THE FINANCIAL CRISIS – EXPLAINING THE COSTS

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Abstract

There is a significant literature related to the causes of the recent financial crisis, but the costs and measures that it involved are still under discussion. The recent turmoil has proved to be more costly in terms of GDP growth and public debt. The smaller fiscal costs were due, in part, to large economies that had the necessary flexibility to intervene. The existing regulations did not pay enough attention to the economy as a whole, but rather to each financial institution, and moreover, it did not consider the interaction between financial and price stability. An assessment of the situation should take into consideration not only the direct costs such as capital infusion or emergency liquidity, but also the indirect cost like less tax revenue, higher budget spending or increased interest rates for existing debt. Each country reacted differently to this shock, but there is a universal consensus that the regulations must be changed to prevent future problems.

Keywords: financial crisis, macroprudential policies, financial costs, financial stability, price stability

JEL Classification: E52, E61, E63

Introduction

The similarities and differences between the recent financial crises and earlier crisis are largely debated in economic literature. There are those who consider that this episode was different because it was caused by an excess of liquidity worldwide that was being handled through a poorly regulated banking system (Krugman, 2009). On the other hand there are some who consider that this situation is similar to previous crisis due to the level of debt that was accumulated (Reinhart and Rogoff, 2009).

Another interesting fact that can be taken into consideration is the way the crisis started in the US and became global as well as its magnitude. Judging from this point of view, the recent crises is different because of the financial turmoil it caused, the way it caused a fall in credit and in housing prices or other assets. One important consequence of this episode was the impact it had on international trade. The most affected were small economies that registered a fall in exports of up to 30%. So even the countries that weren't directly affected by the US crisis had something to lose.

The most affected were the producers because of a lack of financing that caused a decrease in production. On the other hand, given the uncertainty in the economy and the negative perspectives, demand was reduced and so was import.

Financial literature has shown that in such situations of credit crunches, countries with more developed financial institutions had an advantage judging from the point of view of the financially vulnerable sectors.

Description of the problem

Iacovone and Zavacka (2009) concluded that the sectors that had their imports influenced were those dependent on external financing. Freund (2009) and Levchenko (2010) consider that the fall in international trade can be easily correlated with the fall in GDP, especially during financial crisis.

Some authors consider that financial imbalances are the result of the interaction between internal and external factors. The combination between a lax monetary policy, low interest rates, financial innovations and distortions in the credit market is very dangerous and to all these we add external factors such as the exchange rate or other countries' policies (Obstfeld and Rogoff, 2009). One solution for limiting these imbalances would be a tax on financial flows (Goodhart and Tsomocos, 2010). Another solution is that suggested by Gros (2010) that consists in a way to limit the capital account.

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Looking at a history of crisis, we can see that they are generally preceded by an increase in GDP and a fall in inflation. But one of the most worthy of attention variables seems to be the interest rate. The short term interest rates seem to be smaller in pre-crises periods, while money and credit seem to register increases and the current account deteriorates.

Generally a crises is associated with a recession, but it would not be right to say that all recessions are crisis related. Schularick and A.M. Taylor (2009) consider that crisis related recessions are about one third more costly than a normal recession, and that the credit rate is reduced considerably and has a slower come back. From the current account point of view, we can see a reversal of the reduction trend that is registered during a pre-crises period.

The recent financial crisis was preceded by major unbalances of the current account and there are economists who consider this as a significant factor than can contribute to a crises.

Methodology and data sources

If for previous crisis the average fall in GDP was about 20%, for the recent crises it was of 25% and judging from the public debt point of view, in the past the levels were of about 16%, while now they were at about 24%.

Due to the different types of actions taken this time, the fiscal costs were of 5% of GDP as opposed to 10% in the past. Some of the measures were also used in the past such as offering guarantees or insuring appropriate levels of liquidity, but there recapitalizations were implemented much faster this time.

Although these actions contributed to a reduction in the impact of the crises, they also increased the level of public debt.

Laeven defines a banking crisis as a systemic one if the banks are confronted with major losses at a system level or bank-run or if the authorities implement complex measures in order to respond to the situation. Among these measures we can find: offering liquidity to the market, the costs that come with a reconstruction of the banking system, bank nationalization, massive purchases of assets, freezing deposits or non-banking days.

