Public Expenditures on Education and Cultural Affairs in the West German States: Does Government Ideology Influence the Budget Composition?" *German Economic Review* 12, no. 1 (2010), 124–145.

[11] Dodge Cahan, Luisa Doerr and Niklas Potrafke, "*Government ideology and monetary policy in OECD countries*. IFO Working Paper No. 296, IFO Institute – Leibniz Institute for Economic Research at the University of Munich, Munich.

[12] Alesina and Drazen, "Why are stabilizations delayed?".

welfare gain, it can have distributional implications whereby some individuals become worse off. The identity of the winners and losers is often not known *ex ante* and the overall aggregate outcome of the reform may be uncertain too. Fernandez and Rodrik consider the case of reform with individual payoffs being uncertain beforehand[13]. They show that this uncertainty may result in voters' rejection even of reforms that would be ultimately efficiency-enhancing, leading to a *status-quo bias*. Dewatripont and Roland demonstrate that uncertainty about the aggregate outcome (without individual uncertainty) can also lead to the rejection of reforms[14]. A major challenge faced by any reform-minded government therefore is to convince the voters to endorse the reform agenda in the first place. This can be achieved by informing the electorate about the likely outcome of the reform. Government officials may possess superior information about both the need for reform and its eventual implications. The difficulty, however, lies in the fact that governments also have their political agendas and ideological biases which they want the voters to endorse. Therefore, their pronouncements about the need for reform may lack credibility.

[13] Raquel Fernandez and Dani Rodrik, "Resistance to Reform: Status-quo Bias in the Presence of Individual-Specific Uncertainty," *American Economic Review* 81, no. 5 (1991), 1146-1155.

[14] Mathias Dewatripont and Gérard Roland, "The Design of Reform Packages under Uncertainty," American Economic Review, 85 no. 5 (1995), 1207-1223.

The role of credibility analyzed by Cukierman and Tommasi[15]. They formulate a model where politicians are better informed about the *state of nature* than voters[16]. They can use their superior knowledge to signal to the voters whether the reform is required. However, the politicians' signals may not be credible. In particular, the voters may find it hard to distinguish the politicians' pronouncement about the need for reform from their ideological bias, especially when the proposed reform goes in the direction of the politician's ideology. Therefore, they argue that the reform should receive greater popular support when it is proposed by an *unlikely* politician: for example, labor-market liberalization, deregulation and privatization proposed by left-wing politicians or disarmament and peace negotiations put forwards by hawkish right-wing statesmen. The title of their paper illustrates this: the US rapprochement with the People's Republic of China was instigated by Nixon, a Republican president with a strong anti-communist reputation.

In this paper, we link the Alesina-Drazen and Cukierman-Tommasi arguments by positing that the relationship between crises and reforms can be shaped by the ideological orientation of the incumbent government. Two examples help illustrate this. During the 1970s, both the UK and New Zealand economies were plagued by economic

[15] Alex Cukierman and Mariano Tommasi, "When Does It Take a Nixon to Go to China?" *American Economic Review* 88, no. 1 (1998), 180-197.

[16] State of nature refers to the circumstances over which neither the voters nor the politicians have any control, and which determine whether a particular set of policies are likely to be effective or successful: for example, whether a hawkish or dovish approach is more likely to produce the desired outcome.

stagnation against the background of high inflation and high unemployment. Both countries eventually responded, during the 1980s, by tightening monetary policy, reducing the fiscal deficit, and implementing deregulation and privatization.

The ideological colours of the protagonists of the reform were very different, however. In the UK, the policies were pushed through by Margaret Thatcher whose Conservative Party clearly had a greater predisposition for this kind of policies than the preceding Labour government. Although she was successful in implementing the reform, Margaret Thatcher faced a great deal of opposition within society and in Parliament. The New Zealand reform, on the other hand, was proposed and implemented by Roger Douglas who, as a Labour Finance Minister, clearly fits the bill of an unlikely reformer. His reform plan was, correspondingly, more widely accepted by the society at large. The Alesina-Drazen hypothesis suggests that the preceding crisis should increase the societal support for the reform. According to the Cukierman-Tommasi insight, however, an unlikely politician such as Douglas should be more successful than Thatcher in convincing the voters of the need for the reform.

In our analysis, we therefore allow the government ideology to affect the relationship between crises and reforms. We consider two types of crises: economic slow-downs/contractions and episodes of high inflation. This allows us to see whether ideology affects how the government responds to different kinds of crises. Furthermore, we look at economic and political reforms alike. We utilize two data sets

on government ideological orientation whose coverage is somewhat limited. Our analysis is therefore restricted mainly to OECD and some Eastern European countries and to the period after 1990.

Our results suggest that, in contrast to the Alesina-Drazen hypothesis, economic and political reforms are less likely to take place in the wake of major economic crises. In other words, we find little support for the *crises beget reforms* hypothesis. However, the ideological orientation of the government matters. Right-wing governments are more likely to respond to crises by increasing the extent of economic freedom in the country, especially so when the crisis manifests itself as high inflation rather than as economic contraction. A similar pattern appears when considering democratization, although some of our results suggest that, in fact, both right-wing and left-wing parties are associated with slower democratization following crises whereas it is centrist/mixed governments that tend to respond to crises by accelerating political reform. Both crises and ideology thus have an important bearing on reform incidence, although not necessarily in the way predicted by the literature. Finally, reforms being implemented by *unlikely politicians* appear to be an exception rather than the rule.

In the following section, we discuss the data used and explain how we construct our measures of economic crises. We then proceed with presenting our analytical results in Sections 3 and 4. Section 5 concludes.

2. Measuring Ideology and Crises

The main constraint for our analysis is the availability of data on government ideology. We rely on two data sets. The first has been compiled by Niklas Potrafke of University of Konstanz.[17] This index covers the OECD[18] and Central/Eastern European (CEE) countries[19] over the 1950-2009 and 1989-2007 periods, respectively.[20] The index takes values from 1 to 5, with 1-2 reserved for right-wing governments, 4-5 representing left-wing ones and 3 used to indicate either broadly centrist or mixed governments[21]. Governments with

[17] The Potrafke Index builds on and updates earlier indexes: Ian Budge, Hans Keman, and Jaap Woldendorp, "Political Data 1945–1990: Party Government in 20 Democracies," *European Journal of Political Research*, 24, no. 1 (1993), 1–119; Jaap Woldendorp, Hans Keman and Ian Budge, "Party Government in 20 Democracies: An Update (1990–1995)," *European Journal of Political Research* 33 (1998): 125–164; Jaap Woldendorp, Hans Keman and Ian Budge, *Party Government in 48 Democracies (1945–1998): Composition, Duration, Personnel* (Dordrecht; London: Kluwer Academic, 2000). We are indebted to Niklas Potrafke for sharing this index with us.

