

Chapter 2: The Impact of Financial and Economic Crises on Economic Freedom

by Jakob de Haan, Jan-Egbert Sturm, Eelco Zandberg

Capitalism, based on greed, private property rights and decentralized decision-making, is both cyclical and subject to bouts of financial manic-depressive illness. There is no economy-wide auctioneer, no enforcer of systemic “transversality conditions” to rule out periodic explosive bubble behavior of asset prices in speculative markets. It’s unfortunate, but we have to live with it. The last time humanity tried to do away with these excesses of capitalism, we got central planning, and we all know now how well that worked.

Willem Buiter, *Lessons from the 2007 Financial Crisis* (2007: 22)

1 Introduction

Capitalism seems to be in its most severe crisis in many decades. Although opinions differ about its causes,¹ according to John Taylor,

government actions and interventions caused, prolonged, and worsened the financial crisis. They caused it by deviating from historical precedents and principles for setting interest rates, which had worked well for 20 years. They prolonged it by misdiagnosing the problems in the bank credit markets and thereby responding inappropriately by focusing on liquidity rather than risk. They made it worse by providing support for certain financial institutions and their creditors but not others in an ad hoc way without a clear and understandable framework. (2009: 27)

A combination of a severe financial crisis and a deep recession has led to new government interventions that have deeply unsettled the balance between markets and states. Various observers even pronounced capitalism dead. However, those who predict capitalism’s demise have to contend with one important historical fact: capitalism has an almost unlimited capacity to reinvent itself. It cannot be a mere coincidence that all prosperous countries are

capitalistic in the sense that they are organized around private property and let markets play a major role in allocating resources (Rodrik, 2009, June 12). Still, it is clear that governments’ reactions to the crises may lead to a decline in the level of economic freedom around the world. In an attempt to maintain financial stability, many governments have nationalized (sometimes substantial) parts of their financial sectors or intervened in other ways that increase the role of the state in the financial sector. Likewise, most governments in the industrialized world turned to expansionary fiscal policies to combat the recession. There is no doubt that these stimulus packages and the support provided to the financial sector will increase the share of government spending in GDP, which in turn will decrease economic freedom.

This chapter analyses the impact of banking crises and serious economic downturns on the level of economic freedom in the world in order to assess what the impact of the current crises on economic freedom might be. In doing so, we face a major problem as the current combination of financial and economic crisis is almost without precedent. That is why we decided to examine the impact of these crises using two, quite different, methodologies.

In the next section, we will analyze the financial crises in Norway and Sweden during the 1990s when these countries went through a severe financial crisis.² The

¹ See chapter 2 in *The EEAG Report on the European Economy 2009* (EEAG-CESifo, 2009) for an in-depth analysis of the financial crisis. In our view, counterproductive housing regulations in the United States played a major role in the onset of the crisis.

² These crises belong to the Big Five crises (excluding the current crisis) as identified by Reinhart and Rogoff (2008); that is, protracted large-scale financial crises that are associated with major declines in economic performance for an extended period.

Nordic experience offers almost a laboratory experiment to examine the impact of a financial crisis on the level of economic freedom. The Nordic governments heavily intervened at the time to support their banking systems. In Norway, for instance, most of the banking system was nationalized. However, as time went by, government's influence on the financial sector in the Nordic countries decreased. Our analysis suggests that during the Nordic banking crises economic freedom hardly changed; if anything, the level of economic freedom increased. Zooming in on sub-indicators of economic freedom, we see that the main impact of the financial crisis on the level of economic freedom operates through government subsidies and transfers.

In section 3, we present our estimates of the impact of large negative output gaps and banking crises on economic freedom. Based on panel estimates in which the change in economic freedom is explained by dummies reflecting large negative output gaps and the occurrence of a banking crises as well as some other control variables, we try to gauge the impact of the current economic and financial crisis on the level of economic freedom. Our results suggest that a banking crisis reduces the level of economic freedom in the short run but, over a longer time, economic freedom tends to increase after a banking crisis. Large negative output gaps reduce (some aspects of) economic freedom. Finally, in section 4 we offer our conclusions.

2 The banking crises in Norway and Sweden of the 1990s

2.1 The Nordic crises

The financial systems in Norway and Sweden, which were dominated by a few, large commercial banks offering wide-ranging financial services that also played an important role in the non-financial sector due to the predominance of debt financing, were liberalized in the 1980s. Before liberalization, there were various interest-rate regulations, quantitative lending restrictions, and capital controls in place, while foreign bank subsidiaries were, until 1984 (Norway) and 1986 (Sweden), not allowed. As a consequence, there was low price competition, while banks had extensive branch networks. Profits of banks were stable, but in Sweden they were low compared to bank profits in other European countries (Drees and Pazarbaşıoğlu, 1998). The financial deregulation and liberalization of capital flows led to a credit-financed surge in

private consumption and investment. In addition, the liberalization coincided with external impulses. Norway, for instance, benefitted from the rise in oil prices in the early 1980s. In the absence of strengthened banking supervision, many banks expanded their lending and risk-taking excessively. In Norway, the ratio of bank loans to GDP increased from 40% in 1984 to 68% in 1988. The surge in lending in Sweden took place somewhat later, reflecting differences in the timing of financial liberalization and macroeconomic conditions. Bank loans as share of GDP increased from 41% in 1984 to 58% in 1990 (Drees and Pazarbaşıoğlu, 1998). Moral hazard, due to (implicit or explicit) unlimited deposit insurance and the acknowledgement by the central banks that no bank would be allowed to fail in case of a crisis, stimulated higher risk-taking by banks that did not sufficiently adjust their internal control systems to the new environment. The credit surge, in turn, contributed to a jump in asset prices, especially real-estate prices. Before the liberalization, banks relied almost exclusively on deposits for funding but, in the course of time, they relied increasingly on (more expensive) money-market and foreign funding (Drees and Pazarbaşıoğlu, 1998).

