

MPRA

Munich Personal RePEc Archive

Identifying the symptoms of financial crises

Batista, Blessica

Ateneo de Devao University

2018

Online at <https://mpra.ub.uni-muenchen.de/91559/>

MPRA Paper No. 91559, posted 23 Jan 2019 16:46 UTC

Identifying the Symptoms of Financial Crises

Dr Blessica Batista

Abstract

This article explores if there are common symptoms and steps to international financial crises by examining the causes and progress of financial crisis in Latin America and South East Asia. The symptoms are a currency crisis, a banking crisis, a sovereign debt crisis and a balance of payments crisis. It will also attempt to the question as to what is the relative responsibility of the center and the periphery of the international financial system in the genesis of crises.

The international financial crises that hit a number of emerging countries from the mid-1990s are sometimes seen as a pathology associated with financial globalization. It should then be a contagious disease, when one considers the speed with which the crisis has spread from one country to another. At the level of a given country, the symptoms are as follows:

- 1) a currency crisis;
- 2) a banking crisis;
- 3) a sovereign debt crisis;
- 4) a balance of payments crisis (capital flight).

All four of these symptoms are sometimes present (as in the current Argentine crisis), but this is not always the case. Southeast Asian countries, for example, did not have a sovereign debt crisis (Kirrane 2017), and Brazil did not have a banking crisis sovereign debt declared in 1998. The only truly common denominator of international financial crises is the concomitance of a currency crisis and capital flight in several countries.

International financial crises have inspired literature abundant. There is a first surge in literacy following the Mexican crisis of 1994-1995, followed by a real explosion from 1998, at the time of the crisis in Southeast Asia. The purpose of this article is to give an overview of the main themes developed in the theoretical part of this literature. The international financial crises

have given rise to divergent interpretations, which sometimes have implications very different in terms of economic policy and reform of the international financial system.

This article provides a brief personal overview of what research theoretical on international financial crises has taught us, and directions it might follow in the future. This is not an exhaustive review of the literature. In particular, I omit mentioning contributions that are sometimes important, but which are not easily related to the themes I chose to discuss. The reader will find more complete reviews of the literature for example in Cartapanis (2002) or Allen et al (2002).

The concept of "contagion" is generally used with reference to the international spread of crises. But this concept can also be useful to think about the generalization of the crisis at the domestic level as when, for example, a sovereign debt crisis degenerates into a banking crisis in a given country. The mechanisms of contagion domestic explain the generalization of the crisis at the level of a country rather than its spread from one country to another. Domestic contagion explains why crises of different kinds tend to arise together at the level of a given country, in an international financial crisis.

The observation of recent crises suggests a number of channels of contagion, and the theoretical literature offers us several ways to model them. Some of these mechanisms are reviewed below.

Currency crisis

Foreign exchange rate crisis has different effects depending on whether one places oneself before the devaluation, when the authorities still resist speculation, or after the devaluation (Kirrane 2018). Before the devaluation, the rise in the interest rate weakens the banks and increases the servicing of the public debt (Obstfeld, 1994). Devaluation in turn causes problems if agents domestic (banks, companies, state) are indebted in currency foreign and have not hedged their foreign exchange risk, a problem currency mismatch that is endemic in emerging economies.

Devaluation reduces the net wealth of the indebted agent, leading to a crisis debt rollover if, moreover, its debt is short-term, as in the banking crisis models of Burnside et al (2001, 2002) or Jeanne and Wyplosz (2001). The erosion of wealth net can also lead to credit rationing for firms domestic or the state, as in the models of Aghion et al (2000, 2001), Céspedes et al (2002), Jeanne and Zettelmeyer (2002), Krugman (1999).

In general, the stabilizing power of monetary policy is reduced when domestic agents are indebted in foreign currency (Aghion et al., 2000; Bacchetta 2000; Jeanne and Wyplosz 2001).

Authorities are caught in a dilemma between raising high interest rates and allowing the currency to depreciate, two options that are both damaging to the economy.