[18] Niklas Potrafke, "Did Globalization Restrict Partisan Politics? An Empirical Evaluation of Social Expenditures in a Panel of OECD Countries," *Public Choice* 140 (2009), 105–124.

[19] Bjørnskov and Potrafke, "Politics and privatization in Central and Eastern Europe: A panel data analysis".

[20] Specifically, the OECD countries with data available for 1950-2009 are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States. The CEE countries are Albania, Belarus, Bosnia, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland. Romania, Russia, Serbia, Slovakia, Slovenia and Ukraine.

[21] "This index places the cabinet on a left-right scale with values between 1 and 5. It takes the value 1 if the share of governing rightwing parties in terms of seats in the cabinet and in parliament is larger than 2/3, and 2 if it is between 1/3 and 2/3. The index is 3 if the share of centrex parties is 50%, or if the leftwing and rightwing parties form a coalition government not dominated by one side or the other. The

extreme values of this index (1 or 5, corresponding to cabinets with more than two-thirds of members having right or left wing affiliation, respectively) are rare and therefore we merge these with the nearest category. We thus allow for three types of governments: right wing (index values 1-2), left wing (4-5) and centrist or mixed (3, the reference category).

The second data set, the Comparative Political Data Set III (CPDS), covers 35 OECD and CEE countries over 1990-2009[22]. In contrast to the Potrafke index, the CPDS data report ideology as the share of cabinet posts held by right or left wing parties. The reference category, again, is the share of cabinet seats held by centrist or independent politicians (including caretaker governments headed by technocrats, which are not numerous enough to be given a separate category). The main difference between the two measures is that while the Potrafke index is a categorical variable which we use to create a set of three dummies, the CPDS index is continuous. Note that the sets of countries covered by the two indexes overlap to a considerable extent but not perfectly.

Descriptive statistics for both measures of ideology are reported in Table 1. Both variables suggest that right wing governments are

index is symmetric and takes the values 4 and 5 if the leftwing parties dominate." (Potrafke, 2009, p. 112).

[22] The CEE countries are only those that entered the EU by 2007. The data thus include information on Australia, Austria, Belgium, Bulgaria, Canada, Cyprus (Greek part), Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom and United States.

slightly more common than left-wing governments; this is especially the case according to the Potrafke index. The greater share of right wing government according to Potrafke can be due to the fact that they cover, to some extent, different countries and years. Moreover, recall that each measures ideology differently: the Potrafke index is used to create two dummy variables reflecting the dominant ideology of the cabinet members while the CPDS data are shares of cabinet posts held by right-wing and left-wing politicians.

We measure policy outcomes with two widely used sets of indexes: the Fraser Institute's Economic Freedom of the World (EFW) indexes[23] and the Freedom House's (FH) Freedom in the World indexes[24]. The EFW indicators measure the extent of government interference and regulation in five areas: size of government, legal structure and security of property rights, sound money, free trade, and regulation of credit, labor and business. The EFW indexes were initially published every five years between 1970 and 2000. Since 2000, the frequency has been annual. The indexes, whose construction combines quantitative and qualitative assessment, are rescaled so as to range between 0 and 10, with higher values corresponding to greater economic freedom. Besides the five

[23] James Gwartney, Robert Lawson and Joshua Hall, *Economic Freedom of the World: 2010 Annual Report*, Economic Freedom Network and Fraser Institute, data available at: http://www.freetheworld.com/2011/2011/Dataset.xls.

[24] Freedom House, Freedom in the World Country Ratings: 1972-2011. http://www.freedomhouse.org/.

individual sub-indexes, the EFW also features a summary index, which is the main measure of economic freedom used in our analysis.

The FH indexes cover two areas, political rights (reflecting mainly on the presence or absence of electoral democracy) and civil liberties (freedom of expression and belief, freedom of association, rule of law and personal liberties), in (approximately) annual frequency from 1972. The original indexes range from 1 (most free) to 7 (least free). For our analysis, we invert the indexes so that higher values correspond to greater democracy and rescale them to fit the same range as the EFW index: between 0 (least free) and 10 (most free). We use the average of the two indexes as a summary index of democracy.

We are interested in the incidence of economic and political reform. We define these as the changes in the values of these indexes, with positive values corresponding to reform and negative values depicting reform reversals. Since the EFW is available only every five years in most of our sample, we consider the change over a five-year period. For the sake of consistency, we use the same period length to compute political reform (even though the FH index is available in annual frequency throughout). Table 1 shows the descriptive statistics for both types of reform. Given that both indexes are measured on the 0-10 scale, it is apparent that political reforms tend to be more dramatic (ranging from -8.3 to 8.3) than economic ones (-2.1 to 2.4). This probably reflects the wide-ranging democratization in the post-communist countries.

Table 1 Descriptive Statistics

Variable	Observations	Mean	Std.Dev.	Min	Max
Δ EFW	1,174	0.195	0.525	-2.090	2.420
Δ FH	6,066	0.274	1.602	-8.333	8.333
Potrafke: right wing	1,437	0.429	0.495	0	1.000
Potrafke: left wing	1,437	0.304	0.460	0	1.000
CPDS: right wing	682	0.385	0.365	0	1.000
CPDS: left wing	682	0.350	0.359	0	1.000
Grdev2	10,404	0.186	0.389	0	1.000
Grdev3	10,404	0.141	0.348	0	1.000
Grdev4	10,404	0.110	0.313	0	1.000
Grdev5	10,404	0.084	0.278	0	1.000
Grav0	10,404	0.152	0.359	0	1.000
Grav1	10,404	0.104	0.305	0	1.000
Grav2	10,404	0.068	0.252	0	1.000
Grav3	10,404	0.047	0.212	0	1.000

Table 1 Descriptive Statistics (continued)

Variable	Observations	Mean	Std.Dev.	Min	Max
Infld5	10,404	0.545	0.498	0	1.000
Infld10	10,404	0.509	0.500	0	1.000
Infld20	10,404	0.487	0.500	0	1.000
Infld30	10,404	0.480	0.500	0	1.000
Infla10	10,404	0.652	0.476	0	1.000
Infla20	10,404	0.538	0.499	0	1.000
Infla30	10,404	0.509	0.500	0	1.000
Infla40	10,404	0.499	0.500	0	1.000

Notes: See text for explanations of the various variables. EFW sub-indexes cover the following areas: (1) size of government, (2) legal structure and security of property rights, (3) sound money, (4) free trade, and (5) regulation of credit, labor and business. FH sub-indexes reflect civil liberties (CL) and political rights. Potrafke indexes are constructed as dummies (0/1 variables), while CPDS variables are fractions (ranging from 0 to 1).

