Country	Timeframe	Lowest real GDP growth rate around the crisis		Share of NPLs at peak (in %)	Share of insolvent banks/assets at peak (in %)	Fiscal Cost (as % of GDP)	Output loss (IMF) (as % of GDP)	Comments	Systemic crisis? (Yes/No)
		In %	Year						
Albania	1992–	-27.5	1991	31			0.00	After the July 1992 cleanup, 31 percent of "new" banking system loans were nonperforming. Some banks faced liquidity problems due to a logjam of inter-bank liabilities.	Yes
Algeria	1990–92	-2.1	1993	50			0.00		Yes
Angola	1991–	-24.7	1993				36.47	Two state-owned commercial banks have experienced solvency problems.	No
Argentina	1980–82	-5.7	1981	9	16	55.1	17.00	More than 70 institutions—accounting for 16 percent of commercial bank assets and 35 percent of finance company assets—were liquidated or subjected to central bank intervention.	Yes
Argentina	1989–90	-7.5	1989	27	40		13.37		Yes
Argentina	1995	-4.2	1995			2	12.23	Eight banks suspended and three banks collapsed. Through the end of 1997, 63 of 205 banking institutions were closed or merged.	Yes
Argentina	2001–	-10.9	2002	20.1			15.30	In March 2001, a bank run started due to increasing doubts about the sustainability of the currency board, strong opposition from the public to the new fiscal austerity package sent to the Congress, the resignation of president of the Central Bank, and the amendment to the convertibility law. On December 3, 2001, as several banks were at the verge of collapsing, partial withdrawal restrictions (corralito) were imposed to transactional accounts while fixed-term deposits (CDs) were reprogrammed (corralon) in order to stop outflows from banks. On February 4, 2002, bank assets were asymmetrically pesified adversely affecting the solvency of the banking system. In 2002, two voluntary swaps of deposits for government bonds were offered but received little interest by the public. In December 2002, the corralito was lifted. By August 2003, one bank has been closed, three banks nationalized, and many other have reduced their staff and branches.	Yes
Armenia	1994–96	-41.8	1992		50		0.00	Starting in August 1994, the Central Bank closed half of active banks. Large banks continued to suffer from high nonperforming loans. The savings bank was financially weak.	Yes
Australia	1989–92	-0.1	1990	6		2	0.00	Two large banks received capital from the government to cover losses. Nonperforming loans rose to 6 percent of assets in 1991–92. Rescuing state-owned banks was estimated to cost 2 percent of GDP.	No
Azerbaijan	1995–	-19.7	1994				0.00	Twelve private banks closed; three large state-owned banks deemed insolvent; one large state-owned bank faced serious liquidity problems.	Yes
Bangladesh	Late 1980s–96	2.2	1988	20	95		na	In 1987 four banks accounting for 70 percent of credit had nonperforming loans of 20 percent. From the late 1980s the entire private and public banking system was technically insolvent.	Yes
Belarus	1995–	-11.7	1994				0.47	Many banks undercapitalized; forced mergers burdened some banks with poor loan portfolios.	No
Benin	1988–90	-2.9	1989	80		17	0.00	All three commercial banks collapsed.	Yes
Bolivia	1986–88	-2.6	1986				0.00	Five banks were liquidated. Banking system nonperforming loans reached 30 percent in 1987; in mid-1988 reported arrears stood at 92 percent of commercial banks' net worth.	Yes
Bolivia	1994–	1.6	1992		30		0.00	Two banks with 11 percent of banking system assets were closed in 1994. In 1995, 4 of 15 domestic banks, accounting for 30 percent of banking system assets, experienced liquidity problems and suffered high nonperforming loans.	Yes

Bosnia and Herzegovina	1992–	na	na				na	Banking system suffers from high nonperforming loans due to the breakup of the former Yugoslavia and the civil war.	Yes
Botswana	1994–95	1.9	1993			0.6	0.60	One problem bank was merged in 1994, a small bank was liquidated in 1995, and the state-owned National Development Bank was recapitalized. Recapitalizing the National Development Bank cost 0.6 percent of GDP.	No
Brazil	1990	-4.3	1990				10.80	Deposits were converted to bonds.	Yes