As monetary policy was not able to stem the credit boom due to its focus on maintaining the stability of the exchange rate, losses from defaulted bank loans began to mount rapidly in the early 1990s after asset prices collapsed and severe recessions set in. While losses on real-estate loans represented a significant part of the problem, other sectors also experienced financial distress when economic growth slowed down.

The Norwegian crisis erupted in the autumn of 1988 when a medium-sized commercial bank, Sunnmørsbanken, was hit by large losses from defaulted loans; Sunnmørsbanken was soon followed by various savings banks. The Commercial Banks' and the Savings Banks' Guarantee Funds (CBGF and SBGF) provided support for the banks in difficulties, while the central bank provided liquidity loans (Honkapohja, 2009). The problems that emerged in the first phase of the crisis (1988–1989) were regarded as mainly due to bad banking and excessive lending by some small and medium-sized banks and were not considered a threat to the solidity of the Norwegian banking sector as a whole. A small commercial bank, Norion bank, was liquidated and depositors received full compensation. However, by late 1990 the private guarantee funds CBGF and SBGF had used most of their resources and in March 1991 the government established, as a short-term facility, the Government Bank Insurance

Fund (GBIF), which provided loans to the private guarantee funds so that they could provide capital injections to ailing banks. In November 1991, the Government Bank Investment Fund was created to manage long-term state investments in financial institutions. Loan losses in 1991 surged to 6% of GDP as more banks encountered financial difficulties (Drees and Pazarbaşıoğlu, 1998). In autumn 1991, Christiania Bank and Fokus Bank (the second and third biggest banks) lost all of their capital, while the biggest bank, Den Norske Bank, lost 90% of its share capital (Honkapohja, 2009). By the end of 1991, the government had become the sole owner or the majority shareholder of all three banks.

The situation of Norwegian banks started to improve rapidly in 1993. After the crisis, the government gradually sold its bank shares. Fokus Bank was privatized in autumn 1995, while Christiania Bank was sold more gradually. It was eventually merged with the pan-Nordic group, Nordea. Similarly, shares in Den Norske Bank were gradually sold, although the government still owns 34% of the bank DnB NOR, which was formed in the merger between Den Norske Bank and Union Bank of Norway. In the end, the Norwegian taxpayer was a net beneficiary because the government's support of the banks has been more than covered from the sale of the nationalized banks (Honkapohja, 2009).

The major Swedish banks were hit by massive credit losses totaling around 7% of GDP in 1992 (Drees and Pazarbaşıoğlu, 1998). These losses threatened to quickly put all but one of the seven major Swedish banks, controlling most of the Swedish market, below the capital requirements of 8% (EEAG-CESifo, 2009). Consequently, governments had to intervene heavily to preserve financial stability. Initially, the crisis was dealt with in an ad-hoc manner but in September 1992 the conservative Swedish government decided to guarantee the debt of the banks. At the time, most banks, representing 90% of all bank assets, incurred heavy credit losses (Honkapohja, 2009). The guarantee was formulated in an explicit and transparent way and received wide support in the parliament, including from the social-democratic opposition. The Bank Support Act of December 1992 explicitly stated that the government should not endeavor to assume ownership of financial institutions. According to the European Economic Advisory Group (2009), the broad political consensus around the unlimited mandate to the government to safeguard the financial system was arguably of key importance for the credibility of the support program. A new agency under the finance ministry, the Bank Support Authority,

was created in 1993 to implement the program. The support program prevented a collapse of the financial system.

The banking crisis in Sweden started with the largest savings bank, Första Sparbanken. The Swedish government provided a lending guarantee to the bank but this was later converted into a loan. Eventually, the bank was merged into the Savings Bank of Sweden together with several other savings banks (Honkapohja, 2009). The second problem bank was Nordbanken, the third largest commercial bank at the time, which was largely owned by the government. The government guaranteed a new share issue and the bank was restructured. An asset-management company, Securum, took over the bad assets, while Nordbanken received in return a capital injection of 1% of GDP. Also Gota Bank, the fourth largest commercial bank, got into difficulties. The government decided to meet all the commitments of Gota Bank but not those of the parent company, which was declared bankrupt. Again, as part of restructuring, non-performing assets, largely in the form of commercial real estate, were put in a separate asset-management company (Retriva, which merged with Securum in December 1995). In 1993, Gota Bank was merged with Nordbanken, retaining the name Nordbanken. Nordbanken has become the most profitable bank in Sweden (Drees and Pazarbaşıoğlu, 1998).

Sweden's main form of assistance consisted of guarantees of banks' liabilities.³ The guarantee did not cover equity capital; in case of financial support by the government, owners generally lost their equity stakes (Drees and Pazarbaşıoğlu, 1998). The budgetary cost of the bank support between 1992 and 1994 was estimated to be about 4% of GDP. Net cost, including the value of shares and dividends from Nordea, Securum, and Retriva, was estimated to be approximately half the gross cost by the European Economic Advisory Group (2009) and even only 0.2% of 1997 GDP by Honkapohja (2009). By 1997, both Securum and Retriva had been dismantled. In the end, 98% of the public support went to two banks, Nordbanken and Gota Bank, and their associated asset-management companies (Drees and Pazarbaşıoğlu, 1998). Nordbanken became part of the pan-Nordic bank, Nordea. The Swedish government still has a significant ownership (19.9% in 2008) in Nordea.

3 Förenings-sparbanken (now Swedbank) received a guarantee from the Bank Support Authority that its capital requirements would be safeguarded. Also the SE-bank started a discussion with the Authority regarding support. However, in the end both banks did not need any direct support but were recapitalized by their owners (EEAG-CESifo, 2009).

2.2 Impact on economic freedom

Table 2.1 shows the overall and summary ratings in the economic freedom index from 1985 to 2005 for Norway and Sweden. Despite of the financial crises, in both countries the total level of economic freedom increased over time.⁴ A financial crisis may, however, especially affect specific components and sub-components. Figure 2.1 shows the change in the components and sub-components described below.

