

Deliberate Recovery Policy, Politics, the Economic Recovery from the International Financial Crisis

Stan du Plessis, Andreas Freytag, and Willem Boshoff

Abstract

The international financial crisis and its aftermath raised fundamental issues in economics and political science. In particular, the observation that some nondemocratic countries apparently were affected less severely than mature democracies leads to the uncomfortable question: Are democracies really best equipped to face economic disruption and return their economies to a sustained high growth path, or do autocratic regimes have the advantage of more effective policy tools due to fewer political restrictions? In this essay, we provide a theoretical framework and large cross-country database that is meant to help investigate questions about the connection between political regimes and policy responses to the crisis. The database is comprised of thirty-eight developed and emerging market countries for which a consistent set of turning points were calculated to date the start and end of the international financial crisis, as well as related measures to quantify the qualitative features of the recession and subsequent recovery. These results are connected to measures of fiscal and monetary policy interventions in the sample countries.

Keywords: International financial crisis, business cycle, institutions, economic policy.

Starting in early 2007, banks in Europe and the United States encountered trouble in the hitherto profitable mortgage market. By the end of the year,

Stan du Plessis is Professor of Economics and Dean of the Faculty of Economic and Management Sciences at Stellenbosch University, Stellenbosch, South Africa. <stan@sun.ac.za>

Andreas Freytag is Professor of Economics and Chair of Economic Policy at Friedrich-Schiller University in Jena, Germany, and Honorary Professor at the University of Stellenbosch. <a.freytag@wiwi.uni-jena.de>

Willem Boshoff is Associate Professor of Economics at Stellenbosch University. <wimpie2@sun.ac.za>

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the United Kingdom had experienced its first bank run in 150 years and the United States was in an economic downswing. Worse was to come. Shortly thereafter, the financial sector in the United States and then in Europe plunged into the deepest crisis of its kind since the 1930s, pulling economies into deep recession on both sides of the Atlantic and spreading economic dislocation to South America, Asia, and Africa. By 2009, it was clear that this was the worst economic crisis, internationally, since the Great Depression of the 1930s.¹

Deliberate policy action followed on an unprecedented scale, with both conventional policy tools, such as interest rate policy and fiscal expansion, as well as highly unusual and controversial balance-sheet policies by large central banks. This essay is concerned with the period of economic recovery after the crisis. More specifically, of interest are the possible connections between economic recovery, the policy decisions that were taken to encourage it, and the political environment in which those decisions were taken.

Interest in these issues intensified due to the renewed discussion about the virtues of capitalism and democracy in the wake of the crisis. In particular, the observation that some nondemocratic countries apparently were affected less severely than mature democracies leads to the uncomfortable question: Are democracies really best equipped to face economic disruption and return their economies to a sustained high growth path, or do autocratic regimes have the advantage of more effective policy tools due to fewer political restrictions? Of related concern are the political consequences of such a deep economic crisis that raise the question of whether the crisis encouraged the politics of intervention or liberation.

These questions lie beyond the scope of one discipline only and so the related work done within the Transformation Research Unit (TRU) project considers them from a number of other methodological angles. The aim of this essay is to set the stage for the investigation by quantifying the economic aspects of the recovery after the international financial crisis. The essay also explains the theoretical channels by which the crisis was transmitted internationally. This theoretical analysis is a first step toward studying the crisis management ability of different political regimes. The essay also presents indicators for the severity and duration of the crisis as well as the speed of recovery. Finally, it provides an empirical analysis of policy actions and outcomes during the slow recovery since 2009.

Severity of the Crisis and Speed of Recovery—Appropriate Indicators

Economists have studied business cycles since the nineteenth century by identifying separate phases in the apparently recurrent expansions and

¹ Garry B. Gorton and Andrew Metrick, “Getting Up to Speed on the Financial Crisis: A One-Weekend-Reader’s Guide,” *Journal of Economic Literature* 50, no. 1 (2013): 128-150.

contractions in the economic prosperity of industrialized economies. Though the experience of these recurrent cycles is widely felt, a precise identification of the so-called business cycles can be done only by imposing an analytical framework on the data. In the poetic words of the seminal modern authors in this literature, the business cycle can “be seen through a cloud of witnesses only by the eye of the mind.”²

We follow the analytical tradition of Burns and Mitchell in our identification strategy for the economic cycle and also in recognizing a segment of “recovery” as part of the more general phase of economic expansion. A primary output of this essay is a database of the economic dimensions of the recovery since the international financial crisis in a large number of countries. This ties our investigation to the international literature on business cycle recoveries, and especially to the literature on recoveries after severe financial crises.

Methodologically, the literature on business cycle recoveries divides into an approach that conceptualizes a recovery in terms of duration versus an approach that uses the level (or trend) of output to identify recovery. Examples of the duration-based approach include Balke and Wayne,³ Howard, Martin, and Wilson,⁴ and Morley and Piger.⁵ A duration-based approach would not be appropriate for this essay though, especially since the goal is to create a large cross-sectional database in which there is little reason to expect similar periodicity among the various countries. Instead, it is the level- or trend-based literature that is followed here, in the footsteps of, for example, Papell and Prodan⁶ and Reinhart and Rogoff.⁷ Like Reinhart and Rogoff,⁸ we define a recovery as complete once the economy has reached the pre-crisis level of real economic output.

The cross-country sample used in our study includes the thirty-eight countries listed in table 1. This sample is comprised of both developed and emerging market economies from the Americas, Europe, Asia, and Africa. The International Financial Statistics (IFS) database was used as the the main data

² Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles* (New York: National Bureau of Economic Research, 1946), 12.

³ Nathan Balke and Mark A. Wynne, “Recessions and Recoveries in Real Business Cycle Models,” *Economic Inquiry* (October 23, 1995): 640-663.

⁴ Greg Howard, Robert Martin, and Beth Ann Wilson, *Are Recoveries from Banking and Financial Crises Really So Different?* International Finance Discussion Papers, no. 1037 (Washington, DC: Board of the Federal Reserve System, 2011).