Brazil	1994–99	0.1	1998	15	15.4	13.2	0.00	In 1996 the negative net worth of selected state and federal banks was 5–10 percent of GDP. By the end of 1997 bank recapitalizations had cost $3 billion for Banco Economico, $3 billion for Bamerindus, $8 billion for Banco do Brazil, and $5 billion for Unibanco. By the end of 1997 the Central Bank had intervened in or put under temporary administration 43 financial institutions. Private banks returned to profitability in 1998, but public banks did not begin to recover until the following year.	Yes
Brunei	Mid–1980s	-2.7	1986	9			na	Several financial firms failed. The second largest bank failed in 1986.	No
Bulgaria	1996–97	-9.4	1996	75	33		8.00	By early 1996 the sector had a negative net worth equal to 13 percent of GDP. The banking system experienced a run in early 1996. The government then stopped providing bailouts, prompting the closure of 19 banks accounting for one-third of sector assets. Surviving banks were recapitalized by 1997.	Yes
Burkina Faso	1988–94	-1.4	1987	34			0.00		Yes
Burundi	1994–	-8.4	1996	25			20.50	In 1995 one bank was liquidated.	Yes
Cameroon	1987–93	-7.8	1988	65			111.37	Five commercial banks were closed and three banks were restructured.	Yes
Cameroon	1995–98	-2.5	1994	30			na	Three banks were restructured and two were closed.	Yes
Canada	1983–85	-2.9	1982				0.00	Fifteen members of the Canadian Deposit Insurance Corporation, including two banks, failed.	No
Cape Verde	1993–	3.3	1992	30			0.00		Yes
Central African Rep.	1976–92	-8.1	1983				na	Four banks were liquidated.	Yes
Central African Rep.	1995–99	-4.0	1996	40	90		na	The two largest banks, accounting for 90 percent of assets, were restructured.	Yes
Chad	1980s	-21.4	1979				na	Banking sector experienced solvency problems.	Yes
Chad	1992	-15.7	1993	35			10.10		Yes
Chile	1976	-11.4	1975				na	Entire mortgage system insolvent.	Yes
Chile	1981–83	-10.3	1982	19	45	42	46.00		Yes
China	1990s–	3.8	1990	50	68	47	na	At the end of 1998 China's four large state-owned commercial banks, accounting for 68 percent of banking system assets, were deemed insolvent. Banking system nonperforming loans were estimated at 50 percent at peak, 31 percent in 2001, 26 percent in 2002, and 22.6 percent in 2003. Net losses estimated to reach $428 billion, or 47 percent of GDP in 1999. The costs of a potential clean up of the banking system are estimated to reach RMB4,800 billion or 47% of 2002 GDP.	Yes
Colombia	1982–87	0.9	1982		25	5	7.00	The Central Bank intervened in six banks accounting for 25 percent of banking system assets.	Yes
Congo, Dem. Rep. of (former Zaire)	1980s	-0.5	1982				na	Banking sector experienced solvency problems.	Yes
Congo, Dem. Rep. of (former Zaire)	1991–92	-6.6	1990				26.43	Four state-owned banks were insolvent; a fifth bank was to be recapitalized with private participation.	Yes

Congo, Dem. Rep. of (former Zaire)	1994–	-13.9	1993	75			na	Two state-owned banks have been liquidated and two other state banks privatized. In 1997, 12 banks were having serious financial difficulties.	Yes
Congo, Rep. of	1992–	-5.5	1994				61.37	Between 2001 and 2002, two large banks were restructured and privatized. The remaining insolvent bank is in the process of being liquidated. Situation aggravated by the civil war.	Yes
Costa Rica	1994–	0.9	1996	32	90		9.30	One large state-owned commercial bank was closed in December 1994. The ratio of overdue loans (net of provisions) to net worth in state commercial banks exceeded 100 percent in June 1995. Implied losses of at least twice the capital plus reserves.	Yes
Côte d'Ivoire	1988–91	-0.3	1987		90	25	1.00	Four large banks affected, accounting for 90 percent of banking system loans; three definitely and one possibly insolvent. Six government banks closed.	Yes
Croatia	1996	-8.0	1993		50		0.00	Five banks accounting for about half of banking system loans were deemed insolvent and taken over by the Bank Rehabilitation Agency.	Yes
Czech Republic	1989–91	na	na	38		12	0.00	Several banks have closed since 1993.	Yes
Denmark	1987–92	0.0	1987				24.30	Cumulative loan losses over 1990–92 were 9 percent of loans; 40 of the 60 problem banks were merged.	No
Djibouti	1991–93	-1.9	1992				31.83	Two of six commercial banks ceased operations in 1991–92; other banks experienced difficulties.	Yes
Ecuador	Early 1980s	-2.8	1983				na	Program exchanging domestic for foreign debt implemented to bail out banking system.	Yes