Table 1

Systemic Crisis, 2007-2009

Country	Liquidity injections	Reconstruction costs	Assets purchse	Offering guarantees	Nationalizations
Systemic cases					
Austria	X			X	X
Belgium	X	X		X	X
Denmark	X			X	X
Germany	X			X	X
Iceland	X	X		X	X
Ireland	X	X		X	X
Latvia	X			X	X
Luxemburg	X	X		X	X
Mongolia	X	X		X	X
Holland	X	X		X	X
Ukraine	X	X			X
UK	X	X	X	X	X
USA	X	X	X	X	X
Other cases					
France	X			X	
Greece	X			X	
Hungary	X			X	
Kazakhstan	X	X			
Portugal	X			X	
Russia	X			X	
Slovenia	X			X	
Spain	X			X	
Sweden	X			X	
Switzerland	X		X		

Source: Laeven (2012)

Crisis management measures have as a starting point isolating the pressures on liquidity and supplying liquidity. Then there is a phase of bank resolution and bank restructuring as well as stimulating economic growth.

In the case of the recent financial crises, liquidity was offered to the system but there no non-banking days set and a freeze on deposits was implemented only in Latvia for Parex Bank. The resolution measures were similar to those used in the past but the speed at which they were implemented was much bigger.

One particular aspect of the recent crisis is that it affected, generally, big advanced economies with strong connections of the financial system at an international level. It is specifically these connections that contributed to a fast propagation of the crises worldwide. This meant that the fall of an important financial institution in such a country could lead to the collapse of other financially systemic important institutions. All these required an strong and fast response from the authorities.

Considering that the country of origin for the financial crises was the US, the most affected countries were those that had strong financial connections to the US. According to the BIS these countries were: Switzerland, Holland, the UK, Canada, Belgium, France, Ireland, Germany, Japan, Sweden, Spain, etc.

Table 2

The cost of banking crisis

	Direct fiscal costs	Public debt increase	GDP decrease
Average (%GDP)			
Past crisis			
Advanced economies	3,7	36,2	32,9
Emerging economies	11,5	12,7	29,4
All	10,0	16,3	19,5
The 2007-2009 crises			
Advanced economies	5,9	25,1	24,8
Emerging economies	4,8	23,9	4,7
All	4,9	23,9	24,5

Source: Laeven and Valenica (2012)

The recent crises has proven more costly from the decrease in GDP point of view and the increase in debt, but less expensive from a fiscal point of view. The small fiscal costs for advanced economies can be considered a consequence of a higher flexibility in these countries because they can intervene easier by using fiscal and monetary policies.

Table 3

Financial crisis costs (% of GDP)

Argentina (1980-1982)	55
Belgium (2008-2011)	6
Chile (1891-1985)	43
China (1998)	18
Germany (2008-2011)	2
Greece (2008-2011)	27
Iceland (2008-2011)	44
Indonesia (1997-2001)	57
Irlend (2008-2011)	41
Japan (1997-2001)	14
Koreea (1997-1998)	31
Latvia (2008-2011)	6
Mexic (1994-1996)	19
Holland (2008-2011)	13
Spain (2008-2011)	4
Thailand (1997-2000)	44
Turkey (2000-2001)	32
The UK (2007-2011)	9
USA (2007-2011)	5

Source: Laeven and Valenica (2012)

The fiscal costs are just part of the problem because a financial crises is also characterized by a period of recession, which means an increase in public debt (Reinhart and Rogoff, 2009). A higher level of debt means a reduced capacity of fiscal policy to act in an expansionary way, and the problem should be solved by reducing the policy rate by the central bank. This can help the banking system, but can have negative effects on the financial system.

High fiscal costs for helping the financial system have been associated in many cases with a high level of inflation and sovereign debt issues.

If the fiscal resolution policies are not built in order to reduce the contributors' exposure and the moral hazard, and if the fiscal deficits get even bigger, the credibility in the governments' ability to insure the financial system decreases.

An interesting situation is that in Japan where financial instability manifested before 2007 and the financial crises only came to exacerbate the existing issues. In 2011, the IMF estimated the public debt for Japan at 230% of GDP, with perspective of worsening. This is the result of a period when many insolvent entities were sustained financially and the small interest rates encouraged the banks to invest in government bonds and not to look for new clients. Moreover, the fiscal policy was inefficient and deflation was anticipated in the market. In this situation the solution that the authorities suggested, inducing positive inflation expectations, may prove hard to implement due to the fragile balance that has to be maintained.

The real impact of crisis on production has been estimated by Claessens, Kose and Terrones (2011). They showed that recessions due to a credit crunch or real estate problems seem to be more costly than those due to a fall in asset prices. By using the difference between the estimated output before the crises and the effective output during the crises, Laeven and Valencia (2012) have shown that the total loses in the first four years of the crises were of about 23% of GDP.

