

Stories of the Twentieth Century for the Twenty-First

Pierre-Olivier Gourinchas and Maurice Obstfeld

July 26, 2011

Web Appendix

1 List of Countries and Crises

1.1 Currency Crises.

See Table 1. To date EME currency crises we use the criterion of [Frankel and Rose \(1996\)](#) – a 25 percent or greater nominal currency depreciation against the US dollar over a year that is also a 10 percentage point increase in the annual rate of depreciation.

For advanced economies we use the chronology of [Bordo et al. \(2001\)](#), which extends through 1997. After 1997 there were no true currency crises in advanced countries until 2008, notwithstanding the ersatz crises some authors have identified using mechanical criteria. We also include Iceland in 2008.¹ The 2003-2010 crisis are marked with a '*' in Table 1.

1.2 Systemic Banking Crises.

See Table 2. We draw our dating of systemic banking crises from [Laeven and Valencia \(2010\)](#). 2003-2010 crisis episodes are marked with a '*' in Table 2. This set of additional banking crisis episodes includes ‘borderline’ systemic crisis under the [Laeven and Valencia \(2010\)](#) classification, since some of the recent banking crisis may yet have to play out fully.

1.3 Default Crisis.

We draw our dating of domestic and external default episodes from [Reinhart and Rogoff \(2009\)](#), [Cantor and Packer \(1995\)](#), [Chambers \(2011\)](#), [Moody's \(2009\)](#), and [Sturzenegger and Zettelmeyer \(2007\)](#). 2003-2010 crisis episodes are marked with a '*' in Table 3.

¹A number of advanced countries experienced a significant depreciation of their currency relative to the US dollar in 2008. Since this reflected mostly the strength of the dollar during that year, we do not classify these events as currency crisis, except for Iceland.

Table 1: Currency Crisis Episodes, 1973-2010.

Country	Year	Source	Remarks
Advanced Economies			
Australia	1976, 1983, 1985	Bordo et al. (2001)	
Belgium	1982	Bordo et al. (2001)	
Canada	1981, 1986	Bordo et al. (2001)	
Denmark	1976, 1992, 1993	Bordo et al. (2001)	
Finland	1986, 1991, 1993	Bordo et al. (2001)	
France	1992	Bordo et al. (2001)	
Greece	1983, 1985	Bordo et al. (2001)	
Iceland	1975, 1978, 1981, 1984, 2008*	Bordo et al. (2001)	2008: authors calculation.
Ireland	1976, 1986, 1992	Bordo et al. (2001)	
Italy	1976, 1992, 1995	Bordo et al. (2001)	
Japan	1979	Bordo et al. (2001)	
New Zealand	1975, 1978, 1980, 1984, 1988	Bordo et al. (2001)	
Norway	1986	Bordo et al. (2001)	
Portugal	1976, 1978, 1983	Bordo et al. (2001)	
Spain	1976, 1982, 1992, 1995	Bordo et al. (2001)	
Sweden	1992	Bordo et al. (2001)	
Switzerland	1977	Bordo et al. (2001)	
United Kingdom	1976, 1992	Bordo et al. (2001)	
Total	44, of which 43 in 1973-2006		
Emerging Economies			
Argentina	1975, 1981, 1987, 2002	Frankel and Rose (1996)	
Belarus	1996, 2000, 2009	Frankel and Rose (1996)	
Brazil	1976, 1983, 1987, 1992, 1999, 2008*	Frankel and Rose (1996)	
Bulgaria	1990, 1996	Frankel and Rose (1996)	
Côte d'Ivoire	1994	Frankel and Rose (1996)	
Chile	1975, 1982	Frankel and Rose (1996)	
China	1984, 1994	Frankel and Rose (1996)	
Columbia	1985, 1997	Frankel and Rose (1996)	
Dominican Republic	1985, 1990, 2003*	Frankel and Rose (1996)	
Ecuador	1982, 1995	Frankel and Rose (1996)	
Egypt	1979, 1989, 2003*	Frankel and Rose (1996)	
El Salvador	1986, 1990	Frankel and Rose (1996)	
Georgia	1998	Frankel and Rose (1996)	
India	1991	Frankel and Rose (1996)	
Indonesia	1978, 1983, 1997	Frankel and Rose (1996)	
Iraq	2003*	Frankel and Rose (1996)	
Israel	1977, 1983	Frankel and Rose (1996)	