Ecuador	1996–97	1.7	1995				0.40	The authorities intervened in several small financial institutions in late 1995. By the end of 1995, 30 financial societies (sociedades financieras) and 7 banks were receiving extensive liquidity support. In early 1996, the fifth largest commercial bank was intervened.	Yes
Ecuador	1998–2001	-6.3	1999		65	20	12.00	Seven financial institutions, accounting for 25–30 percent of commercial banking assets, were closed in 1998–99. In March 1999 bank deposits were frozen for 6 months. By January 2000, 16 financial institutions accounting for 65 percent of the assets had either been closed (12) or taken over (4) by the government. All deposits were unfrozen by March 2000. In 2001 the blanket guarantee was lifted.	Yes
Egypt	Early 1980s	3.8	1991				na	The government closed several large investment companies.	Yes
Egypt	1991–95	1.1	1991				8.60	Four public banks were given capital assistance.	No
El Salvador	1989	1.0	1989	37			0.80	Nine state-owned commercial banks had nonperforming loans averaging 37 percent.	Yes
Equatorial Guinea	1983–85	na	na				0.00	Two of the country's largest banks were liquidated.	Yes
Eritrea	1993	na	na				na	Most of the banking system was insolvent.	Yes
Estonia	1992–95	-21.2	1992		41	1.4	na	The Social Bank, which controlled 10 percent of financial system assets, failed. Five banks' licenses were revoked, and two major banks were merged and nationalized. Two other large banks were merged and converted to a loan recovery agency.	Yes
Estonia	1998	-0.6	1999				8.00	Three banks failed in 1998: Maapank (Agricultural Bank), which accounted for 3 percent of banking system assets, and two smaller banks: EVEA and ERA. Maapank's losses reached $500 million.	No
Ethiopia	1994–95	-5.1	1992				0.00	A government-owned bank was restructured, and its nonperforming loans were taken over by the government.	No
Finland	1991–94	-6.3	1991	13	31	11.2	21.00	Savings banks badly affected; government took control of three banks that together accounted for 31 percent of system deposits.	Yes
France	1994–95	-0.9	1993	8.9		0.7	0.00	Credit Lyonnais experienced serious solvency problems. According to unofficial estimates, losses totaled about $10 billion, making it the largest bank failure up to that time.	No

Gabon	1995–	3.4	1994				0.00	One bank was temporarily closed in 1995.	No
Gambia, The	1985–92	-0.8	1985				97.50	In 1992 a government bank was restructured and privatized.	No
Georgia	1991–	-44.9	1992	33			na	Largest banks virtually insolvent.	Yes
Germany	Late 1970s	-1.3	1975				na	So-called Giroinstitutions faced problems.	No
Ghana	1982–89	-6.9	1982		63	6	7.00	Seven of eleven audited banks insolvent; rural banking sector affected.	Yes
Ghana	1997–	4.6	1996	27	38		0.00		No
Greece	1991–95	-1.6	1993				0.00	Localized problems required significant injections of public funds into specialized lending institutions.	No
Guatemala	1990s	3.1	1990				na	Two small state-owned banks had high nonperforming assets; these banks discontinued operations in the early 1990s.	No
Guinea	1985	na	na		99	3	0.00	Six banks—accounting for 99 percent of system deposits—deemed insolvent. Repayment of deposits amounted to 3 percent of 1986 GDP.	Yes
Guinea	1993–94	2.9	1992	45			0.00	Two banks deemed insolvent; one other bank had serious financial difficulties.	Yes
Guinea-Bissau	1995–	3.2	1994	45			0.00		Yes
Hong Kong, China	1982–83	2.7	1982				10.60	Nine deposit-taking companies failed.	No
Hong Kong, China	1983–86	0.2	1985				na	Seven banks or deposit-taking institutions were liquidated or taken over.	No
Hong Kong, China	1998	-5.0	1998				10.47	One large investment bank failed.	No
Hungary	1991–95	-11.9	1991	23	25	10	14.00	In the second half of 1993 eight banks—accounting for 25 percent of financial system assets—were deemed insolvent.	Yes
Iceland	1985–86	3.3	1985				0.00	One of three state-owned banks became insolvent and was eventually privatized in a merger with three private banks.	No
Iceland	1993	-3.3	1992				0.00	The government was forced to inject capital into one of the largest state-owned commercial bank after it suffered serious loan losses.	No
India	1993–	4.9	1993	20			0.00	Nonperforming assets reached 11 percent in 1993–94. Nonperforming assets of the 27 public banks estimated at 20 percent in 1995. At the end of 1998 nonperforming loans estimated at 16 percent and at the end of 2001 they decreased to 12.4 percent.	No