To identify economic crises, we look for periods of extraordinary deviations from the trends of growth of output and price level. In other words, we are interested in episodes characterized by growth slowing down or inflation accelerating beyond what might be considered *normal* year-to-year fluctuation. Deciding what constitutes such a deviation is not straightforward. With respect to output growth, one option would be to consider either all recessions or only those that are sufficiently severe. The standard definition of a recession – a period of negative output growth[25] – would only qualify as a crisis if the output contraction is either sufficiently deep and/or protracted: a mild and short-lived contraction constitutes a recession but not a crisis. Therefore, our first set of crisis indicators captures recessions with the following characteristics:

Grav0: average annual growth rate of per capita GDP in the preceding 4 years equal to or lower than 0 percent;

Grav-1: average annual growth rate of per capita GDP in the preceding 4 years equal to or lower than –1 percent;

Grav-2: average annual growth rate of per capita GDP in the preceding 4 years equal to or lower than –2 percent;

Grav-3: average annual growth rate of per capita GDP in the preceding 4 years equal to or lower than –3 percent.

[25] A recession is usually defined as a negative output growth in two consecutive quarters. However, we use annual rather than quarterly data.

Focusing on recessions is appropriate for developed economies, which usually attain output growth rates in low single digits. In contrast, for some less-developed economies, even a positive growth rate in low single digits would constitute a slow-down significant enough to be called a crisis. A better solution would entail analyzing the output gap, that is, the difference between actual output and some measure of potential output[26]. This would require a sufficiently long time series of observations for each country, ideally in quarterly frequency, and an application of a time-series model such as the HP-filter. We use data from the World Bank's World Development Indicators database which is annual in frequency, the data on economic freedom, democracy and ideology are, likewise, annual. Moreover, for some countries, the data have gaps. Therefore, we need to use a less data-demanding method of identifying crises, such as deviation in growth from the values attained in previous years. Specifically, we define growth slow-downs as episodes meeting the following conditions:

Grdev2: annual growth rate of per capita GDP is 2 percentage points lower than the average growth rate in the preceding 4 years;

Grdev3: annual growth rate of per capita GDP is 3 percentage points lower than the average growth rate in the preceding 4 years;

[26] for examples of this approach, see Frank Smets and Raf Wouters, "An Estimated Dynamic Stochastic General Equilibrium Model of the Euro Area," *Journal of the European Economic Association* 1 no. 5 (2003), 1123–1175; Frank Smets and Raf Wouters, "Shocks and Frictions in US Business Cycles: A Bayesian DSGE Approach," *American Economic Review* 97 no. 3 (2007), 586-606.

Grdev4: annual growth rate of per capita GDP is 4 percentage points lower than the average growth rate in the preceding 4 years;

Grdev5: annual growth rate of per capita GDP is 5 percentage points lower than the average growth rate in the preceding 4 years;

Note that a growth slow-down is a broader definition of crises than recession: most recessions would also quality growth slow-downs, but not all growth slow-downs would constitute a recession. Therefore, our preferred measures of crises will be those capturing slow-downs rather than recession.

With respect to inflation, we proceed in a similar fashion: we consider both episodes of relative worsening of inflation performance, and absolute inflation figures. Specifically, we identify crises as relative deviation from previous performance:

(Infld5) inflation exceeds the average of the preceding 4 years earlier by 5 percentage points;

(Infld10) inflation exceeds the average of the preceding 4 years earlier by 10 percentage points;

(Infld20) inflation exceeds the average of the preceding 4 years earlier by 20 percentage points;

(Infld30) inflation exceeds the average of the preceding 4 years earlier by 30 percentage points;

And as absolute values exceeding a given threshold:

(Infla10) inflation during the preceding four years is 10 percent or higher;

(Infla20) inflation during the preceding four years is 20 percent or higher;

(Infla30) inflation during the preceding four years is 30 percent or higher;

(Infla40) inflation during the preceding four years is 40 percent or higher.

Note that the growth slow-downs/recessions and high-inflation episodes maybe related, albeit imperfectly: restrictive monetary policy is thought to bring down inflation at the expense of lower growth and higher unemployment[27]. If this relationship is robust, then countries should rarely experience both types of crises at the same time. However, the relationship between growth and inflation becomes inverse when inflation is exceedingly high, as observed by Bruno and Easterly: they argue that inflation exceeding 40 percent per annum suppresses growth[28]. The correlation between incidence of the two crises may therefore be negative when inflation is moderate and positive for high inflation.

[27] Fischer, Stanley. *Inflation and growth*. No. w1235. National Bureau of Economic Research, 1983. For a critical reassessment of this traditional view, see Gregory N. Mankiw, "The Inexorable and Mysterious Tradeoff between Inflation and Unemployment," *Economic Journal* 111, no. 471 (2001), C45-C61.

[28] Bruno and Easterly, "Inflation Crises and Long-run Growth".

The descriptive statistics on growth and inflation crises are also in Table 1. Inflation episodes are clearly a lot more common than growth slowdowns or recessions. However, while applying a higher inflation threshold would result in a more restrictive sample of crises, it would also make the sample heavily biased towards less developed (mainly Eastern European) countries.

3. Effects of Crises on Economic Policy and Democracy

In the first instance, we consider the effect of crises on economic freedom. We estimate the following regression equation:

$$\varphi t - \varphi t\text{-}5 = \beta 1 \varphi t\text{-}5 + \beta 2 \mu t\text{-}5 + \beta 3 \omega t\text{-}1 + \beta 4 \rho t + \beta 5 \lambda t + \beta 6 \omega\, t\text{-}1 \rho t + \beta 7 \omega t\text{-}1 \lambda t \quad (1)$$

where (ignoring time subscripts) φ stands for the summary index of economic freedom (EFW), μ is the average democracy index (FH), ω is a dummy variable denoting countries experiencing crises, and, finally, ρ and λ stand for our measures of right-wing and left-wing government ideology, respectively. The dependent variable is the change in the value of the economic freedom index over the preceding five years (this is because the index is available every five years until 2000). The change in economic freedom is thus regressed on the lagged level of the same index (i.e. the value attained five years earlier), the fifth lag of the democracy index, dummy variable identifying whether the country experienced a crisis in the preceding year, ideology (measured, alternatively, by right/left wing dummies constructed based on the Potrafke index or as the share of cabinet

seats held by right/left wing parties according to the CPDS data set, in both cases leaving out centrist governments as the reference category), and interaction terms between ideology and the crisis dummy. The crisis dummy and the interaction terms are the variables that we are interested in. The dummy should indicate whether crises tend to be followed by increases (or reversals) in the level of economic freedom: based on the *crises beget hypothesis*, we would expect the coefficient of the crisis dummy to be positive. The interaction terms allow us to test whether the effect of crises on economic freedom is conditional on the ideological orientation of the incumbent government. Last but not least, the coefficients obtained for the stand-alone ideology measures indicate whether right and left wing parties have different inclinations to increase or decrease economic freedom (independently of incidence of crises).