⁵ James Morley and Jeremy Piger, “The Asymmetric Business Cycle,” *Review of Economics and Statistics* 94, no. 1 (2014): 208-221.

⁶ David Papell and Ruxandra Prodan, “*The Statistical Behaviour of GDP after the Financial Crisis and Severe Recessions*,” paper prepared for the Federal Reserve Bank of Boston conference on “Long-Term Effects of the Great Recession,” Boston, MA, October 18-19, 2011.

⁷ Carmen Reinhart and Kenneth Rogoff, “Recovery from Financial Crises: Evidence from 100 Episodes,” *American Economic Review* 104, no. 5 (2014): 5-50.

⁸ *Ibid.*

source, with quarterly data until the third quarter of 2014. The IFS dataset determined the sample size for the variables shown in tables 1, 2, and 3.

In the tradition of Burns and Mitchell,⁹ the first step in business cycle analysis is to identify successive periods of economic expansion and contraction. Business cycle expansion ends with a peak in economic activity, and contraction, with a trough. To identify these peaks and troughs in economic activity, Burns and Mitchell¹⁰ developed data-rich methodology in the absence of reliable data on total production (or gross domestic product—GDP). Reliable GDP data have since become available and we use the GDP-based dating algorithm of Bry and Boschan,¹¹ as suggested by Harding and Pagan in various recent papers.¹² Table 1 shows the start of the recession (the peak in economic activity) associated with the international financial crisis using this method, as well as the subsequent trough that ended the recession for each country in the sample.

Figure 1 below shows the distribution of real GDP across all thirty-eight countries prior to and following their peaks in economic activity. While the onset of recession differs among the countries in table 1, they are superimposed in figure 1 to start on the same abstract data “peak.” To the left of the peak, figure 1 shows the level of real GDP in the four quarters preceding the onset of recession, while the first twenty-four quarters (six years) of the recession and the subsequent recovery for each country follows to the right.

A number of metrics help the analyst to measure and compare the intensity of the recession and the subsequent recovery. Specifically, we calculated the following measurements: the first variable is the *depth of recession*, which measures the peak to trough decline in real GDP as a percentage of peak real GDP. The second variable is the steepness of recession, which is the ratio of the *depth of recession* to the *duration of the downswing*. Following Sichel,¹³ Kannan, Scott, and Terrones,¹⁴ as well as Hall and McDermott,¹⁵ we define

⁹ Burns and Mitchell, *Measuring Business Cycles*.

¹⁰ Ibid.

¹¹ Gerhard Bry and Charlotte Boschan, *Cyclical Analysis of Time Series: Selected Procedures and Computer Programmes* (New York: National Bureau of Economic Research, 1971).

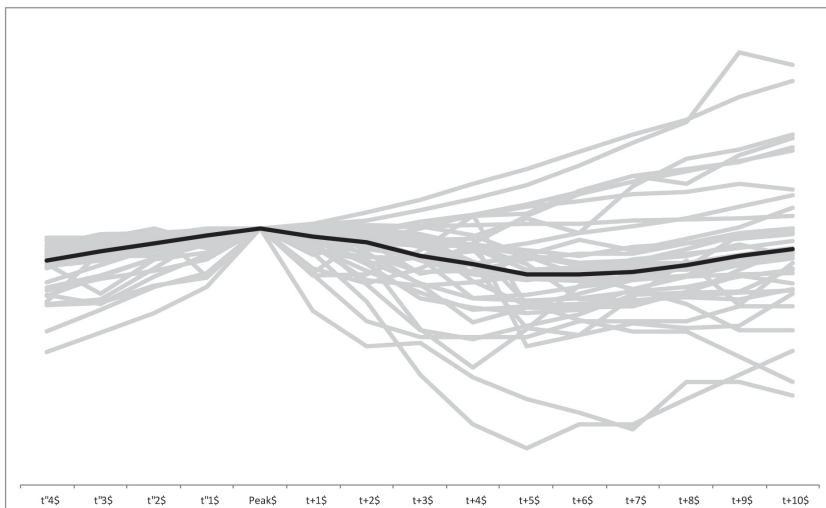
¹² Don Harding and Adrian Pagan, *Extracting, Analysing and Using Cyclical Information* (Melbourne: Melbourne Institute of Applied Economics and Social Research, 2001), and Don Harding and Adrian Pagan, “A Comparison of Two Business Cycle Dating Methods,” *Journal of Economic Dynamics and Control* 27 (2002): 90-1681.

¹³ Daniel E. Sichel, “Inventories and the Three Phases of the Business Cycle,” *Journal of Business and Economic Statistics* 12, no. 3 (1994): 77-269.

¹⁴ Prakash Kannan, Alasdair Scott, and Marco E. Terrones, “From Recession to Recovery: How Soon and How Strong,” in *World Economic Outlook April 2009* (Washington, DC: International Monetary Fund, 2009).

¹⁵ Viv B. Hall and John C. McDermott, “Recessions and Recoveries in New Zealand’s Post-Second World War Business Cycles,” Discussion Paper 2014/02 (Wellington: Reserve Bank of New Zealand, 2014).

Figure 1. The Cross-Country Distribution of Real GDP during and after the International Financial Crisis



Note: The dark line shows the sample median for each quarter.

the *duration to recovery* as the duration (measured in years) until real GDP reaches the level attained prior to the onset of the crisis (i.e., until a country's real GDP crosses the dotted line in figure 1). Adding the *depth of recession* to the *duration to recovery* yields Reinhart and Rogoff's¹⁶ *severity index* for recessions. To measure the strength of the expansionary phase following the crisis, we calculated both the *height* of the recovery (by 2014 Q3) and the steepness of the recovery. The height and steepness of the expansion are calculated symmetrically to the same measurements of the recession.