Indonesia	1994	7.5	1994	14		2	0.30	Non-performing assets equal to more than 14 percent of banking system assets, with more than 70 percent in state banks. Recapitalization costs for five state banks amounted to nearly 2 percent of GDP.	No
Indonesia	1997–2002	-13.1	1998	70	35	55	39.00	Through May 2002, Bank Indonesia had closed 70 banks and nationalized 13, of a total of 237. Nonperforming loans for the banking system were estimated at 65–75 percent of total loans at the peak of crisis and fell to about 12 percent in February 2002.	Yes
Israel	1977–83	0.0	1977			30	na	Almost the entire banking sector was affected, representing 60 percent of stock market capitalization. The stock exchange closed for 18 days, and bank share prices fell more than 40 percent.	Yes
Italy	1990–95	-0.9	1993		11		22.17	During 1990–94, 58 banks (accounting for 11 percent of lending) were merged with other institutions.	No
Jamaica	1994	0.9	1994				11.53	In 1994 a merchant banking group was closed.	Yes
Jamaica	1996–2000	-1.1	1996			43.9	7.00	FINSAC, a government resolution agency, provided assistance to 5 banks, 5 life insurance companies, 2 building societies, and 9 merchant banks. Government recapitalized 21 troubled institutions via non-tradeable government guaranteed bonds. By June 30, 2000 outstanding recap bonds estimated to account for 44 percent of GDP	Yes

Japan	1991–	0.9	1992	35		24	48.00	Banks suffered from sharp decline in stock market and real estate prices. In 1995 the official estimate of nonperforming loans was 40 trillion yen ($469 billion, or 10 percent of GDP). An unofficial estimate put nonperforming loans at $1 trillion, equivalent to 25 percent of GDP. Banks made provisions for some bad loans. At the end of 1998 banking system nonperforming loans were estimated at 88 trillion yen ($725 billion, or 18 percent of GDP). In 1999 Hakkaido Takushodu bank was closed, the Long Term Credit Bank was nationalized, Yatsuda Trust was merged with Fuji Bank, and Mitsui Trust was merged with Chuo Trust. In 2002 nonperforming loans were 35 percent of total loans; with a total of 7 banks nationalized, 61 financial institutions closed and 28 institutions merged. In 1996 rescue costs were estimated at more than $100 billion. In 1998 the government announced the Obuchi Plan, which provided 60 trillion yen ($500 billion, or 12 percent of GDP) in public funds for loan losses, bank recapitalizations, and depositor protection. By 2002 fiscal cost estimates rose to 24 percent of GDP.	Yes
Jordan	1989–90	-13.5	1989			10	16.93	The third largest bank failed in August 1989. The central bank provided overdrafts equivalent to 10 percent of GDP to meet a run on deposits and allowed banks to settle foreign obligations.	No
Kenya	1985–89	1.8	1984		15		0.00	Four banks and twenty-four nonbank financial institutions—accounting for 15 percent of financial system liabilities—faced liquidity and solvency problems.	Yes
Kenya	1992	-0.8	1992				7.80	Intervention in two local banks.	Yes
Kenya	1993–95	-0.8	1992		30		1.20		Yes
Kenya	1996–	4.1	1996	19			na		No
Korea, Rep. of	1997–2002	-6.7	1998	35		28	17.00	Through May 2002, 5 banks were forced to exit the market through a "purchase and assumption formula" and 303 financial institutions shutdown (215 were credit unions). Four banks were nationalized. Banking system nonperforming loans peaked between 30–40 percent and fell to about 3 percent by March 2002.	Yes
Kuwait	1980s	-20.6	1980	40			na		Yes
Kyrgyz Republic	1990s	-20.1	1994	85			na	Four small commercial banks closed in 1995.	Yes
Lao People's Democratic Republic	Early 1990s	4.1	1991			1.5	na	Some banks experienced problems. Recapitalization of state-owned commercial banks amounted to 1.5 percent of GDP.	No
Latvia	1995–	-34.9	1992		30	3	0.00	Between 1994 and 1999, 35 banks saw their license revoked, were closed, or ceased operations. In 1995 the negative net worth of the banking system was estimated at $320 million, or 7 percent of 1995 GDP. Aggregate banking system losses in 1998 estimated at 100 million lats ($172 million), about 3 percent of GDP.	Yes
Lebanon	1988–90	-42.5	1989				118.00	Four banks became insolvent. Eleven had to resort to Central Bank lending.	Yes
Lesotho	1988–	3.5	1987				0.00	One of four commercial banks suffered from large nonperforming loans.	No