Bank crisis

As Kaminsky and Reinhart (1999) show in their study of the "twin crises", the association between the currency crisis and the banking crisis does not date from the Asian crisis. The links between the banking crisis and the crisis currency are modeled in a number of recent articles. At Chang and Velasco (2000), for example, a run on dollar deposits in domestic banks is depleting the central bank's reserves leading as a last resort, causing a currency crisis. The authorities may also wish to limit devalue the consequences real of the financial crisis and stimulate the economy, (Jeanne and Wyplosz 2001). Moreover, the loss of production caused by the banking crisis may imply a depreciation of the equilibrium real exchange rate, which results in a currency crisis insofar as no one anticipates that the necessary adjustment will take the form of domestic deflation.

The banking crisis can also degenerate into a sovereign debt crisis since the cost (often very high) of bank bailout is financed by government bonds. At Burnside et al (2002), for example, the banking crisis raises public debt to levels unsustainable, resulting in a sovereign debt crisis that is being resolved into monetization.

Sovereign debt crisis

Authorities may be tempted to solve the public debt crisis through monetization, which puts pressure on the exchange rate (Obstfeld 1994, Burnside et al 2002). In addition, the decline in the price of government bonds is weakening the banking system if domestic banks hold a large amount of public debt (as was the case in Argentina). The sovereign default gives the bad name country a (Cole and Kehoe, 1998); it can thus cause fear of expropriation and capital flight.

Capital flight

It seems obvious that a currency crisis, a banking crisis or sovereign debt causes a flight of capital. This should not make us forget that, on the other hand, the flight of capital is in itself a source of problems. In particular, a capital flight reduces domestic demand, which weakens all domestic agents at once - businesses and households, the banks that lent them, and the state that sees its tax revenues decrease². Paradoxically, the negative impact of capital flight on domestic demand is an issue that has been relatively neglected in the theoretical literature.

A Keynesian theory of international financial crises (as opposed to the more Fischerian models of which there are many examples in the recent literature) remains to be developed (Calvo,

1998). The multiplicity and reciprocity of causalities has two consequences. First, these mechanisms propagation amplify the impact of exogenous shocks. A localized shock can cause a generalized crisis after reverberating throughout the economy. In a large international mobility capital environment, emerging economies are weakened by the vulnerabilities of their own, including financial structures often marked by short-term debt and currency foreign and macroeconomic policies that suffer a chronic deficit of credibility.

Secondly, emerging countries may be vulnerable to pure anticipation shocks. The new models of financial crises international generically have multiple equilibria due to multiple circularity (this is the case for example of Burnside et al, 2002; Jeanne and Wyplosz, 2001;

Schneider and Tornell, 2001). For example, speculative access to the domestic currency can trigger a chain reaction That justifies a posteriori investor anxiety and further speculation. We can also imagine a scenario where investors panicked withdraw their capital and thereby create the problems they feared. This type of circularity can make emerging countries vulnerable to changes in market sentiment without real economic fundamentals. Capital mobility contributes to this problem, as it makes capital flows very sensitive to changes in expectations.

Emerging-country crises tend to spread rapidly from one country to another, sometimes between countries with very little in common, as in the case of the contagion of Russia to Brazil in 1998. This type of contagion seems difficult to explain purely by commercial links or by an objective analogy between the countries affected by the crisis. It seems to imply a systemic fragility.

The international contagion can be interpreted first of all from the domestic fragilities I mentioned earlier, which are also systemic insofar as they are made possible by an international financial system characterized by a great mobility of capital. Given that the economies of emerging countries are vulnerable to small shocks, the crisis can spread from one to the other without necessarily having a link very strong mechanical between them. The limit of this reasoning is reached with the models of multiple equilibria. The contagion can then be explained as the simultaneous passage of the good equilibrium to the bad equilibrium in several countries which would have nothing else in common except to be vulnerable to self-fulfilling speculation (Masson, 1999).

