Global Financial Systems

Stability and Risk

Jon Danielsson

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Under what circumstances have we achieved financial stability?

Which previous crises inform the current ones and in what way?

What are the common themes and lessons for policy, regulation and financial theory?

Global Financial Systems: Stability and Risk is an innovative textbook that explores the 'why' behind global financial stability, providing insightful discussions on the international financial system and the contemporary issues of today. Drawing on economic theory, finance, mathematical modelling and risk theory, this book presents a comprehensive, coherent and current economic analysis of the inherent instabilities of the financial system, and the design of optimal policy response.

Key features

- Up-to-date and thorough analysis of the 2007/08 financial crisis.
- Case studies and practical examples illustrate key arguments and apply the theory to the real world.
- End-of-chapter questions provoke discussion and critical thinking, and provide opportunities to test your understanding.
- Accompanied by instructor resources including PowerPoint slides, plus an author-hosted website featuring regular updates on current events in the global financial system and links to useful websites.

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Before the European crisis countries get assistance, they have to implement extreme austerity programmes and structural reforms, just like the East Asian countries had to do in 1997. Also, while some liquidity assistance is provided, it is far from enough to assure the markets. Meanwhile, no end to the European sovereign debt crisis is in sight.

6.7 SUMMARY

Some countries in East Asia suffered a severe financial and economic crisis in 2007, in particular South Korea, Malaysia, Indonesia and Thailand. Of these, all but Malaysia requested assistance from the IMF.

Prior to the crisis, the fundamentals appeared sound, and the crisis came as a surprise, but underneath were significant private sector problems, in particular, extensive short-term foreign currency borrowing.

Initial explanations for the crisis focused on weak fundamentals and moral hazard, with subsequent analysis highlighting the importance of liquidity.

The IMF came under strong criticism for its performance in the crisis, but it was hampered by institutional difficulties beyond its control. Many of the mistakes made by the Fund are visible only with the benefit of hindsight.

Some of the lessons from the Asian crisis have been taken on board in the current crisis, especially the early stages. Unfortunately, similar mistakes now appear to be repeated in Europe.

Questions for discussion

1. How does the Asian crisis differ from the previous major regional crisis, in Latin America?
2. What does it mean when we say that the economic fundamentals were sound but not the financial fundamentals?
3. Compare and contrast the causes of the crisis, the resolution of the crisis and the post-crisis reactions across the three countries.
4. Some commentators have argued that panic and contagion played an important role in the crisis. What is your view on this analysis?
5. Initial explanations for the crisis focused on moral hazard and related issues. These were eventually dismissed as a main cause. Why?
6. Later analysis, especially in the countries affected, focuses on liquidity. Explain the basis of the argument; discuss why it might be correct and what might be missing.
7. What was the role of the IMF? Did it give necessary help and support to the countries concerned or did it make matters worse?
8. Is the IMF a suitable provider of liquidity, or even a LOLR?
9. Are there parallels between the Asian crisis and the crisis dating from 2007?

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7 BANKING CRISES

Policymakers formulating banking policy and fighting banking crises need to consider several conflicting objectives. We want banks to actively finance economic activity and hence take on risk, but at the same time we want to curtail excessive risk-taking. Once a crisis is under way, we need to balance *moral hazard* considerations against the benefit of robust recapitalisations of banks, all whilst trying to minimise the costs to the taxpayers.

Banking crises cannot easily be avoided, as they are an inevitable consequence of having a vibrant banking system and economy. The only way to completely prevent banking crises is to restrict the banking system so severely that banks are unable to fulfil their socially useful role of financing risky activities, seriously holding back economic growth. What we can do is to reduce the incidence of banking crises and to minimise the costs of fighting them once they are underway.

Banking crises tend to have the same underlying causes. When times are good, banks enjoy access to significant amounts of credit. The banks, flush with money, look for borrowers, but traditional companies can only absorb so much money, not enough for all the liquid funds available. Therefore, as the banks search for borrowers, those they find are increasingly of low quality, often involved in real-estate speculation. Initially, the resulting weaknesses in the banks' loan books are not very visible since the price of real estate and equities increases sharply, creating a virtuous cycle between bank lending and prices. High prices create the illusion of a good collateral which further stimulates lending.