Liberia	1991–95	-51.0	1990		64		na	Seven of eleven banks not operational; in mid-1995 their assets accounted for 64 percent of bank assets.	Yes
Lithuania	1995–96	-9.8	1994		29		0.00	In 1995, of 25 banks, 12 small banks were liquidated, 3 private banks (accounting for 29 percent of banking system deposits) failed, and 3 state-owned banks were deemed insolvent.	Yes
Macedonia	1993–94	-7.5	1993	70		32	0.73	The government took over banks' foreign debt and closed the second largest bank. Costs of banking system rehabilitation, obligations from assumption of external debt, liabilities regarding frozen foreign exchange, and contingent liabilities in banks together estimated at 32 percent of GDP.	Yes
Madagascar	1988	1.2	1987	25			0.00		Yes

Malaysia	1985–88	-1.1	1985		7	5	14.30	Insolvent institutions accounted for 3 percent of financial system deposits; marginally capitalized and possibly insolvent institutions accounted for another 4 percent. Reported losses equivalent to 5 percent of GNP.	No
Malaysia	1997–2001	-7.4	1998	30	14	16.4	33.00	Finance company sector was restructured, and number of finance was reduced from 39 to 10 through mergers. Two finance companies were taken over by the Central Bank, including the largest independent finance company. Two banks deemed insolvent—accounting for 14 percent of financial system assets—will be merged with other banks. Nonperforming loans peaked between 25–35 percent of banking system assets and fell to 10.8 percent by March 2002.	Yes
Mali	1987–89	-0.5	1987	75			3.43		Yes
Mauritania	1984–93	-3.2	1984	70		15	0.00	In 1984 five major banks had nonperforming assets ranging from 45–70 percent of their portfolios.	Yes
Mauritius	1996	4.1	1995		17		0.00	The Central Bank closed 2 of 12 commercial banks for fraud and other irregularities.	No
Mexico	1981–91	-4.2	1983				na	Government took over troubled banking system.	Yes
Mexico	1994–2000	-6.2	1995	18.9	19	19.3	10.00	Of 34 commercial banks in 1994, 9 were intervened in and 11 participated in the loan/purchase recapitalization program. The 9 intervened banks accounted for 19 percent of financial system assets and were deemed insolvent. In 1994 one percent of bank assets were owned by foreigner and by 2000, 50 percent of bank assets were held by foreign banks.	Yes
Morocco	Early 1980s	-2.8	1981				na	Banking sector experienced solvency problems.	Yes
Mozambique	1987–95?	-11.4	1988				0.00	Main commercial bank experienced solvency problems that became apparent after 1992.	Yes
Myanmar	1996–	6.4	1996				2.00	The largest state-owned commercial bank reported to have large nonperforming loans.	No
Nepal	1988	1.7	1987	29			2.20		Yes
New Zealand	1987–90	-0.1	1988		25	1	0.00	One large state-owned bank accounting for one-quarter of banking assets experienced serious solvency problems due to high nonperforming loans. The bank required a capital injection equal to 1 percent of GDP.	No
Nicaragua	Late 1980s–96	-12.4	1988	50			na		Yes
Niger	1983–	-16.8	1984	50			25.30	In the mid-1980s banking system nonperforming loans reached 50 percent. Four banks were liquidated and three restructured in the late 1980s. In 2002, a new round of bank restructuring was launched. Four banks were experiencing serious difficulties. Two of them were to be restructured and the other two might be liquidated.	Yes
Nigeria	1991–95	0.1	1994	77	50		68.40	In 1993 insolvent banks accounted for 20 percent of banking system assets and 22 percent of deposits. In 1995 almost half the banks reported being in financial distress.	Yes
Nigeria	1997	2.7	1997		4		na		No
Norway	1990–93	0.9	1989		85	8	0.00	The Central Bank provided special loans to six banks suffering from the recession of 1985–86 and from problem real estate loans. The state took control of the three largest banks (with 85 percent of banking system assets, whose loan losses had wiped out capital), partly through a Government Bank Investment Fund (5 billion kroner), and the state-backed Bank Insurance Fund had to increase capital to 11 billion kroner. Recapitalization costs totaled 8 percent of GDP.	Yes
Panama	1988–89	-13.4	1988				16.27	In 1988 Panama's banking system experienced a nine-week banking holiday. The financial position of most state-owned and private commercial banks was weak. As a result 15 banks ceased operations.	Yes
Papua New Guinea	1989–	-3.0	1990				11.93	Some 85 percent of savings and loan associations have ceased operations.	No