continued on next page

Table 1 continued from previous page

Country	Year	Source	Remarks
Jamaica	1978, 1983, 1991	Frankel and Rose (1996)	
Jordan	1988	Frankel and Rose (1996)	
Kazakhstan	1999	Frankel and Rose (1996)	
Korea	1980, 1997, 2008*	Frankel and Rose (1996)	
Lebanon	1983, 1990	Frankel and Rose (1996)	
Macedonia	1997	Frankel and Rose (1996)	
Malaysia	1997	Frankel and Rose (1996)	
Mexico	1976, 1982, 1994	Frankel and Rose (1996)	
Nigeria	1986, 1992, 1999	Frankel and Rose (1996)	
Pakistan	1982, 2008*	Frankel and Rose (1996)	
Peru	1976, 1982, 1987	Frankel and Rose (1996)	
Philippines	1983, 1997	Frankel and Rose (1996)	
Poland	1978, 1986, 1992	Frankel and Rose (1996)	
Romania	1990, 1997	Frankel and Rose (1996)	
Russia	1998	Frankel and Rose (1996)	
Serbia	2000	Frankel and Rose (1996)	
South Africa	1984, 2001, 2008*	Frankel and Rose (1996)	
Sri Lanka	1977	Frankel and Rose (1996)	
Thailand	1997	Frankel and Rose (1996)	
Turkey	1978, 1988, 1994, 1999, 2008*	Frankel and Rose (1996)	
Ukraine	1998, 2008*	Frankel and Rose (1996)	
Uruguay	1982, 1989, 2002	Frankel and Rose (1996)	
Venezuela	1984, 1994, 2002	Frankel and Rose (1996)	
Total	91, of which 84 in 1973-2006		

* indicates crisis used only in the panel logit analysis of section 2.3 of the paper

Table 2: Systemic Banking Crisis Episodes, 1973-2010.

Country	Year	Source	Remarks
Advanced Economies			
Austria	2008*	Laeven and Valencia (2010)	
Belgium	2008*	Laeven and Valencia (2010)	
Denmark	2008*	Laeven and Valencia (2010)	
Finland	1991	Laeven and Valencia (2010)	
France	2008*	Laeven and Valencia (2010)	borderline
Germany	2008*	Laeven and Valencia (2010)	
Greece	2008*	Laeven and Valencia (2010)	borderline
Iceland	2008*	Laeven and Valencia (2010)	
Ireland	2008*	Laeven and Valencia (2010)	
Japan	1997	Laeven and Valencia (2010)	
Netherlands	2008*	Laeven and Valencia (2010)	
Norway	1991	Laeven and Valencia (2010)	
Portugal	2008*	Laeven and Valencia (2010)	borderline
Spain	1977, 2008*	Laeven and Valencia (2010)	2008 borderline
Sweden	1991, 2008*	Laeven and Valencia (2010)	2008 borderline
Switzerland	2008*	Laeven and Valencia (2010)	borderline
United Kingdom	2007*	Laeven and Valencia (2010)	
United States	2007*	Laeven and Valencia (2010)	
Total	20 of which 5 in 1973-2006		
Emerging Economies			
Argentina	1980, 1989, 1995, 2001	Laeven and Valencia (2010)	
Bosnia	1992	Laeven and Valencia (2010)	
Brazil	1990, 1994	Laeven and Valencia (2010)	
Bulgaria	1996	Laeven and Valencia (2010)	
Côte d'Ivoire	1988	Caprio et al. (2003)	
Chile	1976, 1981	Laeven and Valencia (2010)	
China	1998	Laeven and Valencia (2010)	
Columbia	1982, 1998	Laeven and Valencia (2010)	
Croatia	1998	Laeven and Valencia (2010)	
Dominican Republic	2003*	Laeven and Valencia (2010)	
Ecuador	1982, 1996, 1998	Laeven and Valencia (2010)	1986 in Caprio et al. (2003)
Egypt	1980	Laeven and Valencia (2010)	
El Salvador	1989	Laeven and Valencia (2010)	
Estonia	1992	Laeven and Valencia (2010)	
Georgia	1991	Laeven and Valencia (2010)	
Hungary	1991	Laeven and Valencia (2010)	
Indonesia	1997	Laeven and Valencia (2010)	