1B: Transfers and subsidies as a percentage of GDP

This component is measured as general government transfers and subsidies as a share of GDP. The rating for this component is equal to $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. The V_i is the country's ratio of transfers and subsidies to GDP, while the V_{\max} and V_{\min} values are set at 37.2 and 0.5, respectively. The 1990 data were used to derive the maximum and minimum values for this component. A financial crisis may lead to more transfers and subsidies due to support to financial institutions (although this depends on the way the support is being provided). Furthermore, in the economic downturn following the crisis government transfers and subsidies generally rise, while GDP shrinks (or growth of GDP growth slows).

3A: Money growth

The indicator is the average annual growth of the money supply in the last five years minus average annual growth of real GDP in the last ten years. The M1 money supply figures were used to measure the growth rate of the money supply. The rating is equal to $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the average annual growth rate of the money supply during the last five years adjusted for the growth of real GDP during the previous ten years. The values for V_{\min} and V_{\max} were set at zero and 50%, respectively. A financial crisis is often preceded by a credit surge, which may lead to an increase in money growth.

3D: Freedom to own foreign currency bank accounts

When foreign currency bank accounts are permissible without restrictions both domestically and abroad, the rating is 10; when these accounts are restricted, the rating

Table 2.1: Overall and summary ratings for economic freedom in Norway and Sweden, 1985–2005

	Overall	Area 1	Area 2	Area 3	Area 4	Area 5
Norway						
1985	6.2	3.3	8.1	6.3	7.6	5.5
1990	7.2	2.9	8.3	8.7	7.9	5.5
1995	7.4	3.7	9.2	9.5	8.0	6.9
2000	7.2	3.7	8.8	9.0	7.6	6.7
2005	7.4	4.7	9.3	9.3	6.6	7.6
Sweden						
1985	6.2	2.6	7.4	8.0	7.6	5.5
1990	6.9	2.4	8.3	7.8	8.3	5.6
1995	7.2	2.6	8.9	9.5	8.5	6.4
2000	7.4	3.0	9.0	9.8	8.3	6.8
2005	7.4	4.2	8.9	9.7	7.7	7.0

Source: <<http://www.freetheworld.com/2008/2008Dataset.xls>>.

is zero. If foreign currency bank accounts are permissible domestically but not abroad (or vice versa), the rating is 5. During a financial crisis, restrictions on foreign currency bank accounts may be introduced.

4Eii: Capital controls

The zero-to-10 rating is the percentage of the 13 different types of international capital controls not levied, as reported by the International Monetary Fund, multiplied by 10. During a financial crisis, restrictions on international capital flows may be introduced.

5Ai: Ownership of banks

When privately held deposits total between 95% and 100%, countries are given a rating of 10, while a zero rating is assigned when private deposits are 10% or less of the total. Intermediate ratings are given accordingly.