Finally, we calculated the implied output gap for each quarter since the onset of the recession as the difference between actual GDP and trend GDP. The trend has been calculated as the path of real GDP, which follows the economy's long-run real growth rate instead of the observed recession. This output gap yields two measures, namely, the *cumulative output loss until 2014Q3*, measured as the sum of output gaps since the start of the crisis, and the *output gap in 2014Q3*, which is measured as the gap between actual and potential real GDP in 2014Q3.

Table 2 shows these real output-related measurements for the cross-country dataset. The cross-country data and the summary statistics in the final two rows reveal that the international financial crisis, indeed, was a very severe economic crisis, which reduced the median real GDP of the sample with more than

¹⁶ Reinhart and Rogoff, "Recovery from Financial Crises."

Table 1. Cross-Country Sample with Business Cycle Turning

Country	Peak	Trough	Country	Peak	Trough	Country	Peak	Trough	Country	Peak	Trough	
	<i>Americas</i>											
Brazil	2008 Q3	2009 Q1	Denmark	2008 Q2	2009 Q2	Poland	2008 Q1	2009 Q2	Asia			
Canada	2008 Q3	2009 Q2	Estonia	2008 Q2	2009 Q3	Portugal	2007 Q4	2012 Q4	India	2007 Q4	2009 Q1	
Chile	2008 Q3	2009 Q1	Finland	2007 Q4	2009 Q2	Russia	2008 Q2	2009 Q2	Indonesia	2008 Q3	2009 Q2	
Colombia	2008 Q3	2010 Q3	France	2008 Q1	2009 Q2	Slovak Rep.	2007 Q4	2009 Q1	Japan	2008 Q1	2009 Q2	
Mexico	2007 Q4	2009 Q1	Germany	2008 Q1	2009 Q1	Slovenia	2008 Q3	2009 Q2	South Korea	2008 Q3	2009 Q1	
USA	2007 Q4	2009 Q2	Greece	2008 Q3	2013 Q4	Spain	2008 Q2	2013 Q2	Africa			
	<i>Europe</i>											
Austria	2008 Q1	2009 Q2	Hungary	2008 Q2	2009 Q3	Sweden	2007 Q4	2009 Q3	South Africa	2008 Q3	2009 Q2	
Belgium	2008 Q2	2009 Q1	Iceland	2007 Q4	2010 Q2	Switzerland	2008 Q3	2009 Q2	Australasia			
Czech Rep.	2008 Q3	2009 Q2	Italy	2008 Q3	2009 Q2	Turkey	2008 Q1	2009 Q1	Australia	2008 Q3	2011 Q2	
			Netherlands	2008 Q1	2009 Q2	UK	2008 Q1	2009 Q2	New Zealand	2007 Q3	2009 Q1	
			Norway	2007 Q4	2009 Q2	Ukraine	2008 Q1	2009 Q4				

5 percent of GDP over a very short period of time. This steep decline reflects that the crisis was driven by financial problems. However, the international financial crisis was not exceptionally severe in comparison with Reinhart and Rogoff's¹⁷ sample of one hundred financial crises since the 1850s. This is in large part due to the many severe financial crises prior to the Great Depression, and their comparative scarcity since. The severity index in the final column also shows that the median severity of the recession and recovery period was smaller compared with the median of Reinhart and Rogoff's historical sample.

Of the thirty-eight countries in the sample, twenty-five experienced a recovery as defined above (i.e., real GDP reached at least the level it had attained prior to the crisis), though the path of real output was less steep in the positive direction compared with the pace of decline during the recessions. The thirteen countries that did not complete a recovery by the third quarter of 2014 were all European. This reveals the particularly severe and protracted nature of the crises on that continent.

In addition to the metrics with respect to real output, we also calculated a range of metrics about alternative indicators of economic activity. A second proxy for economic activity is industrial production, a highly procyclical variable in modern economies. Here, we were interested in establishing the *depth of industrial production decline*, which is measured as the peak to trough decline in industrial production, and then identifying the *industrial growth ratio*, which can be measured as the ratio of the average industrial production growth rate since the trough, relative to the long-run average growth rate in the particular country's industrial production.

The labor-market consequences of a recession are serious from both welfare and political perspectives. Unemployment typically reacts somewhat sluggishly—due to labor-market regulation and specific investment on the side of the employers—but will increase during a recession. We examined the *rise in unemployment* from peak to trough as well as the *unemployment recovery rate*, measured as the ratio of the average unemployment rate since the trough to the long-run average rate.

Prior to and during a recession, both business confidence and the utilization of the capital stock decline, which discourages new investment. We measure investment decline as the decline in quarterly investment ratio (to GDP) between peak and trough. We also calculate the investment ratio, measured as the ratio of investment since the trough relative to the long-run average ratio.

The global aspects of the international financial crisis were particularly severe. While the Great Depression is notorious for the associated contraction in international trade, the international financial crisis saw an even worse contraction in global trade.¹⁸ To quantify this international component, we

¹⁷ Ibid.

¹⁸ Miguel Almunia et al., "From Great Depression to Great Credit Crisis: Similarities, Differences and Lessons," NBER Working Paper, 1552 (Cambridge, MA: National Bureau of Economic Research, 2009), 2.

Table 2. Cross-Country Measurements with Respect to the Recession and Recovery in Real Output