Paraguay	1995–2000	3.1	1994		10	13	0.00	The Government Superintendency intervened in two connected commercial banks, two other banks, and six related finance houses accounting for 10 percent of financial system deposits. By 1998 the government had intervened in six other financial institutions, including the country's largest public bank and the largest savings and loan institution. By the end of 1998 the government had intervened in most remaining domestic private and public banks and a number of finance companies. By end 1999 banks in Paraguay had become predominantly foreign owned, with over 80 percent of bank assets in foreign hands. All banks were deemed sound by the Government Superintendency by the end of 2000.	Yes
Paraguay	2001–	-0.3	2000				na	One bank was closed in 2001 and another one became insolvent in 2002. Banks in the system continue to experience rising NPLs against the background of an economic recession and a depreciation of the currency by around 50 percent from January 2002 to January 2003.	No
Peru	1983–90	-11.8	1983				15.20	Two large banks failed. The rest of the system suffered from high nonperforming loans and financial disintermediation following the nationalization of the banking system in 1987.	Yes
Philippines	1983–87	-7.3	1984	19	62	3	26.00	Problems in two public banks accounting for 50 percent of banking system assets, six private banks accounting for 12 percent of banking system assets, 32 thrifts accounting for 53 percent of thrift banking assets, and 128 rural banks.	Yes
Philippines	1998–	-0.6	1998	20		13.2	10.10	Since January 1998 one commercial bank, 7 of 88 thrifts, and 40 of 750 rural banks have been placed under receivership. Banking system nonperforming loans reached 12 percent by November 1998, and were expected to reach 20 percent in 1999.	Yes
Poland	1992–95	-7.0	1991	24	90	3.5	0.00	In 1991 seven of nine treasury-owned commercial banks—accounting for 90 percent of credit—the Bank for Food Economy, and the cooperative banking sector experienced solvency problems.	Yes
Romania	1990–	-12.9	1991	30		0.6	21.80	In 1998 nonperforming loans reached 25–30 percent in the six main state-owned banks. The Agricultural Bank was recapitalized on a flow basis. In 1998 the Central Bank injected $210 million in Bancorex (0.6 percent of GDP), the largest state bank, and in 1999 another $60 million.	Yes
Russia	1995	-12.6	1994				0.00	In August 1995 the interbank loan market stopped working due to concerns about connected lending in many new banks.	Yes
Russia	1998–99	-4.9	1998	40	50	na	3.00	Nearly 720 banks, or half of those now operating, were deemed insolvent. These banks accounted for 4 percent of sector assets and 32 percent of retail deposits. According to the Central Bank, 18 banks holding 40 percent of sector assets and 41 percent of household deposits are in serious difficulties and will require rescue by the state.	Yes
Rwanda	1991–	-2.5	1991				2.63	One bank, with a well-established network, closed.	No
São Tomé and Principe	1980s and 1990s			90			na	At the end of 1992, 90 percent of the monobank's loans were nonperforming. In 1993 the commercial and development departments of the former monobank were liquidated, as was the only financial institution. At the same time, two new banks were licensed that took over many of the assets of their predecessors. The credit operations of one new bank have been suspended since late 1994.	Yes
Senegal	1988–91	-1.4	1989	50	25	17	0.00	In 1988, 50 percent of banking system loans were nonperforming. Six commercial banks and one development bank closed, accounting for 20–30 percent of financial system assets.	Yes
Sierra Leone	1990–	-19.0	1992	45			28.57	One bank's license was suspended in 1994. Bank recapitalization and restructuring are ongoing.	Yes

Singapore	1982	7.1	1982	0.6			1.50		No
Slovakia	1991–	-14.6	1991				32.90	In 1997 unrecoverable loans were estimated at 101 billion crowns, or about 31 percent of loans and 15 percent of GDP.	Yes
Slovenia	1992–94	-8.9	1991		67	14.6	0.00	Three banks—accounting for two-thirds of banking system assets—were restructured.	Yes
South Africa	1977	-2.8	1977				na	Trust Bank experienced problems	No
South Africa	1989–	2.4	1989				0.00	Some banks are experiencing problems.	No