Eventually, valuations of assets are increasingly out of tune with the underlying economic fundamentals, and as in the tale by Hans Christian Andersen, it is as if somebody cries out 'the Emperor has no clothes' and everything reverses at warp speed, prices collapse and credit is withdrawn. This is typical of *endogenous risk*.

The reason why such booms and busts in asset prices cause banking crises is the inherent *fragility of banks* that comes from *fractional reserve banking*. Under this arrangement, when depositors put their money into a bank, the bank then turns around and lends most of it out, keeping a small fraction as reserves. The fragility arises because deposits generally are of short maturity, and some can be withdrawn whenever the depositor wants – *demand deposits* – whilst the loans tend to be of longer maturity. If a sufficiently large number of depositors want their money, the bank will run out of cash, because it cannot similarly call on its own borrowers to repay their loans. We call such an event a *bank run*. Bank runs are contagious, and can spread quickly throughout the financial system. The reason is that the banking system is built on trust, so if depositors lose confidence in banks they flee to cash.

Bank failures matter because they create *negative externalities*, adversely impacting on the economy. Banks provide essential services, and without banks companies cannot do business, nor can individuals go about their lives in their usual way. The failure of an individual bank might not be that costly because the authorities have in place robust mechanisms for preventing collateral damage from bank failures, but if we experience a wave of bank failures – a banking crisis – the impact on society will be serious.

The incidence and seriousness of banking crises in the developed world has fallen significantly since the Great Depression because the authorities in most countries have in place effective regulations preventing bank failures and robust mechanisms for coping with the failure of individual banks, preventing failures from spreading to the entire banking system.

Historically, this was not the case, and bank crises have caused significant economic damage. For example, Kupiec and Ramirez (2009) studied the United States (US) from 1900 until 1930 and found that bank failures significantly reduced economic growth. A one-standard-deviation shock to the share of liabilities in failed banks was found to cause a 17% decline in industrial production and a 4% decline in GDP.

Links to other chapters

This chapter draws on theoretical concepts discussed in Chapter 1 (systemic risk), Chapter 3 (endogenous risk), Chapter 4 (liquidity), Chapter 8 (bank runs and deposit insurance), Chapter 14 (bailouts) and Chapter 13 (financial regulations).

Key concepts

- Banking crises
- Moral hazard
- Good bank – bad bank
- Causes of banking crises
- Why it is so hard to prevent banking crises

Readings for this chapter

No specific readings are required for this chapter as the material is self-contained, but for a good survey see Kaminsky and Reinhart (1999), Banking Committee on Banking Supervision (2004), Caprio and Honohan (2009) and Reinhart and Rogoff (2009). For

a good account of early banking history and further discussions on fractional reserve banking, de Soto (2009) is an excellent book. Ferguson (2008) documents the history of money and Graeber (2011) provides a comprehensive survey of the history of money and credit.

7.1 MONEY AND EARLY BANKING

Money is defined by its function as a means of payment in exchange: in a monetary economy, goods and services are bought and sold in exchange for money. Historically, various goods have served as money, anything from seashells to copper. For example, the Swedish government established a copper standard in 1625, which turned out to be an effective way to prevent theft, but transaction costs were somewhat high.

Over time, the basic unit of money has converged to precious metals, a portable commodity which derives its value from its scarcity, with silver and gold most common. By the early nineteenth century, the world was divided into three metallic blocs: *gold*, silver and both (bimetal). Over time gold became dominant, lasting until 1914, due to the political and military dominance of the gold bloc. Various forms of the gold standard played an important role in the various monetary arrangements between the two world wars, and gold was the cornerstone of the Bretton Woods system. Since the US left the Bretton Woods system, and hence the gold standard, in 1971, almost all countries have used *fiat money*, which is money that has value because of government regulation or law but is without intrinsic value. Consequently, fiat money necessarily has to be legal tender. Fiat money is not a new invention; an early example is its introduction in the twelfth century in China as documented by Selgin (2003), leading to the first recorded nationwide inflation. The first European bank to print banknotes (fiat money) was Stockholms Banco in 1656. It eventually printed too much money and went bust.