Country	Percentage change		Percentage points		Recession steepness	Expansion steepness	Recovery attained?	Duration in years		Severity index
	Recession depth	Expansion height	Cumulative output loss	Output gap 2014Q3				Recession duration	Time till recovery	
Brazil	-5,40	18,80	63,8	-5,9	-2,70	1,04	Yes	0,5	6,00	6,90
Canada	-4,19	14,92	114,5	-4,5	-1,40	0,68	Yes	0,75	10,00	6,69
Chile	-2,83	25,83	81,7	-5,6	-1,41	1,43	Yes	0,5	7,00	4,58
Colombia	4,20	21,91	44,1	-2,5	0,53	1,46	Yes	2	4,00	-3,20
Mexico	-8,33	16,46	197,8	-4,3	-1,67	1,37	Yes	1,25	13,00	11,58
U.S.A.	-4,24	12,89	190,2	-8,3	-0,71	0,59	Yes	1,5	16,00	8,24
Australia	4,09	10,76	67,6	-4,2	0,41	0,77	Yes	2,5	2,00	-3,59
India	0,34	40,32	61,3	-1,9	0,07	2,24	Yes	1,25	2,00	0,16
Indonesia	2,52	28,63	-10,5	1,0	0,84	1,59	Yes	0,75	2,00	-2,02
Japan	-7,60	4,39	172,8	-8,3	-1,52	0,88	Yes	1,25	23,00	13,35
New Zealand	-3,32	14,71	98,1	-7,7	-0,66	0,67	Yes	1,25	9,00	5,57
South Korea	-3,24	23,98	184,9	-13,1	-1,62	1,04	Yes	0,5	5,00	4,49
Austria	-5,80	6,15	180,4	-9,9	-1,16	0,77	Yes	1,25	13,00	9,05
Belgium	-4,25	5,20	545,4	-37,0	-1,42	0,43	Yes	0,75	12,00	7,25
Czech Rep.	-5,79	4,80	217,1	-12,8	-1,93	0,53	No	0,75	25,00	12,04
Denmark	-6,37	3,16	192,0	-10,3	-1,59	0,40	No	1	26,00	12,87
Estonia	-20,45	22,86	500,5	-22,8	-4,09	1,09	No	1,25	26,00	26,95

Table 2. Cross-Country Measurements with Respect to the Recession and Recovery in Real Output (continued)

Country	Percentage change		Percentage points		Recession steepness	Expansion steepness	Recovery attained?	Duration in years		Severity index
	Recession depth	Expansion height	Cumulative output loss	Output gap 2014Q3				Recession duration	Time till recovery	
Finland	-9,60	6,42	352,4	-20,6	-1,60	0,64	No	1,5	28,00	16,60
France	-4,01	5,57	150,5	-8,5	-0,80	0,25	Yes	1,25	13,00	7,26
Germany	-6,80	10,66	76,9	-3,6	-1,36	0,48	Yes	1,25	13,00	10,05
Greece	-26,12	NA	392,5	-24,8	-1,24	0,43	No	5,25	25,00	32,37
Hungary	-7,76	2,96	291,8	-13,8	-1,55	0,33	No	1,25	26,00	14,26
Iceland	-10,25	9,98	428,8	-20,7	-1,14	0,53	No	2,25	28,00	17,25
Italy	-7,57	3,03	195,0	-11,6	-1,51	0,38	No	1,25	27,00	14,32
Netherlands	-3,27	2,45	203,3	-12,7	-0,65	0,35	No	1,25	27,00	10,02
Norway	-2,74	4,86	219,4	-11,0	-0,46	0,37	Yes	1,5	18,00	7,24
Poland	3,21	11,19	82,1	-6,3	0,54	1,02	Yes	1,5	2,00	-2,71
Portugal	-8,95	1,44	223,5	-14,3	-0,47	0,21	No	4,75	27,00	15,70
Russia	-9,36	15,49	320,5	-18,0	-2,34	0,70	Yes	1	15,00	13,11
Slovakia	-8,19	16,56	312,8	-16,3	-1,64	0,72	Yes	1,25	15,00	11,94
Slovenia	-10,45	1,67	353,4	-20,2	-2,61	0,08	No	1	26,00	16,95
Spain	-8,05	1,77	245,5	-14,6	-0,40	0,30	No	5	26,00	14,55
Sweden	-7,23	12,82	242,8	-11,8	-1,03	0,61	Yes	1,75	12,00	10,23
Switzerland	-3,38	11,11	81,3	-2,9	-1,13	0,50	Yes	0,75	9,00	5,63

Table 2. Cross-Country Measurements with Respect to the Recession and Recovery in Real Output (continued)

Country	Percentage change		Percentage points		Recession steepness	Expansion steepness	Recovery attained?	Duration in years		Severity index
	Recession depth	Expansion height	Cumulative output loss	Output gap 2014Q3				Recession duration	Time till recovery	
Turkey	-13,31	38,16	175,8	-6,6	-3,33	1,66	Yes	1	11,00	16,06
U.K.	-6,04	9,68	216,3	-9,1	-1,21	0,44	Yes	1.25	23,00	11,79
Ukraine	-19,60	6,59	285,0	-25,7	-2,80	0,82	No	1.75	27,00	26,35
South Africa	-2,73	13,38	77,2	-4,6	-0,91	0,64	Yes	0.75	8,00	4,73
Median	-5.9	10.8	193.5	-8.5	-1.3	0.6		1.25	3.5	10.14
Median of Reinhart and Rogoff and Rogoff sample *	-8.8							2	6.5	15.8

Source: Carmen Reinhart and Kenneth Rogoff, "Recovery from Financial Crises: Evidence from 100 Episodes," *American Economic Review* 104, no. 5 (2014): 50-55.

* Sample of one hundred financial crises from 1857 to 2013 in *ibid.*

present two calculations for each country: *export decline* measures the decline in quarterly export ratio (to GDP) between peak and trough, and the *export ratio* reports the ratio of exports since the trough relative to the ratio since 1990.

Table 3 shows the cross-country measurements for industrial production, unemployment, investment, and exports.

The results reported in table 3 confirm the impression of a severe decline in industrial production during the crisis and only a partial recovery until 2014. The median growth ratio for industrial production remains far below 100 for this sample of developed and emerging market economies, indicating that they have not returned to the growth rates of industrial production preceding the crisis. Similar results emerged for investments, but with a less severe median decline and a growth ratio closer to the neutral level of 100.

Unemployment increased sharply in the worst affected countries, especially in Europe, though the median increase was only modest and the median unemployment rate in most of the sample has returned close to precrisis levels. Finally, the sharp decline in exports during the crisis reversed rapidly and, since the start of their respective recoveries, the countries in the sample have, on average, experienced stronger export growth compared with the years preceding the crisis.