Spain	1977–85	2.8	1977		20	5.6	0.00	In 1978–83, 24 institutions were rescued, 4 were liquidated, 4 were merged, and 20 small and medium-size banks were nationalized. These 52 banks (of 110), representing 20 percent of banking system deposits, were experiencing solvency problems.	Yes
Sri Lanka	1989–93	2.3	1989	35		5	1.00	State-owned banks comprising 70 percent of banking system estimated to have nonperforming loans of about 35 percent.	Yes
Swaziland	1995	3.8	1995				0.00	Meridien BIAO Swaziland was taken over by the Central Bank. The Central Bank also took over the Swaziland Development and Savings Bank, which faced severe portfolio problems.	Yes
Sweden	1991–94	-1.1	1991	13	22	4	11.00	Nordbanken and Gota Bank, accounting for 22 percent of banking system assets, were insolvent. Sparbanken Foresta, accounting for 24 percent of banking system assets, intervened. Overall, five of the six largest banks, accounting for more than 70 percent of banking system assets, experienced difficulties.	Yes
Taiwan, China	1983–84	3.6	1982				0.00	Four trust companies and eleven cooperatives failed.	No
Taiwan, China	1995	6.4	1995				21.20	Failure of credit cooperative Changua Fourth in late July sparked runs on other credit unions in central and southern Taiwan.	No
Taiwan, China	1997–98	6.1	1996	26		11.5	na		Yes
Tajikistan	1996–	-16.7	1996				0.00	One of the largest banks is insolvent, one small bank has been closed, and another (out of 17) is in the process of liquidation.	No
Tanzania	Late 1980s; 1990s			70	95	10	na	In 1987 the main financial institutions had arrears amounting to half their portfolios. In 1995 it was determined that the National Bank of Commerce, which accounted for 95 percent of banking system assets, has been insolvent since at least 1990.	Yes
Thailand	1983–87	5.6	1983		25	0.7	0.10	Authorities intervened in 50 finance and security firms and 5 commercial banks, or about 25 percent of financial system assets; 3 commercial banks deemed insolvent (accounting for 14 percent of commercial bank assets). Government cost for 50 finance companies estimated at 0.5 percent of GNP; government cost for subsidized loans amounted to about 0.2 percent of GDP a year.	Yes
Thailand	1997–2002	-10.5	1998	33		34.8	40.00	Through, May 2002 the Bank of Thailand had shutdown 59 (of 91) financial companies that in total accounted for 13 percent of financial system assets and 72 percent of finance company assets. It shutdown 1 (of 15) domestic banks and nationalized 4 banks. A publicly owned assets management company held 29.7 percent of financial system assets as of March 2002. Nonperforming loans peaked at 33 percent of total loans and were reduced to 10.3 percent of total loans in February 2002.	Yes
Togo	1993, 1994, 1995	-15.1	1993				15.27	Banking sector experienced solvency problems.	Yes
Trinidad and Tobago	1982–93	-5.2	1983				5.43	In the early 1980s several financial institutions experienced solvency problems, resulting in the merging of three government-owned banks in 1993.	No

Tunisia	1991–95	3.9	1991			3	0.00	In 1991 most commercial banks were undercapitalized. During 1991–94 the banking system raised equity equivalent to 1.5 percent of GDP and made provisions equivalent to another 1.5 percent. Thus recapitalization through 1994 required at least 3 percent of GDP.	No
Turkey	1982–85	3.6	1982			2.5	0.00	Three banks were merged with the state-owned Agriculture Bank and then liquidated; two large banks were restructured.	Yes
Turkey	1994	-5.5	1994			1	10.00	Three banks failed in April 1994.	No
Turkey	2000–	-4.7	1999			30.5	0.00	Two banks closed and 19 banks have been taken over by the Savings Deposit Insurance Fund.	Yes
Uganda	1994–	8.3	1993		50		0.00	Between 1994 and 1998, half of the banking system faced solvency problems. In 1998, two banks were closed and one recapitalized and privatized. In 1999, another two banks were closed. In 2002, one small bank was intervened and two other banks were experiencing difficulties.	Yes
Ukraine	1997–98	-10.0	1996	65			0.00	By 1997, 32 of 195 banks were being liquidated, while 25 others were undergoing financial rehabilitation. Bad loans accounted for 50–65 percent of assets even in some leading banks. In 1998 banks were further hit by the government's decision to restructure government debt.	Yes