5Aii: Foreign bank competition

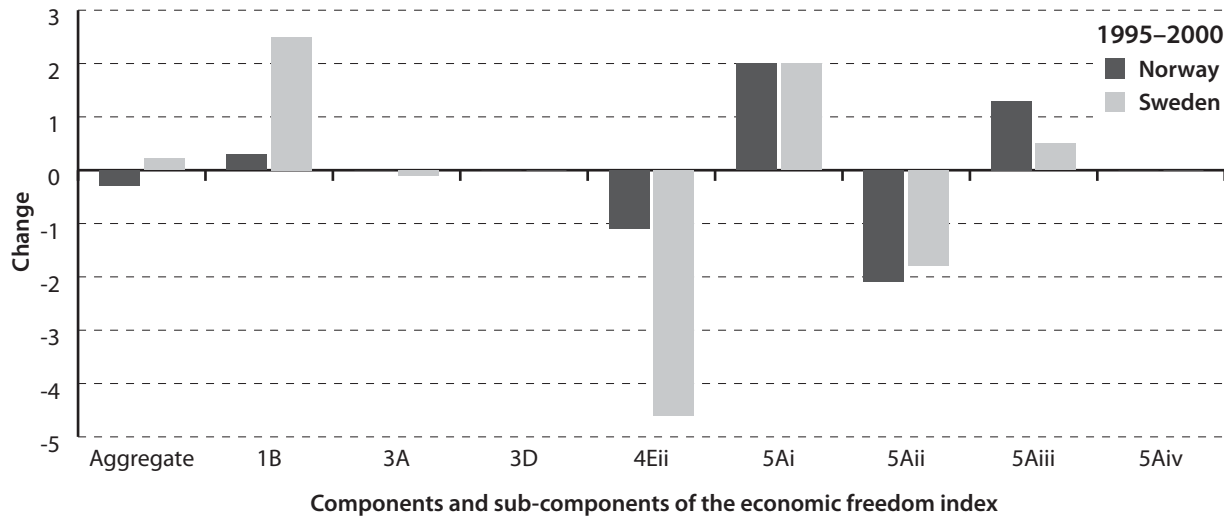
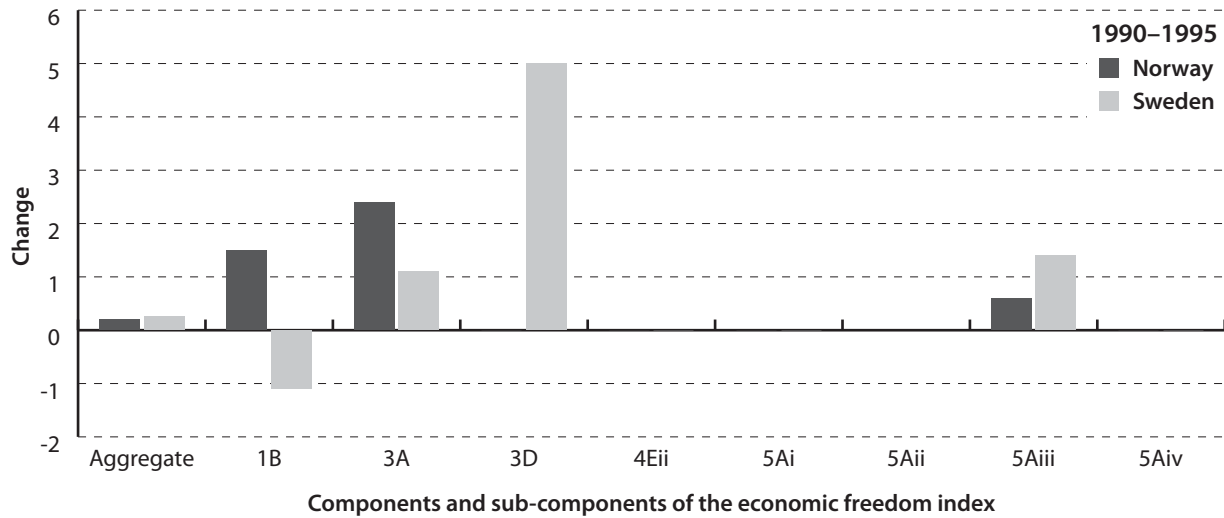
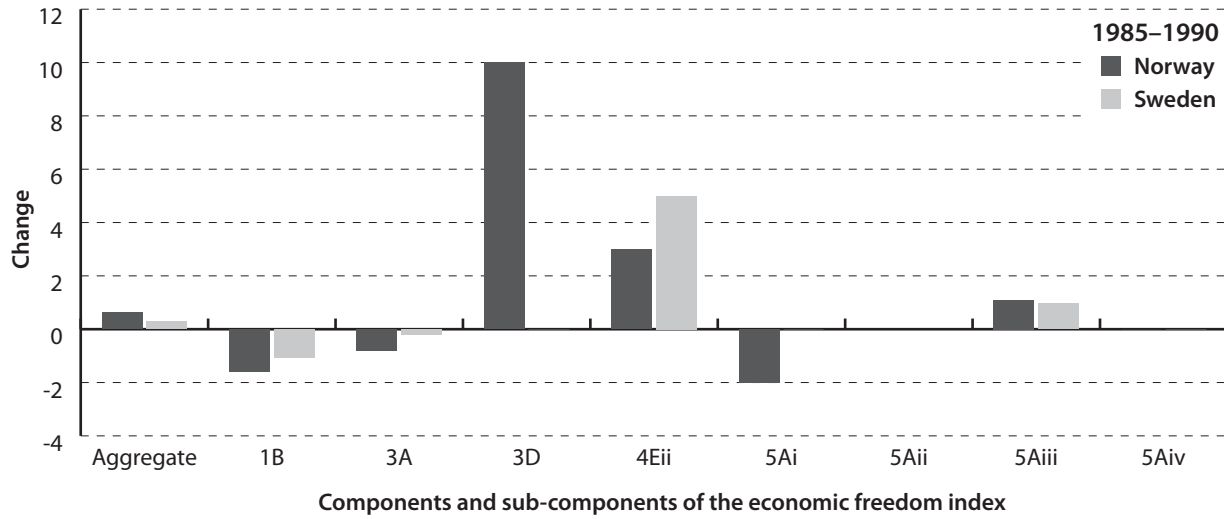
This indicator measures the extent to which a country approves all or most applications from foreign banks and the extent to which foreign banks have a large share of the banking sector's assets. In times of crises, authorities may become more hesitant to grant foreign banks permission to enter the country.

5Aiii: Private sector credit

The formula used to derive the country ratings for this sub-component is $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i is the share of the country's total domestic credit

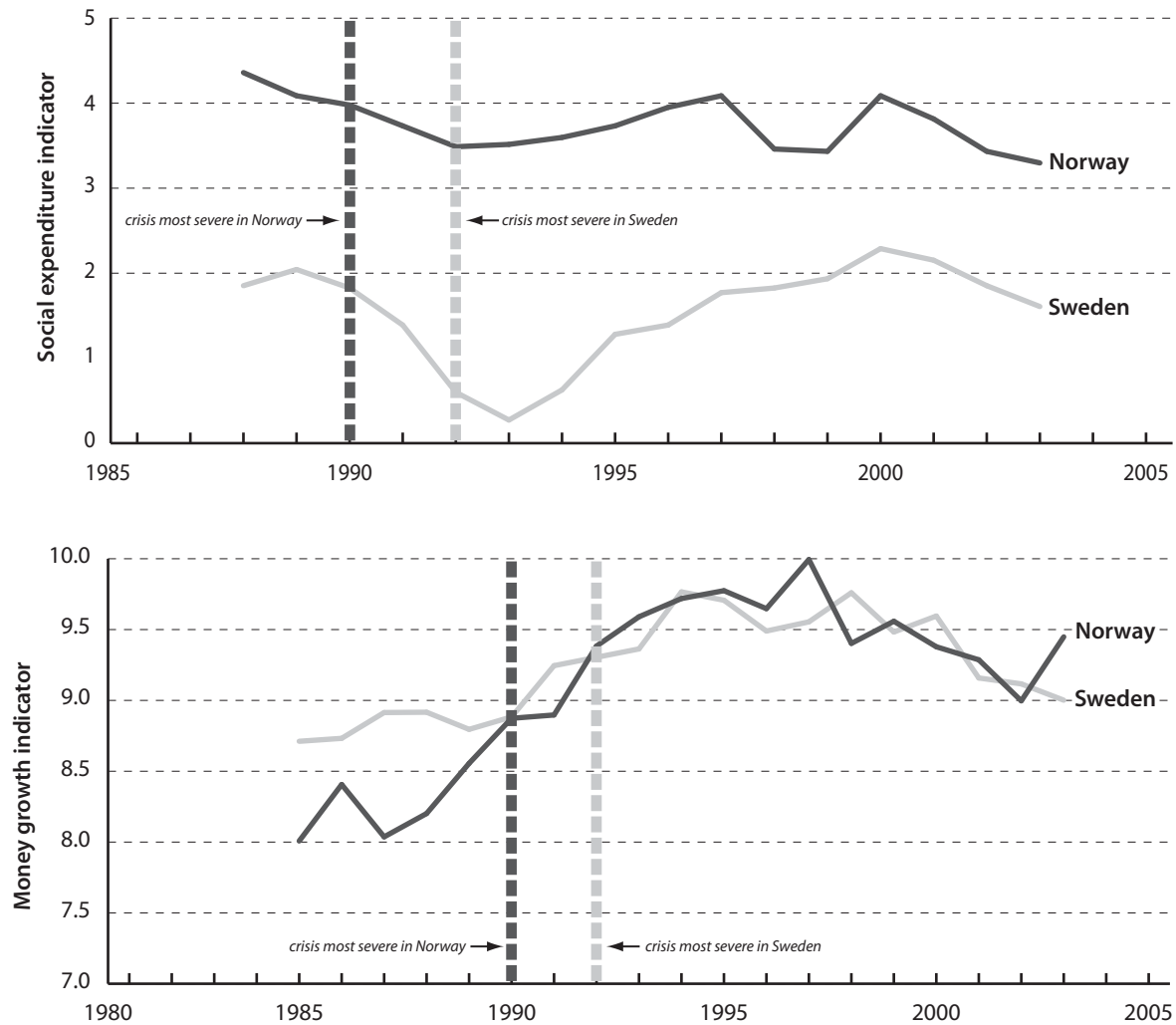
⁴ We should point out, however, that the economic freedom index may not fully capture the increased role of government in a banking crisis as the index does not include the extent to which government owns banks and provides guarantees to the banking sector; nor does it take government borrowing at the capital market into account.