Another approach, proposed in particular by Guillermo Calvo, tries to explain the international contagion through more financial channels. According to this approach, international financial centers can spread the crisis between countries on the periphery of the system, or even be an autonomous source of shocks. Foreign investors tend to group emerging countries into the same risk class, and do not necessarily engage in a detailed country-by-country risk analysis

(Calvo and Mendoza, 2000). In this context, bad news about one country can negatively affect other countries belonging to the same class, even if they have little in common. Calvo (1999) presents a model of the contagion of the Russian crisis in Brazil based on a different mechanism. Investors must sell bonds Brazilian, following losses on their Russian bonds. This lowers the price of Brazilian bonds, causing a crisis in Brazil. Wall Street could be, not only a vector of propagation, but also a source of shocks. Capital flows to emerging markets are characterized by dynamics boom and bust that are difficult to justify in terms of economic fundamentals, a phenomenon that can be seen in many other markets financial. Thus, Wall Street could be a source of correlated shocks between countries that have nothing in common other than belonging to the same risk class. Where do these dynamics come from boom and bust, and how should economic policies respond to them, are still poorly understood issues.

Do economists understand international financial crises? This article has been able to suggest that theorists do not lack assumptions about the factors of vulnerability, the shocks at the origin of crises, and the mechanisms involved in their propagation. Some assumptions have received special attention in efforts recent modeling (the link between the currency crisis and the banking crisis, in particular). Other mechanisms deserve more attention in future research (I think, in particular, the link between capital flight and domestic demand, and the phenomenon boom-bust inflows Capital to emerging countries).

Understanding the essence of international financial crises, involves going however, beyond conjecture. First, one may ask, which are really essential, in the sense that they would be much more than the others, which would determine the form of financial crises we observe. Another question is what is the relative responsibility of the center and the periphery of the international financial system in the genesis of crises.

The empirical literature on international financial crises is instructive on many aspects of the crisis, but it does not establish a consensus in response to these issues. These questions are crucial when it comes to thinking about crisis management or the reform of the "international financial architecture". There is of course some correspondence between the diagnosis of crises and the recommended remedies. If one thinks that speculation against fixed exchange rate regimes is a decisive factor in triggering international financial crises, it is natural to base one's hopes on the adoption of more exchange rate regimes flexible by emerging countries. This is the direction in which has the discourse of the International Financial Institutions evolved (Fischer, 2001). If, on the other hand, the origin of the crises is attributed to budgetary imbalances or bank weaknesses, we will recommend to the emerging countries an increased rigor in their budgetary policy and their banking regulation.

Finally, if we believe in an intrinsic instability of international capital flows, the application, even rigorous, of previous recommendations may not be enough to protect emerging countries from international financial crises - and it would be difficult to avoid seek the solution on the side of restrictions in the mobility of capital. The correct way to look at the problem may be a combination of the previous approaches, but then the question is how to prioritize. It is hoped that research on international financial crises will progress in order to base the study of these issues on an empirical basis more solid.

BIBLIOGRAPHY

AGHION P., BACCHETTA P. and BANERJEE A. (2000), A Simple Model of Monetary Policy and Currency Crises, *European Economic Review* 44, pp. 728-738.

AGHION P., BACCHETTA P. and BANERJEE A. (2001), Currency Crises and Monetary Policy in an Economy with Credit Constraints, *European Economic Review* 45 No.7, pp. 1121-1150.

ALLEN M., ROSENBERG C., KELLER C., SETSER B. and ROUBINI N. (2002), A Balance Sheet Approach to Financial Crisis, IMF Working Paper 02/210.

BACCHETTA P., (2000), Monetary Policy with Foreign Currency Debt, mimeo, Study Center Gerzensee, February.

BUITER W., CORSETTI G. e and PESENTI P. (1998), Interpreting The ERM Crisis: Country-Specific and Systemic Issues, *Princeton Studies In International Finance* No.4.

BURNSIDE C., EICHENBAUM M. and REBELO S. (2001), Prospective Deficits and the Asian Currency Crisis, *Journal of Political Economy* vol. 109(6), pp. 1155-97.

BURNSIDE C., EICHENBAUM M. and REBELO S. 2001, Hedging and Financial Fragility in Fixed Exchange Rate Regimes, *European Economic Review* Vol. 45, No7, pp. 1151-93.

CALVO G., (1998), Capital Flows and Capital-Market Crises: the Simple Economics of Sudden Stops, *Journal of Applied Economics*, vol.I, No1, pp. 35-54.