Finally, we measured policy responses to the crisis. Governments and monetary authorities in all the affected countries implemented policy decisions to mitigate the crisis, starting in 2007. Monetary authorities not only reduced interest rates dramatically (in some countries to the zero lower bound) but also used their balance sheets to intervene in asset markets in a way not seen in recent decades.¹⁹ Meanwhile, the fiscal authorities used both their tax and expenditure powers to support their economies as well as financial policy to prop up their financial sectors.²⁰

Government expenditure is an important indication of the nature of the recession as well as the political response to it. We report two measures with respect to government expenditure: the *cumulative stimulus package*, measuring the cumulative rise in government expenditure during the recession (in percent of GDP), and the *government consumption ratio*, measuring the average ratio of government consumption after the trough relative to the long-run average. A higher ratio suggests a more activist policy response to the crisis.

We also considered inflation. In a recession, there is a lower aggregate demand, which depresses inflation in the absence of other factors. A demand-side boost to the economy from fiscal and/or monetary policy is expected to

¹⁹ Claudio Borio and Piti Disyatat, “*Unconventional Monetary Policies: An Appraisal*,” BIS Working Papers, No. 292 (Basel, Switzerland: Bank for International Settlements, 2009).

²⁰ Gorton and Metrick, “Getting Up to Speed on the Financial Crisis.”

Table 3. Measurements with Respect to Industrial Production, Unemployment, Investment, and Exports

Country	Industrial production		Unemployment		Investment		Exports	
	Decline (Percent)	Growth ratio	Rise (Percent)	Growth ratio	Decline (Percent)	Growth ratio	Decline (Percent)	Growth ratio
Brazil	-15.2	54.0	0.6	69.3	-2.7	106.5	-1.0	102.2
Canada	-4.3	78.8	2.3	95.4	-1.3	109.9	-7.9	87.2
Chile	-5.9	35.0	0.8	99.7	-2.7	103.5	-4.5	93.1
Colombia	N/A	N/A	0.6	86.0	-2.5	115.8	-1.2	107.4
Mexico	-6.9	36.1	1.8	137.9	-0.7	107.4	-1.7	125.6
U.S.A.	-16.3	90.2	4.6	136.0	-3.2	89.7	-1.4	119.9
Australia	0.0	142.6	1.4	81.5	-1.7	106.4	-2.0	107.8
India	-2.4	51.0	N/A	N/A	-3.4	111.4	0.5	130.2
Indonesia	-0.1	98.3	-0.4	82.9	-0.3	114.1	-5.5	86.4
Japan	-27.4	N/A	1.2	106.7	-1.8	84.5	-6.0	122.4
New Zealand	-12.7	-30.4	1.6	98.5	-2.8	97.1	1.3	98.3
South Korea	-14.3	62.6	0.7	97.1	-2.8	91.8	0.5	142.4
Austria	-15.2	37.8	0.4	109.1	-0.3	93.9	-9.6	110.6
Belgium	-12.4	40.4	0.6	103.4	-0.8	102.0	-13.5	109.5
Czech Rep.	-16.3	109.3	1.2	96.2	-0.8	90.1	-4.5	127.5
Denmark	-16.2	-131.9	1.4	127.3	-3.1	89.8	-8.3	112.6
Estonia	-28.5	N/A	10.4	131.1	-8.1	87.0	-4.3	118.9
Finland	-20.7	-116.1	0.9	96.0	-1.1	97.3	-8.6	104.5
France	-18.1	N/A	2.1	103.5	-1.7	101.1	-4.0	101.0
Germany	-21.8	108.8	0.0	78.3	-1.3	97.4	-7.2	113.8

Table 3. Measurements with Respect to Industrial Production, Unemployment, Investment, and Exports (continued)

Country	Industrial production		Unemployment		Investment		Exports	
	Decline (Percent)	Growth ratio	Rise (Percent)	Growth ratio	Decline (Percent)	Growth ratio	Decline (Percent)	Growth ratio
Greece	-24.1	N/A	-3.4	N/A	-10.8	51.9	8.4	156.2
Hungary	-20.5	86.9	2.3	121.3	-0.4	88.6	-6.1	127.9
Iceland	62.5	64.0	3.9	135.2	-18.2	69.6	26.0	136.2
Italy	-24.0	N/A	0.3	103.8	-1.5	93.8	-5.9	104.4
Netherlands	-7.7	-10.5	0.1	118.1	-0.2	91.5	-10.2	117.9
Norway	-4.5	-338.2	0.4	95.3	-0.2	102.5	-5.9	98.3
Poland	-5.8	103.8	-0.2	68.0	-1.2	99.9	-1.9	111.5
Portugal	-17.1	N/A	4.6	177.3	-8.0	66.1	5.6	132.1
Russia	-14.2	162.7	2.8	79.3	-0.4	103.6	-4.6	93.4
Slovakia	-16.7	168.8	-0.2	89.0	-0.7	81.0	-19.2	122.4
Slovenia	-23.3	-41.1	0.8	122.3	-6.1	83.7	-11.8	119.7
Spain	-25.2	N/A	7.9	171.0	-11.6	74.7	6.1	121.1
Sweden	-21.2	-78.7	2.6	123.7	-2.0	103.6	-4.1	106.3
Switzerland	2.6	74.6	1.1	95.3	-1.6	93.3	-9.6	125.5
Turkey	-21.4	89.4	1.2	105.2	-3.2	105.5	1.7	119.8
U.K.	-10.6	N/A	2.5	112.0	-2.2	86.7	0.4	111.7
Ukraine	-19.0	N/A	2.3	93.2	-0.6	83.2	13.1	99.1
South Africa	-15.7	-36.9	0.4	98.0	-1.6	111.6	-9.9	108.8
Median	-15.7	58.3	1.2	101.5	-1.7	95.5	-4.4	112.1

raise inflation. The inflation ratio measures the ratio of average inflation after the trough to the average inflation since 1990, and indicates the extent to which accommodating monetary policy has been associated with observed inflation. Table 4 reports these policy-related measures.