Figure 2.1: Change in components and sub-components of the economic freedom index for Norway and Sweden



Source: <<http://www.freetheworld.com/2008/2008Dataset.xls>>.

Figure 2.2: Components 1B (1988–2003) and 3A (1985–2003) of the economic freedom index for Norway and Sweden as a percentage of GDP



Source: Authors' calculations based on data from the OECD and the IMF (see footnote 5).

allocated to the private sector and the values for V_{\max} and V_{\min} are set at 99.9% and 10.0%, respectively. In times of crisis, governments may need to borrow to provide financial support to banks, although this may not be reflected in this indicator as it refers to credit only and not to total borrowing.

5Aiv: Interest rate controls / negative real interest rates

When interest rates are determined primarily by market forces and the real rates are positive, countries receive a rating of 10. A zero rating indicates that the government fixes deposit and lending rates and that real rates are persistently negative. During a financial crisis, authorities may place controls on interest rates to maintain financial stability.

Figure 2.1 shows that the rating for most of these components and sub-components did not deteriorate during the crisis years (that is, between 1985 and 1995), except for government spending (1B) and money growth. Figure 2.2 shows our proxy for components 1B and 3A on an annual basis.⁵ It is clear that component 1B deteriorated during and some time after the crisis, while component 3A slightly worsened before the crisis.

⁵ The data for government spending (coming from the OECD) refer to “social spending,” which comes close to government subsidies and transfers as used to construct the economic freedom index. In constructing our proxy, we followed the same procedure as outlined above. Money-growth data come from the International Financial Statistics from the International Monetary Fund.

3 The impact of banking crisis and output gaps on economic freedom—new estimates

This section offers new estimates of the impact of banking crises and large negative output gaps on economic freedom. Dictated by the availability of the dependent variable, we employ two datasets: (1) observations at 5-year intervals from 1970 to 2005, and (2) annual data for the period from 2000 to 2006. We use the first sample to capture long-term effects and the second to examine short-term effects. For both datasets, we estimate fixed-effects models. The fixed effects control for time-invariant factors that may affect cross-country differences in economic freedom.⁶

Our dependent variable is the change in economic freedom. Our data on the banking crisis come from the recent study by Luc Laeven and Fabian Valencia (2008). We use a dummy that is one when there is a systemic banking crisis according to this database and zero otherwise. In the dataset with observations at 5-year intervals, the dummy is one whenever there is at least one year with a banking crisis. To examine the impact of economic crises, we follow Romain Duval and Jørgen Elmeskov (2006) and construct a dummy that is one whenever the output gap is -4% of GDP or more. In the dataset with 5-year-period observations the dummy is one, whenever there is at least one year with a negative output gap of 4% of GDP or more. Output gaps have been constructed as the difference between actual and trend output according to a Hodrick-Prescott filter (using a smoothing parameter of 6.25 as is common for annual data). Apart from the two dummies, the initial level of economic freedom is always included in the model.

Tables 2.2 and 2.3 show the results for the annual dataset and Tables 2.4 and 2.5 show the results for the 5-year-period dataset. Unless mentioned otherwise, all right-hand-side variables used in Tables 2.2 and 2.3 are lagged by one period. In Tables 2.4 and 2.5, the lag of the banking crisis dummy is used.⁷ The first column in Tables 2.2 and 2.4 shows the regression in our base model that assesses the impact on the change in economic freedom of the initial level of EF and the banking crisis and output-gap dummies. It follows that the coefficient of the initial level of EF always significantly differs from zero. In line

with our findings for the case study of the Nordic banking crisis, in the short run a financial crisis reduces economic freedom while in the long run it increases economic freedom. Our output-gap dummy has a significant negative impact on the change of economic freedom in the 1970–2005 sample but is insignificant in the 2001–2006 sample.

As the next step in our analysis, we have checked whether various other time-varying variables have any impact on our dependent variable using the approach suggested by Xavier Sala-i-Martin (1997).⁸ It turned out that only aid is robustly related to the change in economic freedom in the 5-year-period dataset but not in the annual dataset. Adding this variable does not affect our previous findings, although the banking crisis dummy is now only significant at the 10% level (column 2 of Table 2.4). Other variables (openness, population growth, civil rights, political liberties, and economic growth) did not pass the test in either sample.