A major problem with most forms of money is the temptation of governments to debase it. There are examples going back to the Roman Empire of governments reissuing coins in the same denomination, but increasing the relative content of cheap metals at the expense of gold and silver – the original form of *debasement*. The more recent practice of printing too much money and creating inflation is simply a modern form of currency debasement.

Early banking

It is unclear who was first engaged in fractional reserve banking. Initially, such banking was illegal, not least because of the Catholic Church's ban on the charging of interest – *usury*. Fractional reserve banking began to gain legal recognition as governments realised they could also benefit by borrowing large sums of money from banks, often to finance wars. Inevitably, banks often failed because of sovereign defaults.

Below we discuss two examples of early banks, the famous Medici bank of Florence, which functioned as a fractional reserve bank, and the Amsterdamsche Wisselbank in the Netherlands, which operated as a full reserve bank for most of its existence. We will see how they innovated and made their money, what risks they faced and how they eventually failed.

Medici bank (1397–1494)

The *Medici bank*, 1397–1494, was the largest and most respected bank in Europe during the fifteenth century, making the Medici family perhaps the wealthiest family in Europe. The Medici bank was highly diversified, being involved in silk and cloth manufacturing as well as facilitating trade, for example, by lending to English sheep farmers and wool merchants in return for buying their goods for low prices, thus bypassing usury laws.

The Medici bank made most of its money by selling bills of exchange, which were invented to circumvent usury laws. When a depositor paid money into a branch of a Medici bank, the general manager of the branch issued a bill of exchange to the depositor, instructing another Medici branch in a different country to pay the money back in local currency upon the depositor presenting the bill, but at a pre-agreed exchange rate. Thus, the interest rate charge could be hidden in the exchange rate.

The way the bank facilitated trade can be seen in Figure 7.1. If a merchant was travelling from Florence to London, he could buy a bill of exchange for 15 florins from the Florence branch, agreeing at the time of purchase that the London branch would cash the bill at an exchange rate of 3 florins per pound. Three months later when the merchant arrived in London, if the florin had appreciated against the pound, the merchant would suffer a loss. This instrument meant that the Medici bank faced a significant exchange rate risk, and the heads of different Medici branches often wrote to each other to obtain information and forecast the direction of exchange rates. This risk could be hedged by offsetting trades, for example, facilitating the business of a London-based merchant travelling to Florence.

Bills of exchange were freely traded, and were effective in acting as a medium of exchange. The Medici bank has also been credited with the invention of double entry accounting; all in all, it was a hugely profitable business, making around a 32% annual return on equity from 1397 to 1420.

The Medici bank eventually failed for a variety of reasons, one of them too much lending to high-risk borrowers, like sovereigns. Just one example is the failure of the London branch which lent too much to the English King Edward IV who could not repay due to

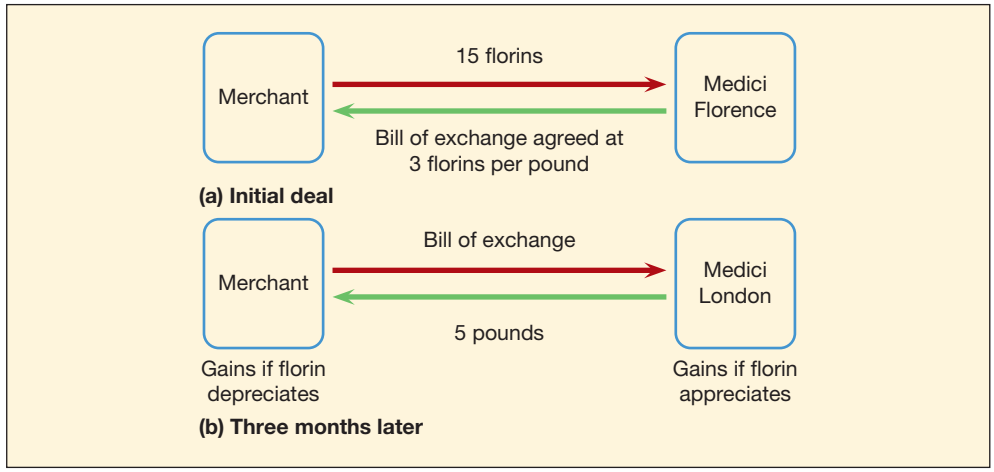

Figure 7.1 An example of a bill of exchange transaction