The data in table 4 confirm the impression of a large fiscal stimulus during the crisis, with a median of 5 percent of GDP in terms of government consumption over a short period. The government consumption ratio, with a median of 104.4, shows that the rise in government consumption has been sustained since the start of the recovery in most countries in the sample. While the substantial monetary policy intervention at the time of the financial crisis helped to stabilize the interbank market and halt the modern run on banks,²¹ the impact on interest rates has been more ambiguous.²² Table 4 also suggests there have been few inflationary consequences to date as a result of a highly accommodating monetary policy.

Before we connect these policy measurements empirically with the measurements of the real economy, it is important to form a theoretical expectation of the possible transmission mechanisms of the crisis. Such an exercise makes it possible to identify variables to be used in an analysis of the question of whether democracies are better equipped to deal with a crisis than dictatorships or hybrid systems.

The Transmission Mechanism of the Crisis

The worldwide financial and economic crisis²³ started in the United States and hit most Organisation for Economic Co-operation and Development (OECD) countries pretty soon after it started in 2007. In 2008, after the Lehman crash, the crisis deepened in the OECD. By contrast, emerging economies (EMEs) suffered a delayed response to the crisis, with a number of EME's not entering recession until 2009.

Figure 2 aims to explain the complexity of the transition mechanisms of a crisis from industrialized countries to EMEs, dependent on the EMEs' characteristics. The upper part of figure 2 shows how the problems in

²¹ Olivier J. Blanchard, "The Crisis: Basic Mechanisms, and Appropriate Policies," IMF Working Paper, WP/09/80 (Washington, DC: International Monetary Fund, 2009).

²² Gorton and Metrick, "Getting Up to Speed on the Financial Crisis."

²³ We distinguish the international financial and economic crisis starting in 2007 from the ongoing Eurocrisis, as their roots are different. In the first instance, it was the loose U. S. monetary policy, subsidy of homeowners beyond rationality, and the attempts of banks to sell subprime loans as first-class. The latter had its origin in unsustainable fiscal policies in almost all Eurozone member countries. Needless to say, the first crisis fuelled the second one. When we talk about "the crisis," we always mean the first crisis. See Stan du Plessis, "Collapse: The Story of the International Financial Crisis, Its Causes and Policy Consequences," in *Democracy under Stress: The Global Crisis and Beyond*, ed. Ursula van Beek and Edmund Wnuk-Lipinski (Farmington Hills, MI: Barbara Budrich Publishers, 2012), 25.

Table 4. Cross-Country Measurements with Respect to
Fiscal and Monetary Policies

Country	Fiscal policy		Monetary policy
	Stimulus (Percent of GDP)	Government consumption	Inflation ratio
Brazil	2.6	104.8	83.9
Canada	4.5	103.8	74.5
Chile	1.6	106.8	34.0
Colombia	10.6	97.9	22.9
Mexico	2.3	105.1	37.1
U.S.A.	4.1	104.4	64.1
Australia	6.3	100.2	92.1
India	5.4	100.4	139.1
Indonesia	1.3	113.5	49.4
Japan	2.8	117.5	
New Zealand	6.9	108.2	87.6
South Korea	3.3	117.6	61.4
Austria	6.5	103.3	100.4
Belgium	3.7	107.7	88.4
Czech Rep.	0.0	99.8	47.6
Denmark	7.7	107.7	84.2
Estonia	8.8	106.0	62.8
Finland	9.8	109.5	112.3
France	2.9	104.0	71.4
Germany	3.7	102.3	74.2
Greece	48.6	102.3	
Hungary	2.3	96.5	46.6
Iceland	17.2	104.4	101.5
Italy	4.6	103.2	56.7
Netherlands	3.5	111.7	82.1
Norway	7.0	102.8	89.5
Poland	5.0	99.5	57.1
Portugal	13.1	97.0	6.9
Russia	10.4	104.9	75.7
Slovakia	6.0	96.8	38.6
Slovenia	6.0	106.8	38.7
Spain	35.4	107.6	18.9
Sweden	9.1	101.2	75.2
Switzerland	1.4	98.0	-5.9
Turkey	4.2	127.8	27.1
U.K.	3.5	108.5	107.8
Ukraine			
South Africa	5.5	110.0	73.0
Median	5	104.4	71.4

industrialized countries (rise in unemployment, fall in aggregate demand, fall in prices on credit and stock markets, increase of money supply, and rise in public debt) affect the EMEs. The broad outcomes were as follows: international trade was affected negatively, resource prices fell, employment decreased, capital inflows were reduced, and inflation declined in the emerging world. The strongest influence on EMEs has been the fall in aggregate demand and the rise in public debt in the OECD (bold arrows in the upper part of figure 2). The net effects are shown in the column “Effects on EMEs.” These transmission mechanisms are relatively uncontroversial. However, the second part is more revealing as it considers the amplifying (+) or dampening (-) effects of local factors in the individual EMEs. In other words: What drives the depth of the crisis in individual countries? Here, we can see that both macroeconomic as well as institutional variables play a role. Let us briefly discuss the macro variables.

If an EME is deeply integrated in the world economy, the negative effects of the crisis increase the adverse impact of the decline in international trade (thus a +, for an amplified impact). By contrast, a less integrated country will suffer less from lowered international trade (thus a -, for a dampened impact). The same directions can be seen with respect to the effects on employment, capital inflows, and inflation. The effect on resource prices is independent from the country’s integration in the global economy.

Next on the list is the extent of market competition. Highly competitive markets dampen the effects of the crisis, except for inflation, where the disinflationary impact is amplified, whereas countries with less market competition and many oligopolies and monopolies suffer even more from the crisis.

High public debt makes the country more vulnerable to the crisis, whereas low public debt can dampen the effects, as the country has more potential to buffer the effects with the help of public spending.