The remaining columns of Tables 2.2 and 2.4 show the results for the five main areas of economic freedom. These areas are: [1] Size of Government: Expenditures, Taxes, and Enterprises; [2] Legal Structure and Security of Property Rights; [3] Access to Sound Money; [4] Freedom to Trade Internationally; and [5] Regulation of Credit, Labor, and Business. Tables 2.3 and 2.5 show the results for the components and sub-components of economic freedom as identified in the previous section.⁹

For the 2000–2006 sample, we find that the banking-crisis dummy is significantly negative for areas 2 and 3 while the output-gap dummy is significantly negative for areas 3 and 4. In the 5-year period sample, we find that the banking-crisis dummy is only significantly positive for areas 1 and 2 while the output-gap dummy is significantly negative for areas 1, 3, and 5.

For the sample 2000–2006, we find that banking crises and the occurrence of a large negative output gap reduce economic freedom items 1B, 5Aiii, and 5Aiv (see table 2.4). The coefficient of the output-gap dummy is also significantly negative for items 3A and 3D. In line with our findings for the case study of the Nordic banking crisis, we find that in the 1970–2005 sample most components and sub-components of economic freedom that we consider are not affected by the occurrence of a systemic banking crisis (see table 2.5). The coefficient of our banking-crisis dummy is only significant in the regressions for

6 Hausman tests indicate that these country-fixed effects are necessary in all models presented.

7 The non-lagged crisis dummy is not significant in the sample from 1970 to 2005.

8 We have used that approach in numerous previous papers; see, for instance, De Haan and Sturm (2000).

9 In the 5-year period sample indicator, 5Aii is not included because of a lack of data.

Table 2.2: The impact of banking crisis and large negative output gaps on economic freedom, annual data, 2000–2006 (dependent variable: change in economic freedom)

	(1)	(2)	(3)	(4)	(5)	(6)
	Aggregate economic freedom	Areas of the economic freedom index				
		1	2	3	4	5
Initial value of EF measure used	–0.460*** (–14.34)	–0.541*** (–15.49)	–0.721*** (–19.02)	–0.533*** (–20.32)	–0.603*** (–16.42)	–0.396*** (–10.40)
Banking crisis (–1)	–0.415*** (–4.714)	–0.351 (–1.605)	–0.726*** (–3.072)	–0.991*** (–5.280)	0.080 (0.515)	–0.291 (–1.482)
Large output gap	–0.006 (–0.138)	–0.001 (–0.0113)	–0.156 (–1.373)	–0.248*** (–2.744)	0.226*** (3.048)	0.074 (0.78)
Observations	702	712	712	712	711	712
Countries	121	131	131	131	131	131
R-squared	0.285	0.295	0.392	0.437	0.326	0.163
Log likelihood	278.1	–360.4	–416.2	–252.1	–112.5	–283.6

Source: <<http://www.freetheworld.com/2008/2008Dataset.xls>>.

Note: *, **, and *** denote significance at 10%, 5%, and 1%.

Table 2.3: The impact of banking crisis and large negative output gaps on economic freedom, annual data, 2000–2006 (dependent variable: change in economic freedom components)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	1B	Selected components and sub-components of the economic freedom index						5Aiv
		3A	3D	4Eii	5Ai	5Aii	5Aiii	
Initial value of EF measure used	–0.425*** (–11.70)	–0.704*** (–23.90)	–0.555*** (–20.25)	–0.499*** (–13.27)	–0.457*** (–13.45)	–0.388*** (–8.602)	–0.489*** (–14.38)	–0.918*** (–35.98)
Banking crisis (–1)	–0.552*** (–3.179)	0.501 (1.569)	0.493 (1.208)	0.183 (0.421)	–0.109 (–0.173)	–0.155 (–0.294)	–0.571** (–2.513)	–1.678*** (–3.971)
Large output gap	–0.270** (–2.483)	–0.415*** (–2.700)	–0.611*** (–3.110)	0.185 (0.885)	–0.259 (–0.950)	–0.545 (–1.337)	–0.359*** (–3.262)	0.387* (1.902)
Observations	589	710	712	712	692	493	711	709
Countries	115	130	131	131	126	104	131	131
R-squared	0.246	0.5	0.426	0.234	0.244	0.162	0.296	0.697
Log likelihood	–158.6	–629.6	–804.8	–850.4	–1006	–674.9	–384.5	–826.3

Source: <<http://www.freetheworld.com/2008/2008Dataset.xls>>.

Note: *, **, and *** denote significance at 10%, 5%, and 1%.

Table 2.4: The impact of banking crisis and large negative output gaps on economic freedom, 5-year period data, 1970–2005 (dependent variable: change in economic freedom)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Aggregate economic freedom	Aggregate economic freedom	Areas of the economic freedom index				
			1	2	3	4	5
Initial value of EF measure used	−0.456*** (−13.98)	−0.382*** (−9.095)	−0.578*** (−13.67)	−0.758*** (−15.82)	−0.564*** (−12.66)	−0.617*** (−13.58)	−0.616*** (−11.94)
Banking crisis (−1)	0.201*** (2.807)	0.142* (1.785)	0.237* (1.815)	0.222* (1.818)	0.286 (1.383)	0.195 (1.575)	−0.005 (−0.0527)
Large output gap	−0.270*** (−3.813)	−0.251*** (−3.172)	−0.249** (−2.097)	−0.123 (−0.984)	−0.705*** (−3.874)	−0.090 (−0.784)	−0.328*** (−4.031)
Aid (% GNP)		0.0230*** (3.423)	0.0265*** (2.701)	0.004 (0.427)	0.0366** (2.424)	0.0306*** (2.887)	0.002 (0.236)
Observations	622	456	513	434	522	470	451
Countries	115	98	99	98	100	100	99
R-squared	0.295	0.25	0.331	0.437	0.334	0.351	0.313
Log likelihood	−491.4	−372.7	−693.5	−535.8	−942.8	−580.4	−395.3

Source: <<http://www.freetheworld.com/2008/2008Dataset.xls>>.