CALVO G., (1999), Contagion in Emerging Markets: when Wall Street is a carrier, mimo, University du Maryland, Department of Economics.

CALVO G., and MENDOZA E. (2000), Rational Contagion and the Globalization of Securities Markets, *Journal of International Economics*, 79-113.

CARTAPANIS A., (2002), Le déclenchement des crises de change: qu'avons-nous appris depuis dix ans?, à paraître dans *Économie Internationale*.

CESPEDES L. F., CHANG R., and VELASCO A. (2002), Dollarization of Liabilities, Net Worth Effects and Optimal Monetary Policy in Sebastian Edwards et Jeffrey A. Frankel (eds.), *Preventing Currency Crises in Emerging Markets*, NBER Conference Report, Chicago: The University of Chicago Press, pp. 559-600.

CHANG R. and VELASCO A. (2000), Liquidity Crises in Emerging Markets: Theory and Policy, in *NBER Macroeconomics Annual 1999*, Ben S. Bernanke et Julio Rotemberg (eds.), Cambridge, Massachusetts: MIT Press.

COLE H. R. and KEHOE P. J. (1998), Models of Sovereign Debt: Partial versus General Reputation, *International Economic Review* vol. 39 (1), 55-70.

EICHENGREEN B. and HAUSMANN R. (1999), Exchange Rates and Financial Fragility, NBER Working Paper No7418.

FISCHER S., (2001), Exchange Rate Regimes: Is the Bipolar View Correct?, *Journal of Economic Perspectives* vol. 15, No2.

JEANNE O., (2002), Why Do Emerging Economies Borrow in Foreign Currency?, presented at the conference Currency and Maturity Mismatching: Redeeming Debt From Original Sin, Banque interaméricaine de développement (Washington D.C.)

JEANNE O., and WYPLOSZ C. (2001), The International Lender of Last Resort: How Large is Large Enough?, NBER Working Paper N°8381, Michael P. Dooley et Jeffrey A. Frankel, eds., *Managing Currency Crises in Emerging Markets*, The University of Chicago Press.

JEANNE O., and ZETTELMEYER J. (2002), Original Sin, Balance Sheet Crises and the Role of International Lending, IMF Working Paper 02/234.

KAMINSKY G.L. and REINHART C.M. (1999), The Twin Crises: The Causes of Banking and Balance-of-Payments Problems, *American Economic Review* vol.89 No3, 473-500.

KIRRANE C., (2017), Looking Back to the Asian Crisis; lessons for the IMF, *Asian Journal of Political Economy*, Vol. 7, pp. 58-67

KIRRANE C., (2018), The Causes of the Asian Currency Crisis, *Asian Journal of Political Economy*, Vol. 8, pp. 107-117

KODRES L. and PRITSKER M. (2002), A Rational Expectations Model of Financial Contagion, *Journal of Finance* vol. 57 No2, 768-99.

KRUGMAN R., (1999), Balance Sheets, The Transfer Problem, and Financial Crises in Peter Isard, Assaf Razin, and Andrew K. Rose (eds.), *International Finance and Financial Crises: Essays in Honor of Robert P. Flood, Jr.*, Washington D.C.: International Monetary Fund, pp. 31-44.

MARTIN P., and REY H. (2002), Financial Globalization and Emerging Markets: With or Without Crash?, NBER Working Paper No9288.

MASSON P., (1999), Contagion: Macroeconomic Models with Multiple Equilibria, *Journal of International Money and Finance* vol. 18(4), pp. 587-602.

OBSTFELD M., (1994), The Logic of Currency Crises, *Cahiers Économiques et Monétaires*, No43, pp. 189-213.

SCHNEIDER M. and TORNELL A. (2001), Boom Bust Cycles and the Balance Sheet Effect mimeo (revised version of Balance Sheet Effects, Bailout Guarantees, and Financial Crises NBER Working Paper No8060).

SUMMERS L., (2000), International Financial Crises: Causes, Prevention, and Cures, *American Economic Review*, Papers and Proceedings of the 112th Annual Meeting of the American Economic Association, 1-16.

TIROLE J., (2002) *Financial Crises, Liquidity, and the International Monetary System*, Princeton University Press.