United Kingdom	1974–76	-1.6	1974				na	"Secondary Banking Crisis."	No
United Kingdom	1980s and 1990s						na	Notable bank failures included Johnson Matthey (1984), Bank of Credit and Commerce International (1991), and Barings (1995).	No
United States	1988–91	4.2	1988	4.1		3.2	0.00	More than 1,400 savings and loan institutions and 1,300 banks failed. Cleaning up savings and loan institutions cost $180 billion, or 3 percent of GDP.	No
Uruguay	1981–84	-10.3	1983		30	31.2	41.00	Affected institutions accounted for 30 percent of financial system assets; insolvent banks accounted for 20 percent of financial system deposits.	Yes
Uruguay	2002–	-10.8	20.02	25			8.27	The Government-owned mortgage bank was recapitalized in December 2001. The banking system experienced a large outflow of deposits (33% during the first seven months of 2002). In 2002, four banks were closed (representing 33% of total bank assets). Fixed-term deposits (CDs) in public banks were restructured and their maturity extended. The cost of the recapitalizing the government-owned mortgage bank was estimated at $650 million, or 3% of GDP.	Yes
Venezuela	Late 1970s and 1980s						na	Notable bank failures included Banco Nacional de Descuento (1978), BANDAGRO (1981), Banco de los Trabajadores de Venezuela (1982), Banco de Comercio (1985), BHCU (1985), BHCO (1985), and Banco Lara (1986).	No
Venezuela	1994–95	-2.3	1994		35	22	14.00	Insolvent banks accounted for 35 percent of financial system deposits. In 1994 the authorities intervened in 17 of 47 banks that held 50 percent of deposits and nationalized 9 banks and closed 7 others. The government intervened in 5 additional banks in 1995.	Yes
Vietnam	1997–	8.1	1997	18	51		23.00	Two of four large state-owned commercial banks—accounting for 51 percent of banking system loans—deemed insolvent; the other two experience significant solvency problems. Several joint stocks banks are in severe financial distress. Banking system nonperforming loans reached 18 percent in late 1998.	Yes
Yemen	1996–	10.9	1995				18.87	Banks suffered from extensive nonperforming loans and heavy foreign currency exposure.	Yes
Zambia	1995	-8.7	1994		13	1.4	0.00	Meridian Bank, which accounted for 13 percent of commercial bank assets, became insolvent.	Yes

Zimbabwe	1995–	0.2	1995				0.00	Two of five commercial banks have high nonperforming loans.	Yes

Notes:
This database updates the work done by Caprio and Klingebiel (1996, 1999) using various sources.
Estimates of the output costs of banking crises are sensitive to several assumptions, not least of which is the accuracy of the starting and ending dates for crises (see Caprio-Klingebiel, 1996 for a discussion of the problems of dating crises) and the difficulty in constructing a counterfactual for the path of GDP had there been no crisis. For more discussion, see Hoggarth, Reis, and Saporta (2002) and Honohan (2002).
Notwithstanding the difficulties, output loss estimates have become so commonly used that we include the most widespread estimates using the 'IMF methodology' (see IMF, 1998). We use the World Economic Outlook database published in September 2003 to calculate the variable for all episodes except for the ones where the values corresponding to the growth trend overlap with other ongoing crises as is the case of Taiwan for example. As with the fiscal cost estimates, which also are affected by a number of assumptions, the estimates here are consensus numbers and do not necessarily represent the views of the World Bank, its Board of Directors, or member countries.
Output loss (IMF) is constructed by comparing, in real terms, the pre-crisis GDP growth rate of a certain country with the GDP growth rate during the following years until the pre-crisis rate is reached. This approach considers pre-crisis GDP growth rates to be the trend or a country’s potential growth rates. The pre-crisis GDP growth is calculated as the average of GDP growth rates from year t-3 to t-1, where year t is the start of the crisis. Then, each GDP growth rate from year t onwards is compared to the trend until the trend growth is reached. The output loss is defined as the sum of the difference between the actual and the trend growth rate over all the years until the trend growth is reached again.

Sources:
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