As we know, the above variables are not necessarily correlated with a particular political regime. This is why in figure 2 we use some institutional variables that may be interpreted as proxies for the degree of democratization. We have concentrated specifically on those institutions that impact economic welfare. These are corruption and vested interests,²⁴ as well as the maturity of financial markets. The level of corruption is the most relevant among these. Furthermore, corruption can be measured and it also can be used as a proxy for other institutional variables, since corruption is highly correlated with a number of other institutional or governance indicators. One example is the World Bank indicator, “Control of Corruption,” which is correlated with all other World Bank indicators, which include “Voice and Accountability,”

²⁴ Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, & Social Rigidities* (New Haven, CT: Yale University Press, 1982).

“Political Stability and Absence of Violence,” “Government Effectiveness,” “Regulatory Quality,” and “Rule of Law.”²⁵

In figure 2, high corruption amplifies the negative and dampens the positive effects of the crisis, respectively, because it undermines the effectiveness of all policies, including economic policymaking. Strong lobbies have a similar effect; they are able to stop reforms that mitigate the crisis effects but also reduce rents taken by vested interests. A mature financial market will very likely dampen the negative effects of the crisis, but not very much.

A final word is justified with respect to natural resources. There exists vast literature showing that the abundance of natural resources is a curse rather than a blessing in many instances, most of which are characterized by a high degree of corruption.²⁶ The Democratic Republic of Congo may serve as an example, here. The empirical analysis in this project should control for natural resources, since their existence cannot be influenced by politics.

Taken together, these theoretical considerations suggest that good institutions can dampen the effects of a crisis in a country with a quality democracy, as confirmed by the rich literature on institutions and economic welfare. However, on the basis of our evidence alone, we cannot conclude that poor institutions and high corruption imply a low degree of democracy. Thus, the theoretical analysis of institutions cannot replace the necessity to use the correlated political indicators.

Quantifying the Impact of Policy

The theoretical section described the many amplifying and dampening effects that might operate in any particular country as a crisis unfolds. In this discussion, the nature and quality of the institutional structure emerged as an important factor that determined the way the recent crisis evolved in each country and in the potential policy impact. In the following section, we offer two preliminary empirical results that tie together the empirical measurements of the crisis and recovery with the theory.

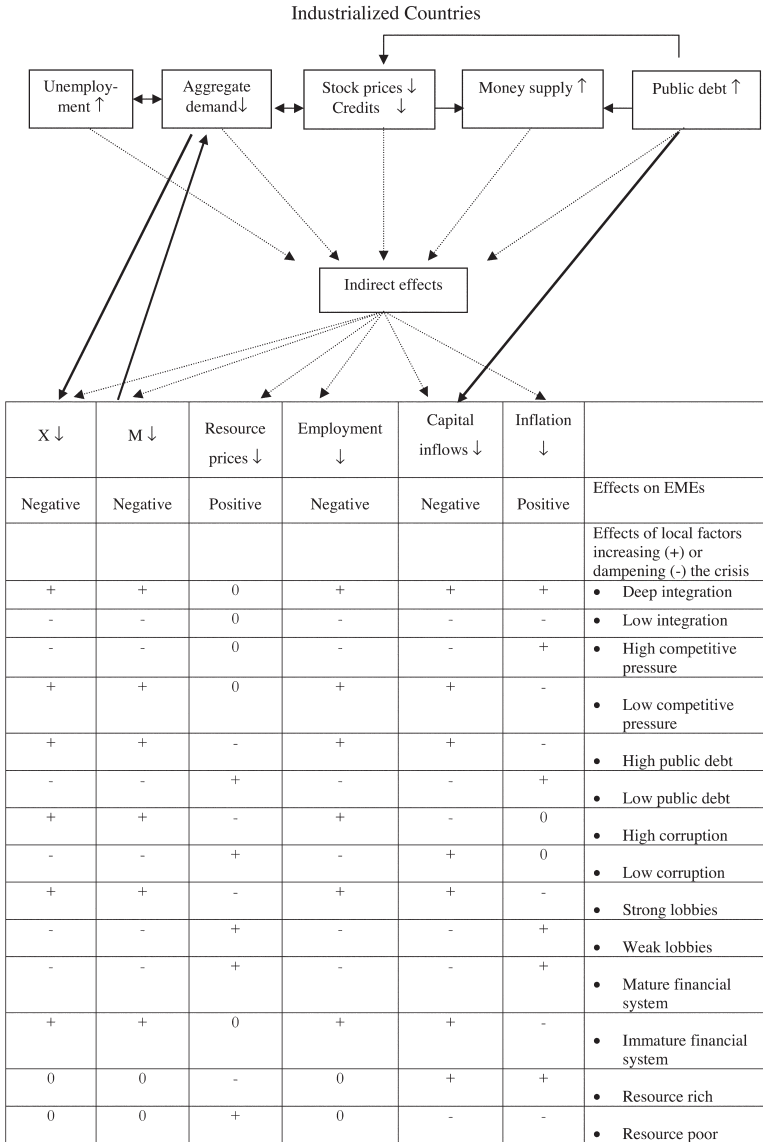
Figure 3 is a cross plot, for our cross-country sample, between the measure of the depth of recession on the x-axis and the degree of fiscal stimulus on the y-axis. There is no indication in figure 3 of any relationship between the depth of recession and fiscal stimulus. This result confirms not just the known uncertainty about a fiscal multiplier (see, for example, Auerbach and Gorodnichenko²⁷) but also it confirms the influence of country-specific institutional and structural features, as explained above.

²⁵ “Worldwide Governance Indicators,” World Bank, <http://info.worldbank.org/governance/wgi/index.asp> (accessed September 17, 2012).

²⁶ Anne D. Boschini, Jan Pettersson, and Jesper Roine, “Resource Curse or Not: A Question of Appropriability,” *Scandinavian Journal of Economics* 109, no. 3 (2007): 593-617.