The results are presented in Tables 2-5 – separately for the growth and inflation crises and for the two alternative measures of ideology, with the crisis variable used identified in the column heading.[29] The coefficient of the lagged EFW index is negative and strongly significant. This is similar to the convergence effect in growth: relatively illiberal countries find it easier to increase economic freedom in large strides. It also reflects the fact that the EFW index is

[29] Both EFW and FH indexes are bound from above and from below. We therefore re-estimate all our results using the logit function: log ((υ/(1-υ)), where υ is either the EFW or FH index divided by 10 (so that it ranges between 0 and 1). The resulting variable thus ranges from -∞ to ∞. These results (available upon request) are very similar to those reported in this paper.

bound from above: highly free countries can only make marginal progress. The lagged FH index, in turn, is positive and also strongly significant. This confirms the result of Fidrmuc and of Giuliano, Spilimbergo and Mishra who find that democracy fosters economic liberalization[30].

The coefficient of the crisis dummy goes against our expectations (and against the Alesina-Drazen hypothesis): crises appear to discourage economic reform. In fact, they seem more likely to beget reform reversals. The effect is sizeable: in the immediate aftermath of an economic slow-down, economic freedom tends to decline by 0.6 to 1.2 points (on a 0-10 scale) when using the Potrafke index. Inflation accelerations are similarly damaging: in their aftermath, economic freedom tends to fall by 0.5-1.4 points. The effect of crises on economic reforms is only significant in regressions estimated using the Potrafke index, but now when the CPDS data are used, which is probably due to the different coverage of countries and years by the two data sets[31].

[30] Jan Fidrmuc, "Economic Reform, Democracy and Growth during Post-communist Transition", *European Journal of Political Economy* 19, no. 3 (2003): 583-604; Paola Giuliano, Prachi Mishra and Antonio Spilimbergo, "Democracy and Reforms: Evidence from a New Dataset," *American Economic Journal: Macroeconomics* 5 no. 4 (2013): 179-204.

[31] It is possible that the finding that crises discourage reforms is specific to our data set, which contains mainly countries with already relatively high levels of economic freedom in which the potential for further economic liberalization is limited (given that economic freedom has an upper bound). To address this possibility, we added a quadratic polynomial of lagged economic freedom, along with interaction terms between this polynomial and the crisis dummy (these results, available upon request, omit tbe interaction terms between ideology and crisis). No systematic interaction

The effect of ideology on economic freedom is mixed. When we measure ideology with the Potrafke index, right-wing parties appear more likely to liberalize their economies than either left wing parties or centrist/mixed governments (the latter being the reference category). The positive effect, although strongly significant, is relatively modest: having a predominantly right-wing government is associated with economic freedom increasing by approximately 0.2. Nevertheless, if robust, the positive effect of right-wing parties would be non-trivial given that economic freedom has been shown as a robust determinant of economic growth and investment.[32] On the other hand, ideology appears to play little role when we use the CPDS dataset to measure it.

between the past level of economic freedom and the crisis dummy could be discerned, however: the negative impact of crises on economic freedom (when it occurs) is not restricted to the countries with the highest levels of economic freedom.

[32] See Jakob de Haan and Jan-Egbert Sturm, "On the Relationship between Economic Freedom and Economic Growth," *European Journal of Political Economy* 16 (2000): 215– 241; Chris Doucouliagos and Mehmet Ali Ulubasoglu, "Economic Freedom and Economic Growth: Does Specification Make a Difference?" *European Journal of Political Economy* 22 (2006): 60-81 and Mogens K. Justesen, "The Effect of Economic Freedom on Growth Revisited: New Evidence on Causality from a Panel of Countries 1970–1999," *European Journal of Political Economy* 24 (2008): 642–660. This could be another reason for Bjørnskov's finding that countries with right-wing governments report, holding everything else constant, higher growth rates.

Table 2 Growth Crises and Economic Freedom: Potrafke index

	Grdev2	Grdev3	Grdev4	Grdev5	Grav0	Grav-1	Grav-2	Grav-3
EFWindex	-0.451	-0.457	-0.459	-0.463	-0.488	-0.494	-0.488	-0.478
(5thlag)	(0.035)**	(0.035)**	(0.035)**	(0.035)**	(0.034)**	(0.034)**	(0.034)**	(0.034)**
FHindex	0.159	0.158	0.159	0.159	0.166	0.157	0.167	0.158
(5thlag)	(0.020)**	(0.022)**	(0.022)**	(0.022)**	(0.019)**	(0.019)**	(0.019)**	(0.020)**
Crisis	-0.011	-0.012	0.106	-0.026	-0.579	-0.835	-0.711	-1.207
	(0.123)	(0.125)	(0.145)	(0.180)	(0.164)**	(0.232)**	(0.234)**	(0.346)**
Rightwing	0.214	0.215	0.223	0.211	0.191	0.188	0.194	0.168
	(0.061)**	(0.062)**	(0.061)**	(0.061)**	(0.059)**	(0.058)**	(0.059)**	(0.059)**
Leftwing	0.137	0.120	0.133	0.126	0.105	0.118	0.099	0.075
	(0.069)*	(0.071)	(0.070)	(0.070)	(0.067)	(0.065)	(0.066)	(0.066)
Right*crisis	-0.074	-0.187	-0.262	-0.167	0.215	0.329	0.169	0.700
	(0.153)	(0.188)	(0.287)	(0.410)	(0.221)	(0.293)	(0.342)	(0.482)
Left*crisis	-0.331	-0.311	-0.430	-0.302	0.255	0.219	0.227	0.734
	(0.169)*	(0.239)	(0.249)	(0.272)	(0.202)	(0.275)	(0.337)	(0.423)
Constant	1.781	1.826	1.815	1.855	1.996	2.115	1.978	2.014
	(0.247)**	(0.255)**	(0.255)**	(0.255)**	(0.243)**	(0.247)**	(0.246)**	(0.250)**
R2	0.488	0.478	0.476	0.474	0.512	0.520	0.503	0.503
N	295	295	295	295	295	295	295	295

Notes: The dependent variable is the change in EFW index over 5 years. Significance: * 5%, ** 1%.