continued on next page

Table 2 continued from previous page

Country	Year	Source	Remarks
Israel	1977	Laeven and Valencia (2010)	
Jamaica	1996	Laeven and Valencia (2010)	
Kazakhstan	2008*	Laeven and Valencia (2010)	borderline
Korea	1997	Laeven and Valencia (2010)	
Kuwait	1982	Laeven and Valencia (2010)	
Latvia	1995, 2008*	Laeven and Valencia (2010)	
Lebanon	1990	Laeven and Valencia (2010)	
Lithuania	1995	Laeven and Valencia (2010)	
Macedonia	1993	Laeven and Valencia (2010)	
Malaysia	1997	Laeven and Valencia (2010)	
Mexico	1981, 1994	Laeven and Valencia (2010)	
Morocco	1980	Laeven and Valencia (2010)	
Nigeria	1991	Laeven and Valencia (2010)	
Panama	1988	Laeven and Valencia (2010)	
Peru	1983	Laeven and Valencia (2010)	
Philippines	1983, 1997	Laeven and Valencia (2010)	
Poland	1992	Laeven and Valencia (2010)	
Romania	1990	Laeven and Valencia (2010)	
Russia	1998, 2008*	Laeven and Valencia (2010)	2008 borderline
Slovak Republic	1998	Laeven and Valencia (2010)	
Slovenia	1992, 2008*	Laeven and Valencia (2010)	2008 borderline
Sri Lanka	1989	Laeven and Valencia (2010)	
Thailand	1983, 1997	Laeven and Valencia (2010)	
Turkey	1982, 2000	Laeven and Valencia (2010)	
Ukraine	1998, 2008*	Laeven and Valencia (2010)	
Uruguay	1981, 2002	Laeven and Valencia (2010)	
Venezuela	1994	Laeven and Valencia (2010)	
Total		62, of which 57 in 1973-2006	

* indicates crisis used only in the panel logit analysis of section 2.3 of the paper

Table 3: Default Episodes, 1973-2010.

Country	Year	Source	Remarks
Emerging Economies			
Argentina	1982	Reinhart (2011)	Domestic and external
	1989	Reinhart (2011)	Domestic
	2001	Reinhart (2011)	External
Brazil	1983	Reinhart (2011)	External
	1986	Reinhart (2011)	Domestic
	1990	Reinhart (2011)	Domestic
	2002	Reinhart (2011)	Domestic and external
Bulgaria	1990	Reinhart and Rogoff (2009, p.23)	External
Côte d'Ivoire	1983	Reinhart (2011)	External
	2000	Reinhart (2011)	External
Chile	1974	Reinhart (2011)	External
	1983	Reinhart (2011)	External
Croatia	1993	Reinhart and Rogoff (2009, p.115)	Domestic
Dominican Republic	1975	Reinhart (2011)	Domestic
	1982	Reinhart (2011)	External
	2005*	Reinhart (2011)	External
Ecuador	1982	Reinhart (2011)	External
	1999	Reinhart (2011)	Domestic and external
	2008*	Reinhart (2011)	External
Egypt	1984	Reinhart (2011)	External
El Salvador	1981	Reinhart (2011)	Domestic
India	1973	Reinhart (2011)	External.
Indonesia	1997	Reinhart (2011)	Default started in 1972. Domestic
	1998	Reinhart (2011)	External
	2002	Reinhart (2011)	External
Iraq	1990	Reinhart and Rogoff (2009, p.23)	External
Jamaica	1978	Reinhart and Rogoff (2009, p.23)	External
	2010*	Chambers (2011)	External
Jordan	1989	Reinhart and Rogoff (2009, p.23)	External
Kuwait	1990	Reinhart and Rogoff (2009, p.115)	Domestic
Mexico	1982	Reinhart (2011)	Domestic and external
Morocco	1983	Reinhart (2011)	External
	1986	Reinhart (2011)	External
Nigeria	1982	Reinhart (2011)	External
	2001	Reinhart (2011)	External
	2004*	Reinhart (2011)	External
Pakistan	1981	(Sturzenegger and Zettelmeyer, 2007, Table 1)	External