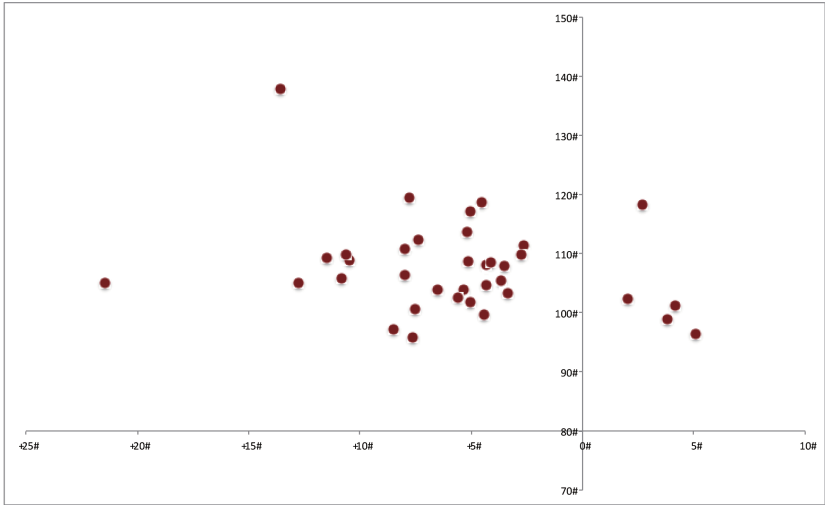
²⁷ Alan J. Auerbach and Yuriy Gorodnichenko, “Measuring the Output Response to Fiscal Policy,” *American Economic Journal: Economic Policy* 4, no. 2 (2013): 1-27.

Figure 2. Transition Mechanisms of the Crisis from Industrialized Countries to Emerging Economies



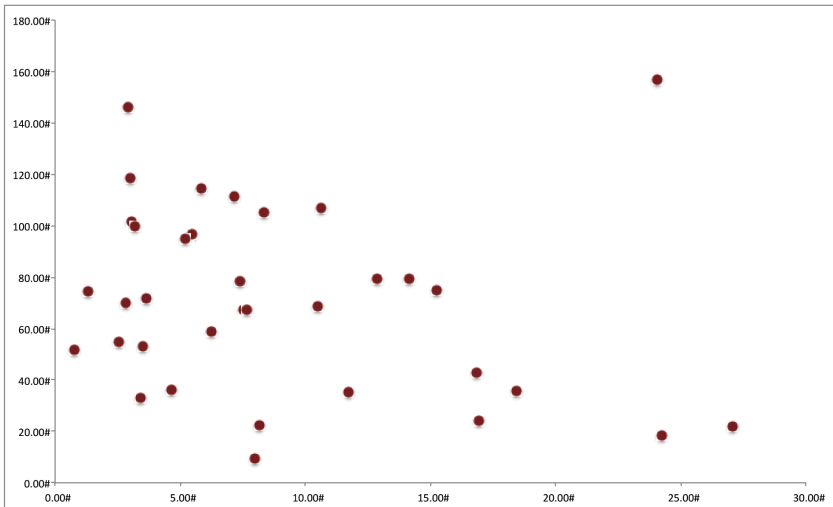
Source: Andreas Freytag, “Schwellenländer in der Weltwirtschaftskrise—Probleme und Reaktionen am Beispiel Südafrikas” [Emerging Economies in the Global Financial and Economic Crisis—Problems and Reactions in South Africa], in *Wirtschaftspolitische Konsequenzen der Finanz- und Wirtschaftskrise* [Economic Policy Consequences of the the Global Financial and Economic Crisis], ed. Theresia Theurl (Berlin: Duncker & Humblot, 2001), 215-241.

Figure 3. Fiscal Stimulus and the Depth of the Recession



Note: The x-axis measures the depth of recession as a percent of peak GDP and the y-axis measures the size of the fiscal stimulus as cumulative change in the government consumption ration from the peak to the rough associated with the crisis and subsequent recession.

Figure 4. Inflation and the Degree of Economic Recovery



Note: The x-axis measures the height of recovery as a percent of trough GDP and the y-axis measures the ratio of inflation since the trough, relative to the long-run inflation rate in the economy.

Monetary policy was used to a far greater extent than fiscal policy during and after the financial crisis. Professional opinion is deeply divided about the impact of, for example, the balance-sheet policies of central banks.²⁸ To the extent that monetary policy was able to provide stimulus for the depressed economies, it would have been a demand stimulus. One way to confirm the success of the demand-side stimulus is to observe whether the subsequent inflation is positively correlated with the height of recovery, as an indication of the role of aggregate demand policy (including monetary policy) in the recovery.

Figure 4 shows that the relationship between inflation and the height of recovery is not positive as would be expected from a successful demand-side policy. On the contrary, the relationship, if anything, is negative, suggesting that almost all cases where inflation was high after the crisis, occurred in countries where the recovery was weak and policy was unsuccessful.

Conclusion

This essay was meant to provide a theoretical framework and database to answer the question of whether democracies are better prepared for curing economic crises than other forms of governance, mainly dictatorships. For this purpose, we developed indicators of the strength and duration of a recession and calculated them for thirty-eight countries in the aftermath of the international financial and economic crisis. One interesting result is that European countries suffered most from the crisis—pointing to the problems already built up before the crisis started, which added to the crisis. Another noteworthy result is that fiscal stimuli did not help much to mitigate the recession caused by the crisis. A similar conclusion can be drawn regarding the use of monetary policy.

Our findings now leave room for the analyses of political indicators as factors that determine the strength and duration of the recession after a crisis, in general, and the international financial crisis, in particular. It will be interesting to learn about the ability of governments under the different constraints posed by an electorate, on the one hand, and by the challenges of dictatorship,²⁹ on the other hand, to solve the crisis and to set a country back on a sustainable growth path.

²⁸ Christopher Martin and Costas Milas, “Quantitative Easing: A Sceptical Survey,” *Oxford Review of Economic Policy* 28, no. 4 (2012): 750-764.

²⁹ Ronald Wintrobe, *The Political Economy of Dictatorship* (Cambridge, UK: Cambridge University Press, 1998).