Table 3 Inflation Crises and Economic Freedom: Potrafke index

	Infld5	Infld10	Infld20	Infld30	Infla10	Infla20	Infla30	Infla40
EFWindex	-0.479	-0.465	-0.459	-0.459	-0.588	-0.545	-0.550	-0.514
(5thlag)	(0.034)**	(0.034)**	(0.034)**	(0.034)**	(0.045)**	(0.038)**	(0.035)**	(0.034)**
FHindex	0.136	0.132	0.131	0.131	0.176	0.172	0.167	0.156
(5thlag)	(0.021)**	(0.022)**	(0.022)**	(0.022)**	(0.019)**	(0.019)**	(0.018)**	(0.019)**
Crisis	-0.530	-1.395	-1.405	-1.405	-0.341	-0.463	-0.948	-1.363
	(0.175)**	(0.351)**	(0.354)**	(0.354)**	(0.135)**	(0.183)**	(0.237)**	(0.341)**
Rightwing	0.183	0.185	0.177	0.177	0.183	0.198	0.217	0.209
	(0.061)**	(0.059)**	(0.059)**	(0.059)**	(0.063)**	(0.062)**	(0.059)**	(0.059)**
Leftwing	0.088	0.087	0.086	0.086	0.105	0.107	0.102	0.095
	(0.068)	(0.066)	(0.066)	(0.066)	(0.070)	(0.068)	(0.065)	(0.065)
Right*crisis	0.257	1.132	1.202	1.202	0.109	0.163	0.463	0.929
	(0.203)	(0.368)**	(0.372)**	(0.372)**	(0.139)	(0.194)	(0.248)	(0.350)**
Left*crisis	-0.058	0.817	0.826	0.826	-0.113	-0.011	0.515	0.936
	(0.241)	(0.371)*	(0.373)*	(0.373)*	(0.156)	(0.221)	(0.275)	(0.361)**
Constant	2.220	2.159	2.131	2.131	2.632	2.350	2.420	2.273
	(0.258)**	(0.254)**	(0.259)**	(0.259)**	(0.330)**	(0.277)**	(0.259)**	(0.253)**
R2	0.512	0.513	0.507	0.507	0.506	0.506	0.534	0.527
N	295	295	295	295	295	295	295	295

Notes: The dependent variable is the change in EFW index over 5 years. Significance: * 5%, ** 1%.

Table 4 Growth Crises and Economic Freedom: CPDS index

	Grdev2	Grdev3	Grdev4	Grdev5	Grav0	Grav-1	Grav-2	Grav-3
EFWindex	-0.657	-0.664	-0.675	-0.669	-0.693	-0.704	-0.696	-0.690
(5thlag)	(0.041)**	(0.041)**	(0.041)**	(0.042)**	(0.041)**	(0.040)**	(0.040)**	(0.040)**
FHindex	0.261	0.260	0.263	0.246	0.260	0.240	0.238	0.233
(5thlag)	(0.024)**	(0.025)**	(0.025)**	(0.027)**	(0.024)**	(0.024)**	(0.025)**	(0.025)**
Crisis	-0.364	-0.245	-0.333	-0.705	-0.195	-0.741	-0.804	-0.608
	(0.205)	(0.261)	(0.284)	(0.512)	(0.251)	(0.828)	(0.829)	(0.858)
Rightwing	-0.024	-0.011	-0.014	-0.002	-0.025	-0.036	-0.045	-0.047
	(0.099)	(0.096)	(0.096)	(0.095)	(0.095)	(0.092)	(0.093)	(0.093)
Leftwing	-0.099	-0.115	-0.104	-0.081	-0.074	-0.073	-0.080	-0.080
	(0.099)	(0.099)	(0.099)	(0.098)	(0.096)	(0.093)	(0.093)	(0.094)
Right*crisis	0.239	-0.056	0.004	0.403	-0.126	0.927	1.783	3.087
	(0.246)	(0.316)	(0.363)	(0.577)	(0.451)	(0.965)	(1.129)	(1.850)
Left*crisis	0.116	0.118	0.240	0.342	-0.233	-0.355	-0.371	-0.800
	(0.259)	(0.377)	(0.402)	(0.663)	(0.357)	(1.156)	(1.168)	(1.263)
Constant	2.448	2.498	2.538	2.648	2.686	2.962	2.923	2.928
	(0.288)**	(0.293)**	(0.295)**	(0.300)**	(0.297)**	(0.299)**	(0.298)**	(0.298)**
R2	0.596	0.588	0.583	0.589	0.590	0.614	0.612	0.611
N	266	266	266	266	266	266	266	266

Notes: The dependent variable is the change in EFW index over 5 years. Significance: * 5%, ** 1%.

Table 5 Inflation Crises and Economic Freedom: CPDS index

	Infld5	Infld10	Infld20	Infld30	Infla10	Infla20	Infla30	Infla40
EFWindex	-0.619	-0.624	-0.624	-0.624	-0.761	-0.742	-0.729	-0.729
(5thlag)	(0.041)**	(0.043)**	(0.043)**	(0.043)**	(0.050)**	(0.044)**	(0.041)**	(0.041)**
FHindex	0.192	0.184	0.184	0.184	0.266	0.257	0.238	0.238
(5thlag)	(0.031)**	(0.035)**	(0.035)**	(0.035)**	(0.024)**	(0.024)**	(0.024)**	(0.024)**
Crisis	0.189	0.119	0.119	0.119	-0.285	-0.201	-0.261	-0.261
	(0.270)	(0.292)	(0.292)	(0.292)	(0.232)	(0.259)	(0.256)	(0.256)
Rightwing	0.003	-0.009	-0.009	-0.009	-0.051	-0.043	-0.043	-0.043
	(0.095)	(0.096)	(0.096)	(0.096)	(0.098)	(0.095)	(0.093)	(0.093)
Leftwing	-0.007	-0.026	-0.026	-0.026	-0.082	-0.071	-0.074	-0.074
	(0.099)	(0.099)	(0.099)	(0.099)	(0.101)	(0.098)	(0.096)	(0.096)
Right*crisis	-0.152	0.155	0.155	0.155	0.233	0.144	0.058	0.058
	(0.350)	(0.465)	(0.465)	(0.465)	(0.317)	(0.407)	(0.400)	(0.400)
Left*crisis	-1.323	-1.321	-1.321	-1.321	-0.309	-0.701	-1.001	-1.001
	(0.379)**	(0.483)**	(0.483)**	(0.483)**	(0.314)	(0.414)	(0.430)*	(0.430)*
Constant	2.771	2.887	2.887	2.887	3.129	3.081	3.160	3.160
	(0.307)**	(0.328)**	(0.328)**	(0.328)**	(0.357)**	(0.323)**	(0.311)**	(0.311)**
R2	0.601	0.586	0.586	0.586	0.591	0.601	0.617	0.617
N	266	266	266	266	266	266	266	266

Notes: The dependent variable is the change in EFW index over 5 years. Significance: * 5%, ** 1%.