continued on next page

Table 3 continued from previous page

Country	Year	Source	Remarks
Panama	1999	Chambers (2011)	External
	1983	Reinhart (2011)	External
	1987	Cantor and Packer (1995)	External
	1988	Reinhart (2011)	Domestic
Peru	1976	Reinhart (2011)	External
	1978	Reinhart (2011)	External
	1980	Reinhart (2011)	External
	1984	Reinhart (2011)	External
	1985	Reinhart (2011)	Domestic
Philippines	1983	Reinhart and Rogoff (2009, p.115)	External
Poland	1981	Reinhart (2011)	External
Romania	1981	Reinhart (2011)	External
Russia	1986	Reinhart (2011)	External
	1991	Reinhart (2011)	External
	1993	Cantor and Packer (1995)	Domestic
	1998	Reinhart (2011), Reinhart and Rogoff (2009, p.23)	Domestic and external
Serbia	1983	Cantor and Packer (1995)	External (Yugoslavia)
	1992	Cantor and Packer (1995)	External (Yugoslavia)
South Africa	1985	Reinhart (2011)	External
	1989	Reinhart (2011)	External
	1993	Reinhart (2011)	External
Sri Lanka	1979	Reinhart (2011)	External
	1981	Reinhart (2011)	External
	1996	Reinhart (2011)	Domestic
Tunisia	1979	Reinhart (2011)	External
Turkey	1978	Reinhart (2011)	External
	1982	Reinhart (2011)	External
	2001	Reinhart (2011)	Domestic and external
Ukraine	1998	Reinhart and Rogoff (2009, p.115), Moody's (2009)	Domestic and external
	2000	Moody's (2009)	External
Uruguay	1983	Reinhart (2011)	External
	1987	Reinhart (2011)	External
	1990	Reinhart (2011)	External
	2003*	Reinhart (2011)	External
Venezuela	1982	Reinhart and Rogoff (2009, p.23)	External
	1990	Reinhart (2011)	External
	1990	Reinhart (2011)	Domestic and external
	1995	Reinhart (2011)	External
	1998	Reinhart and Rogoff (2009, p.115)	Domestic
	2005*	Chambers (2011)	External
Total	76, of which 74 in 1973-2006		

* indicates crisis used only in the panel logit analysis of section 2.3 of the paper

References

- Bordo, Michael, Barry Eichengreen, Daniela Klingebiel, and Maria Soledad Martinez-Peria,** “Is the Crisis Problem Growing More Severe?,” *Economic Policy*, April 2001, 16 (32), 51–82.
- Cantor, Richard and Frank Packer**, “Sovereign Credit Ratings,” *Current Issues in Economics and Finance*, June 1995, 1 (3), 1–6.
- Caprio, Gerard, Daniela Klingebiel, Luc Laeven, and Guillermo Noguera**, “Banking Crises Database,” http://www1.worldbank.org/finance/html/database_sfd.html, 2003. Accessed July 10, 2011.
- Chambers, John**, “Sovereign Defaults and Rating Transition Data, 2010 Update,” *Standard & Poor’s Global Credit Portal*, February 2011.
- Frankel, Jeffrey A. and Andrew K. Rose**, “Currency crashes in emerging markets: An empirical treatment,” *Journal of International Economics*, November 1996, 41 (3-4), 351–366.
- Laeven, Luc and Fabian Valencia**, “Resolution of Banking Crises: The Good, the Bad, and the Ugly,” IMF Working Papers 10/146, International Monetary Fund June 2010.
- Moody’s**, “Sovereign Default and Recovery Rates, 1983-2008,” *Moody’s Global Credit Policy*, March 2009.
- Reinhart, Carmen**, “Dates for banking crises, currency crashes, sovereign domestic or external default (or restructuring),” <http://terpconnect.umd.edu/~creinhar/Courses.html>, 2011. Last accessed June 26, 2011.
- Reinhart, Carmen M. and Kenneth S. Rogoff**, *This time is different: Eight centuries of financial folly*, Princeton, NJ: Princeton University Press, 2009.
- Sturzenegger, Federico and Jeromin Zettelmeyer**, *Debt Defaults and Lessons from a Decade of Crises*, Cambridge, MA: The MIT Press, 2007.