Note: *, **, and *** denote significance at 10%, 5%, and 1%.

Table 2.5: The impact of banking crisis and large negative output gaps on economic freedom, 5-year period data, 1970–2005 (dependent variable: change in economic freedom components)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Selected components and sub-components of the economic freedom index						
	1B	3A	3D	4Eii	5Ai	5Aiii	5Aiv
Initial value of EF measure used	−0.856*** (−16.64)	−0.779*** (−16.55)	−0.634*** (−14.36)	−0.612*** (−13.59)	−0.682*** (−11.16)	−0.713*** (−15.39)	−0.654*** (−11.43)
Banking crisis (−1)	−0.192** (−2.156)	−0.002 (−0.00592)	0.467 (1.353)	0.136 (0.593)	0.261 (0.971)	−0.139 (−0.824)	−0.274 (−0.788)
Large output gap	−0.031 (−0.355)	−0.493** (−2.078)	−0.653** (−2.116)	−0.495** (−2.399)	−0.793*** (−3.195)	−0.276* (−1.782)	−1.196*** (−3.326)
Aid (% GNP)	0.010 (1.32)	0.0414** (2.104)	0.0424* (1.695)	0.0508*** (3.043)	−0.003 (−0.152)	0.0229* (1.842)	0.051 (1.614)
Observations	358	505	512	518	439	456	391
Countries	84	100	99	101	92	99	96
R-squared	0.511	0.431	0.351	0.328	0.277	0.409	0.336
Log likelihood	−280.9	−1021	−1186	−990.7	−877.4	−697.1	−865.9

Source: <<http://www.freetheworld.com/2008/2008Dataset.xls>>.

Note: *, **, and *** denote significance at 10%, 5%, and 1%.

government spending (component 1B). A banking crisis reduces this component of economic freedom (that is, government spending increases). The output gap is significant in all regressions in Table 2.5, except in the regression for component 1B (see column 1).

Finally, we have redone all the regressions shown in Tables 2.2 to 2.5 but only for the countries for which all data are available. So these regressions eliminate any potential disturbing influence due to changes in the sample of countries used in the various regressions. The results are very similar to our previous findings (results available on request).

In conclusion, our results suggest that banking crises in the short term reduce (various dimensions of) economic freedom but that, in the longer term, banking crises are associated with higher levels of economic freedom (except for government spending). Economic crises reduce various areas of economic freedom in the short and long term, although we do not find a significant effect on the overall level of economic freedom in the short term.

4 Discussion and conclusions

According to Willem Buiter (2007), financial crises are inherent to capitalism. Even though they can be very painful, it is an illusion that banking crises can be fully ruled out by better government regulation. In fact, a case can be made that perverse regulations, in combination with the creation of too much liquidity, played a key role in the creation of the current crisis. This, of course, is not to say that we can do without government regulation of financial markets and institutions altogether. We would also

not argue against government actions in case of a crisis. Effective government intervention may help the recovery of the financial sector, as our case study of the Nordic banking crisis showed. At the same time, many of the government actions taken in the current financial crisis were not effective, and may in fact have prolonged the crisis.

The current worldwide crisis is unprecedented. This implies that the evidence presented here that is based on crises taking place in the past may not capture the impact of the current crisis fully. As most countries in the world are in a serious economic downturn at the same time, it will be much harder to get out of this recession. This is an important caveat. Due to the global nature of the current crisis, our results may underestimate the impact of the crisis on economic freedom. Indeed, the previous global crisis of similar magnitude, the Great Depression, arguably decreased economic freedom significantly. Having said that, our results suggest that previous banking crises reduced the level of economic freedom in the short run but, over a longer time, economic freedom had a tendency to increase after a banking crisis. As our case study shows, in Norway and Sweden the banking crisis did not distract these countries from continuing with their market-based reform policies. Also, our econometric results for changes in the level of economic freedom based on the 5-years-sample period (1970–2005) suggest that countries that had a banking crisis in the previous period increased their level of economic freedom. This result stands in sharp contrast to our findings for the sample of annual observations over the period from 2000 to 2006 that suggest that in the short term a banking crisis lowers economic freedom. Our results also suggest that large negative output gaps reduce (some aspects of) economic freedom.

Excursus: Financial liberalization and banking crises

No doubt, financial liberalization brings many benefits. An important issue is to what extent financial liberalization also increases the likelihood of a banking crisis. According to Carmen Reinhart and Kenneth Rogoff, “[t]he majority of historical crises are preceded by financial liberalization, as documented in Kaminsky and Reinhart (1999). While in the case of the United States, there has been no striking *de jure* liberalization, there certainly has been a *de facto* liberalization. New unregulated, or lightly regulated, financial entities have come to play a much larger role in the financial system, undoubtedly enhancing stability against some kinds of shocks, but possibly increasing vulnerabilities against others” (2008: 11). Indeed, in Sweden and Norway deregulation of the financial market preceded the banking crisis in these countries. However, sub-component 5A of the economic freedom index does not suggest that in the United States a clear financial liberalization occurred before the sub-prime crisis started. Furthermore, in sharp contrast to the view by Reinhart and Rogoff (2008), Shehzad and De Haan (2009) argue that financial liberalization actually reduces the likelihood of a systemic banking crisis. This excursus gives an overview of the literature on financial liberalization and banking crisis.

In their pioneering study, Asli Demirgüç-Kunt and Enrica Detragiache (1998) analyze the empirical relationship between banking crises and financial liberalization using data from 1980 to 1995 for 53 countries. Their findings suggest that banking crises are more likely to occur in liberalized financial systems. They also find that the impact of financial liberalization on a fragile banking sector is weaker where the institutional environment is strong. However, the indicator of financial liberalization as used by Demirgüç-Kunt and Detragiache (1998) is the first year in which some interest rates were liberalized. Although liberalization of interest rates is important, it only covers a minor part of financial sector reform.