The coefficients estimated for the interaction terms between the crisis and ideology dummies yield an interesting observation. It matters whether the crisis takes the form of economic slowdown or inflation. The responses of right and left-wing governments do not differ from each other (or from those of centrist/mixed governments) after economic slowdowns: the reform is not any more likely to take place after a growth slowdown. In contrast, the responses to high inflation diverge. With the Potrafke index, right-wing governments increase economic freedom (compared to centrist/mixed governments) by 1-1.2 points. Having a left-wing government is associated with a somewhat smaller increase (0.8-0.9 points) in economic freedom (again, compared with the outcome under a centrist/mixed government). When we consider the CPDS data, having a left-wing government after an inflation crisis is associated with a fall in economic freedom by 1-1.2 points, compared to having either a right-wing or centrist/mixed government. Overall, while crises tend to translate into lower economic freedom, this negative effect tends to be less pronounced (or may even be nill) when under right-wing governments. Having a left-wing government, in contrast, may result in an even deeper fall in economic freedom.

Next, we turn to the effect of crises on democratization. The analytical framework is similar to the preceding analysis of economic freedom:

$$\mu_t - \mu_{t-5} = \beta_1 \mu_{t-5} + \beta_2 \omega_{t-1} + \beta_3 \rho_t + \beta_4 \lambda_t + \beta_5 \omega_{t-1} \rho_t + \beta_6 \omega_{t-1} \lambda_t \quad (2)$$

The change in the level of the democracy index over a five-year period is regressed on the fifth lag of this index, lagged crisis dummy, ideology, and interaction terms between crisis and ideology. The democracy index is available in annual frequency but for the sake of comparability with the preceding analysis, we consider five-year lags also in this case. The lagged EFW index is not included: this is motivated by the finding of Fidrmuc and Giuliano et al who both argue that while democracy encourages economic liberalization, economic freedom does not have a similar effect on democratization[33].

Tables 6-9 report the results. The lagged level of the FH index has a negative and significant effect: again, countries that have already liberalized almost completely have little scope for further progress. The impact of crises on democratization is mixed: some regressions suggest crises discourage democratization while some of the other results indicate that they foster it. The effect of ideology is mostly insignificant. When we measure ideology with the CPDS data, several regressions suggest that right-wing parties are associated with faster democratization.

The results obtained for the interaction terms of the crisis dummy with ideology do not reveal a consistent pattern. When using the Potrafke index to measure ideology, we find, as with economic freedom, that right-wing parties respond to crises by accelerating

[33] Fidrmuc, "Economic Reform, Democracy and Growth during Post-communist Transition"; Giuliano, Mishra and Spilimbergo, "Democracy and Reforms: Evidence from a New Dataset."

democratization while left wing parties tend to reverse it (again, these results are relative to the performance of centrist/mixed governments). This pattern is especially apparent after high-inflation episodes. The results with the CPDS data on ideology, however, suggest that both right and left wing parties reduce the extent of democracy in the wake of crises, so that it is centrist/independent politicians who are more likely to democratize after a crisis.

Table 6 Growth Crises and Democracy: Potrafke index

	Grdev2	Grdev3	Grdev4	Grdev5	Grav0	Grav-1	Grav-2	Grav-3
FHindex	-0.739	-0.739	-0.738	-0.737	-0.739	-0.740	-0.740	-0.741
(5thlag)	(0.014)**	(0.014)**	(0.014)**	(0.014)**	(0.014)**	(0.014)**	(0.014)**	(0.014)**
Crisis	-0.112	-0.034	0.079	-0.024	-0.066	-0.074	-0.136	-0.232
	(0.118)	(0.141)	(0.169)	(0.203)	(0.156)	(0.177)	(0.191)	(0.210)
Rightwing	0.019	0.031	0.036	0.020	0.021	0.007	0.003	-0.003
	(0.075)	(0.073)	(0.072)	(0.071)	(0.072)	(0.071)	(0.071)	(0.070)
Leftwing	-0.157	-0.129	-0.123	-0.143	-0.134	-0.119	-0.133	-0.126
	(0.084)	(0.082)	(0.081)	(0.080)	(0.082)	(0.081)	(0.080)	(0.080)
Right*crisis	0.053	-0.012	-0.069	0.162	0.092	0.296	0.410	0.693
	(0.145)	(0.175)	(0.214)	(0.269)	(0.192)	(0.214)	(0.236)	(0.259)**
Left*crisis	0.048	-0.168	-0.343	-0.127	-0.114	-0.435	-0.318	-0.428
	(0.161)	(0.199)	(0.246)	(0.287)	(0.208)	(0.246)	(0.273)	(0.294)
Constant	6.812	6.794	6.777	6.777	6.795	6.803	6.808	6.812
	(0.132)**	(0.132)	(0.132)**	(0.131)**	(0.134)**	(0.135)**	(0.135)**	(0.134)**
R2	0.735	0.735	0.735	0.734	0.735	0.737	0.736	0.739
N	1089	1089	1089	1089	1089	1089	1089	1089

Notes: The dependent variable is the change in FH index over 5 years. Significance: * 5%, ** 1%.

Table 7 Inflation Crises and Democracy: Potrafke index

	Infld5	Infld10	Infld20	Infld30	Infla10	Infla20	Infla30	Infla40
FH index	-0.782	-0.795	-0.798	-0.801	-0.763	-0.765	-0.772	-0.775
(5th lag)	(0.016)**	(0.016)**	(0.016)**	(0.016)**	(0.015)**	(0.015)**	(0.015)**	(0.016)**
Crisis	-0.575	-0.809	-0.815	-0.874	-0.330	-0.247	-0.263	-0.295
	(0.147)**	(0.165)**	(0.165)**	(0.167)**	(0.112)**	(0.139)	(0.145)	(0.150)
Right wing	-0.051	-0.043	-0.042	-0.032	-0.058	0.000	0.017	0.007
	(0.073)	(0.071)	(0.071)	(0.071)	(0.082)	(0.078)	(0.075)	(0.074)
Left wing	-0.054	-0.040	-0.033	-0.030	-0.060	-0.026	0.010	0.003
	(0.082)	(0.080)	(0.080)	(0.080)	(0.091)	(0.086)	(0.083)	(0.083)
Right*crisis	0.570	0.746	0.747	0.732	0.208	0.158	0.179	0.239
	(0.161)**	(0.174)**	(0.175)**	(0.177)**	(0.128)	(0.151)	(0.158)	(0.161)
Left*crisis	-0.427	-0.420	-0.479	-0.497	-0.359	-0.605	-0.913	-0.908
	(0.184)*	(0.200)*	(0.201)*	(0.203)*	(0.141)**	(0.170)**	(0.183)**	(0.186)**
Constant	7.239	7.357	7.378	7.411	7.128	7.069	7.114	7.139
	(0.151)**	(0.151)**	(0.151)**	(0.149)**	(0.150)**	(0.152)**	(0.151)**	(0.154)**
R2	0.751	0.756	0.757	0.759	0.748	0.746	0.751	0.752
N	1089	1089	1089	1089	1089	1089	1089	1089

Notes: The dependent variable is the change in FH index over 5 years. Significance: * 5%, ** 1%.

Table 8 Growth Crises and Democracy: CPDS index

	Grdev2	Grdev3	Grdev4	Grdev5	Grav0	Grav-1	Grav-2	Grav-3
FH index	-0.787	-0.790	-0.792	-0.790	-0.801	-0.797	-0.806	-0.808
(5th lag)	(0.011)**	(0.011)**	(0.011)**	(0.012)**	(0.012)**	(0.013)**	(0.012)**	(0.012)**
Crisis	0.017	0.114	0.083	-0.488	0.282	0.662	0.808	1.394
	(0.109)	(0.142)	(0.166)	(0.231)*	(0.167)	(0.229)**	(0.241)**	(0.264)**
Right wing	0.119	0.120	0.104	0.061	0.177	0.191	0.186	0.213
	(0.084)	(0.080)	(0.079)	(0.078)	(0.079)*	(0.078)*	(0.077)*	(0.075)**
Left wing	0.066	0.086	0.067	0.013	0.097	0.117	0.116	0.147
	(0.082)	(0.078)	(0.077)	(0.076)	(0.077)	(0.076)	(0.075)	(0.073)*
Right*crisis	-0.085	-0.181	-0.047	0.787	-0.763	-1.147	-1.846	-2.579
	(0.147)	(0.185)	(0.231)	(0.316)**	(0.223)**	(0.289)**	(0.344)**	(0.367)**
Left*crisis	-0.258	-0.707	-0.864	-0.018	-0.803	-1.346	-1.562	-2.414
	(0.155)	(0.210)**	(0.262)**	(0.377)	(0.221)**	(0.286)**	(0.295)**	(0.324)**
Constant	7.571	7.592	7.618	7.625	7.676	7.623	7.705	7.705
	(0.113)**	(0.112)**	(0.113)**	(0.113)**	(0.117)**	(0.125)**	(0.124)**	(0.121)**
R2	0.886	0.888	0.888	0.886	0.891	0.891	0.895	0.899
N	682	682	682	682	682	682	682	682

Notes: The dependent variable is the change in FH index over 5 years. Significance: * 5%, ** 1%.

Table 9 Inflation Crises and Democracy: CPDS index

	Infld5	Infld10	Infld20	Infld30	Infla10	Infla20	Infla30	Infla40
FH index	-0.853	-0.870	-0.865	-0.862	-0.813	-0.815	-0.821	-0.825
(5th lag)	(0.013)**	(0.013)**	(0.013)**	(0.013)**	(0.012)**	(0.013)**	(0.013)**	(0.013)**
Crisis	-0.547	-0.576	-0.557	-0.576	-0.060	0.004	-0.055	-0.065
	(0.170)**	(0.169)**	(0.169)**	(0.168)**	(0.155)	(0.159)	(0.161)	(0.161)
Right wing	0.156	0.170	0.169	0.168	0.182	0.164	0.168	0.168
	(0.076)*	(0.074)*	(0.075)*	(0.074)*	(0.080)*	(0.080)*	(0.079)*	(0.079)*
Left wing	0.033	0.040	0.045	0.042	0.068	0.047	0.043	0.046
	(0.076)	(0.074)	(0.074)	(0.074)	(0.080)	(0.079)	(0.079)	(0.079)
Right*crisis	-0.081	-0.225	-0.251	-0.226	-0.425	-0.648	-0.674	-0.667
	(0.222)	(0.225)	(0.226)	(0.225)	(0.191)*	(0.208)**	(0.212)**	(0.212)**
Left*crisis	-0.285	-0.458	-0.460	-0.461	-0.466	-0.440	-0.420	-0.460
	(0.217)	(0.220)*	(0.220)*	(0.219)*	(0.187)**	(0.205)*	(0.209)*	(0.210)*
Constant	8.216	8.371	8.314	8.291	7.834	7.851	7.904	7.935
	(0.129)**	(0.130)**	(0.127)**	(0.124)**	(0.130)**	(0.132)**	(0.133)**	(0.135)**
R2	0.899	0.903	0.902	0.903	0.894	0.893	0.894	0.894
N	682	682	682	682	682	682	682	682

Notes: The dependent variable is the change in FH index over 5 years. Significance: * 5%, ** 1%.

4. Do Reforms Need to Be Preceded by Crises?

So far, our findings throw little support behind the *crises beget reform* hypothesis: in fact, if anything, we find that crises beget reform reversals, at least in our sample of countries. This may be for two reasons. First, crises do occur but, on average, they are not followed by reforms often enough to yield a significant correlation with reforms. Or, second, policy reforms observed in our data take place without being preceded by crises. The discussion in the preceding section considered the first explanation only. We now turn to the second. To this effect, we consider economic growth and investigate whether countries that perform particularly poorly (or especially well) are those that subsequently experience reforms. Specifically, we estimate a stylized Solow-model type of growth equation[34]:

$$y_t - y_{t-1} = \beta_1 i_t + \beta_2(n_t+g+\delta) + \beta_3 y_{t-5} + \beta_4 \mu_{t+1} \quad (3)$$

The dependent variable is the growth rate (log-difference) of per capita GDP, $y_t - y_{t-1}$. This is regressed on the (logs of) investment to GDP ratio, i, population growth, n[35], and initial GDP per capita (in log and lagged five years). We augment this model by adding a lead

[34] See Gregory N. Mankiw, David Romer and David N. Weil, "A Contribution to the Empirics of Economic Growth," *The Quarterly Journal of Economics* 107, no. 2 (1992), 407-437 and Nazrul Islam, "Growth Empirics: A Panel Data Approach," *The Quarterly Journal of Economics* 110, no. 4 (1995): 1127-1170.