Using multivariate probit modeling for 56 countries during the period from 1977 to 1997, Gil Mehrez and Daniel Kaufmann (2000) also report a higher probability of a crisis following financial liberalization within five years. Moreover, they find that the probability of a crisis is higher in countries with more corruption. Mehrez and Kaufmann (2000) provide their own dating of financial liberalization and construct their liberalization measure on the basis of these dates.

Focusing on the link between currency and banking crises, Graciella Kaminsky and Carmen Reinhart (1999) analyze 76 currency crises and 26 banking crises for 20 countries from 1970 to mid-1995. One of their main findings is that financial liberalization often precedes banking crises. Their proxy for financial liberalization is two-year lagged domestic credit growth. However, Demirgüç-Kunt and Detragiache (2000) show that a multivariate logit model of banking crises probabilities results in lower type-I and type-II errors than Kaminsky and Reinhart’s (1999) approach.

On the basis of a panel analysis, Gerard Caprio and Herminia Martinez (2000) find that government ownership of banks increases the likelihood of banking crisis. However, using a cross-country analysis James Barth and his colleagues (2004) do not find that government ownership is significantly associated with increases in bank fragility once they control for the regulatory and supervisory environment.

Finally, Tanveer Shehzad and Jakob de Haan (2009) examine the impact of various dimensions of financial liberalization on the likelihood of systemic and non-systemic banking crises. Their data on financial liberalization comes from Abdul Abiad and his colleagues (2008), who distinguish seven dimensions of the extent to which the financial sector has been liberalized that are graded on scale from 3 (fully liberalized) to 0 (not liberalized). Apart from distinguishing between different dimensions of financial liberalization, the database has the advantage that it allows for policy reversals. Using data for a large sample of developing and developed countries from 1973 to 2002, the results of their multivariate probit modeling suggest that, conditional on adequate banking supervision, financial liberalization actually reduces the likelihood of systemic crises. The most important difference between the study of Shehzad and De Haan (2009) and the other studies reviewed here is that the former takes more aspects of financial liberalization into account, while previous studies only focus on one particular dimension of financial liberalization (e.g., credit growth, government ownerships of banks, interest rate liberalization).

References

- Abiad, Abdul G., Thierry Tresselt, and Enrica Detragiache (2008). *A New Database of Financial Reforms*. IMF Working Paper No. 08/266. International Monetary Fund.
- Barth, James R., Gerard Caprio Jr., and Ross Levine (2004). Bank Regulation and Supervision: What Works Best? *Journal of Financial Intermediation* 13, 2 (April): 205–48.
- Buiter, Willem (2007). *Lessons from the 2007 Financial Crisis*. CEPR Discussion Paper No. 6596. Center for Economic Policy Research.
- Caprio Jr., Gerard, and Herminia Martinez (2000). *Avoiding Disaster: Policies to Reduce the Risk of Banking Crises*. Egyptian Centre for Economic Studies Working Paper No. 47. Egyptian Centre for Economic Studies.
- De Haan, Jakob, and Jan-Egbert Sturm (2000). On the Relationship between Economic Freedom and Economic Growth. *European Journal of Political Economy* 16, 2 (June): 215–41.
- Demirgüç-Kunt, Asli, and Enrica Detragiache (1998). *Financial Liberalization and Financial Fragility*. World Bank Policy Research Working Paper No. 1917. World Bank.
- Demirgüç-Kunt, Asli, and Enrica Detragiache (2000). Monitoring Banking Sector Fragility: A Multivariate Logit Approach. *World Bank Economic Review* 14, 2 (May): 287–307.
- Drees, Burkhard, and Ceyla Pazarbaşıoğlu (1998). *The Nordic Banking Crisis: Pitfalls in Financial Liberalization*. IMF Occasional Paper No. 161. International Monetary Fund.
- Duval, Romain, and Jørgen Elmeskov (2006). *The Effects of EMU on Structural Reforms in Labour and Product Markets*. ECB Working Paper No. 596. European Central Bank.
- European Economic Advisory Group at CESifo [EEAG-CESifo] (2009). *The EEAG Report on the European Economy 2009*. CESifo. <<http://www.cesifo-group.de/portal/page/portal/ifoHome/B-politik/70eeagreport>>.
- Honkapohja, Seppo (2009). *The 1990's Financial Crises in Nordic Countries*. Bank of Finland Research Discussion Papers No. 5/2009. Bank of Finland.
- Kaminsky, Graciella L., and Carmen M. Reinhart (1999). The Twin Crises: The Causes of Banking and Balance of Payments Problems. *American Economic Review* 89, 3 (June): 473–500.
- Laeven, Luc, and Fabian Valencia (2008). *Systemic Banking Crises: A New Database*. IMF Working Paper 08/224. International Monetary Fund.
- Mehrez, Gil, and Daniel Kaufmann (2000). *Transparency, Liberalization and Banking Crises*. World Bank Policy Research Working Paper No. 2286. World Bank.
- Reinhart, Carmen M., and Kenneth S. Rogoff (2008). *Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison*. NBER Working Paper No. 13761. National Bureau of Economic Research.
- Rodrik, Dani (2009, June 12). Coming soon - Capitalism 3.0. *Business Standard*. <<http://www.business-standard.com/india/news/dani-rodrik-coming-soon-capitalism-30/00/27/348673/>>.
- Sala-i-Martin, Xavier (1997). I Just Ran Two Millions Regressions. *American Economic Review* 87, 2 (May): 178–83.
- Shehzad, C. Tanveer, and Jakob de Haan (2009). Financial Liberalization and Banking Crises. Paper presented at the 2009 Conference of the Royal Economic Society, University of Surrey (April 20–22, 2009).
- Taylor, John B. (2009). *The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong*. NBER Working Paper No. 14631. National Bureau of Economic Research.