[35] The Solow model predicts that population growth should enter alongside depreciation and technological progress. We follow Mankiw et al. and Islam in assuming that these are constant and estimate them to be 6 percent per annum.

term of a reform dummy, μ_{t+1}. This dummy is constructed so that it captures instances when the original (untransformed) EFW index has increased (or decreased) by at least 0.5/0.75/1.0 points in absolute value over a five-year period. We treat instances of positive and negative change in the index as separate categories: reform accelerations vs reform reversals: this gives us six different specifications of the future-reform dummy: reforms and reform reversals, with three thresholds in each case.

Equation (3) is not to imply that a future reform can have a causal effect on the preceding-year growth rate. Rather, as in all regressions, it captures correlation, not causality. We include the lead term of reform in order to ascertain whether reforms tend to take place after periods during which countries experience unusually high or low growth. Placing the future-reform dummy on the right-hand side of a growth equation allows us to account for standard determinants of growth when examining the correlation between growth and subsequent reform. Our approach is thus equivalent to looking at the correlation between the future-reform dummy and the Solow residual. If occurrence of reforms does not depend on the preceding economic conditions, then the coefficient estimated for the reform-lead dummy will be insignificant. Finding a significant relationship between reforms (or reform reversals) and the future-reform dummy, on the other hand, would indicate that reforms do depend on the economic conditions in the immediately preceding period.

The results are summarized in Table 10. The first three columns present the results for reforms (i.e. increases in economic freedom) while the next three columns contain those for reform reversals. In line with our previous finding, we find no evidence that occurrence of reform episodes is systematically related to economic performance in the preceding year. In contrast, we do observe a negative correlation between growth and the future-reform dummy. The negative coefficient means that countries tend to reverse reforms after they grew slower than would be predicted by the Solow model. This pattern is strongly significant and holds for all three thresholds of reform. Moreover, the coefficient for the highest threshold (economic freedom index falling by more than one point) is more than double that for the lowest threshold: large reform reversals are more likely when growth deteriorates more. Again, rather than observing that crises beget reforms, we find the reverse relationship. When hoping that crises become catalysts of change, one should be careful what one wishes for.

Table 10 Growth Performance prior to Reforms

	Reforms			Reform Reversals		
	ΔEFW≥.5	ΔEFW≥.75	ΔEFW≥1	ΔEFW≤-.5	ΔEFW≤-.75	ΔEFW≤-1
Investment/GDP	0.027	0.027	0.027	0.024	0.025	0.025
(log)	(0.006)**	(0.006)**	(0.006)**	(0.006)**	(0.006)**	(0.006)**
n + g + δ	0.092	0.092	0.093	0.090	0.088	0.085
(log)	(0.009)**	(0.009)**	(0.009)**	(0.009)**	(0.009)**	(0.009)**
GDP pc	-0.012	-0.012	-0.013	-0.013	-0.012	-0.011
(5th lag, log)	(0.005)*	(0.005)*	(0.005)**	(0.005)**	(0.005)*	(0.005)*
Reform	-0.000	-0.001	-0.007	-0.025	-0.033	-0.052
(lead)	(0.003)	(0.004)	(0.005)	(0.005)**	(0.007)**	(0.010)**
Constant	0.277	0.279	0.287	0.287	0.274	0.253
	(0.048)**	(0.049)**	(0.049)**	(0.047)**	(0.048)**	(0.048)**
R2	0.15	0.15	0.15	0.17	0.16	0.17
N	1,070	1,070	1,070	1,070	1,070	1,070

Notes: The dependent variable is the log-difference in GDP per capita over one year. Significance: * 5%, ** 1%.

5. Conclusions

Crises can have important repercussions for economic policymaking and for political developments alike. Crisis-stricken countries may seek to overcome their economic difficulties by embracing reform, deregulation and liberalization and privatization. The opposite is possible too, however: crises can bring about political backlash against economic liberalism and thus lead to greater regulation and redistribution.

In this article, we study the effect of crises on economic and political reform in a broad panel data set of OECD and Central and Eastern European countries. We consider two kinds of crises: economic slow-downs/contractions and high-inflation episodes. We are interested not only in the relationship between crises and reform but especially in the role played by government ideology: are right-wing and left-wing governments equally likely to implement reform in the wake of a crisis and do they respond in the same manner to the two types of crises?

Our findings are intriguing. First, we find that crises do not generally lead to greater economic liberalization. Rather, crises may cause reform reversals in the economic sphere. While this may be due to the fact that we are looking at countries that are mostly already rather liberal, it seems to suggest that the relationship between crises and reform is not as simple as envisaged by the *crises beget reform* maxim. Instead, crises do foster policy changes, but our evidence suggests that these are more likely to go in the direction of less economic freedom than in the opposite direction.

Second, we find that ideology indeed matters. Right-wing governments tend to liberalize more in the wake of an economic crisis than centrist ones and even more so than left-wing governments. This pattern, however, only holds when the crisis takes the form of high inflation. In contrast, there appears to be little ideology-based difference in the wake of economic slow-downs or contractions. Furthermore, when right-wing governments accelerate economic liberalization, they do so mainly by addressing monetary policy and inflation. We interpret this finding as evidence of clientilistic policy making. Typical voters of right-wing parties are threatened more by monetary instability than by economic slowdowns, while the reverse holds for the voters of left-wing parties. Correspondingly, right-wing parties tend to accelerate reforms in particular in the wake of episodes of high inflation. Therefore, while ideology matters, the mechanism described by Cukierman and Tommasi, whereby reform proposals are more credible and therefore more likely to succeed if put forward by unlikely politicians, appears to be an exception rather than the rule. Instead, politicians respond to crises in line with their ideological biases.

Jan Fidrmuc holds an 'Accueil de talents 2020' research fellowship at Lille Économie & Management (L.E.M), Université de Lille. He is also faculty member at PRIGO University in Havířov, and external advisor of the Institute for Strategy and Analysis (ISA) at the Government Office of the Slovak Republic. He obtained his PhD from Center for Economic Research at Tilburg University in the Netherlands in 1999. Before joining Université de Lille, he held appointments at the Center for European Integration Studies (ZEI) at Bonn University, Trinity College Dublin, European Centre for Advanced Research in Economics and Statistics (ECARES) at Université Libre de Bruxelles, and Brunel University London.

Jan Fidrmuc's research interests include political economy, economic development, institutional economics and labor economics. He has published his research in leading European and international peer-reviewed journals, including the European Economic Review, European Journal of Political Economy, Journal of Comparative Economics, Journal of Common Market Studies, Electoral Studies, World Development, and Journal of International Money and Finance.