Results obtained

At a global level the recent crises meant a decrease of GDP per capita of 2% in 2009, as opposed to the crises in 1982 and 1991 when the decrease was of 0.8% and 0.2%.

Financial crisis are associated with major reductions in many financial variables. According to Claessens, Kose and Torrones (2011) crisis can determine reductions in credit of up to 7%, in real estate prices of 12%, in asset prices of 15%.

The fiscal costs of a financial crises can be split in two categories:

-Direct costs resulted from credit inflows, government debt or emergency liquidity

-Indirect costs from reduced income from taxes or higher expenditure due to the recession, as well as from an increase in interest rates for existing debt.

In countries such as the US, the UK or Ireland where before 2007 there was a real estate boom, but now the banks had to deal with a decrease in asset prices.

Loses in the financial system don't necessarily mean an intervention from the public sector because banks can support loses based on previous profits. But in special circumstances such as a systemic crises, profit falls rapidly, capital is eroded and the need for fiscal support becomes obvious. So, in order to reduce panic in the system, governments had to issue guarantees for the system. Just the initial costs were of about 20-30% of GDP, but there were economies such as the UK where the intervention was twice as big in order to support Royal Bank of Scotland and Loyds Banking Group. In order to avoid bank-runs in many countries they had to increase the level of guarantees for deposits.

According to the IMF, in G20 countries the direct support was of about 3,5% of GDP.

In the US only the initial intervention was over 4% of GDP but some banks have already started refunding the sums. The initial estimates regarding the TARP program were of about 0.8% of GDP and to that we should add the AIG aid and that offered to Fannie Mae and Freddie Mac that cumulated about 2% of GDP.

In Germany measures were taken both at federal level and at a country level. The federal fund for market stability (SoFFin) managed to make a profit from the sums offered as support, considering that there were no bond issuers that went into default. At a country level 18 bn euro were offered for Landesbanks BayernIB, LBBW and HSH Nordbank.

In France most banks reimbursed most of the 13,3 bn euro plus 1 bn euro in interest in financial support and losses are not an issue.

In the UK the state owns 41% of Lloyds, 84% of RBS and 100% of Northern Rock and has received 681 mil. GBP from the Asset Protection Scheme and the recapitalization of the first two banks. Considering the increases in asset value it is likely for the authorities to make a profit. The IMF estimates fiscal costs of 5,4% of GDP, more than in many developed countries.

The direct fiscal costs could prove to be smaller than initially estimated but the secondary effects can't be ignored. One of the most important being a significant reduction of economic activity and an increase in public debt.

In advanced economies the budget deficit went from 1.2% of GDP in 2007, to 8.9% in 2009 and according to the IMF the perspectives remained negative.

The public debt in G20 countries was anticipated to grow from 78% of GDP in 2007 to 118% in 2014 and this had negative effect is due to higher interest rates that caused the crowding out effect.

One important part in reducing the probability of default for banks and for lowering the cost of debt is played by the capital requirements. The capital requirements should be increased in order to sustain economic development and to reduce the cost of a possible bail-out.

By implementing the Basel III agreement, especially from the liquidity point of view, short term financing is discouraged which could lead to radical changes in the structure of bank financing.

CCB (countercyclical capital buffers) is one on the tools Basel III and the UE Directive regarding capital requirements (CRD IV) introduced. This was conceived as a response measure to events generated by a financial crises and its main purpose is to make the banking system stronger by insuring enough capital. The banks should increase capital in credit boom periods and could use these resources in case of financial difficulty. The methodology for implementing this tool has starts from the credit to GDP ratio.

The level of credit and domestic credit, domestic housing prices or banking profitability could be indicators that could signal financial problems.

History has shown that many financial crisis had as a main feature a lack of correlation in banks balance sheets in terms of currency and maturity or high exposure for off-balance sheet items (Laeven and Valencia 2008, Reinhart and Rogoff, 2009). In many cases these institutions were of systemic importance and lead to a propagation of the shock in other countries

Financial crisis can be classified in banking crisis, currency crisis or sovereign debt crisis. In the period from 1970 to 2011, the currency crisis seem to be the most frequent (218), then come banking crisis (147) and sovereign debt crisis (66).

In the case of banking crisis an important role is played by financing and the quality of assets (Borio and Lowe, 2002). In case of such a crisis, a fast fall in assets prices lead to an increase in nonperforming loans.

An important role in these situations is played by the fact that banks depend too much on a certain type of financing and diversification and the use of complex financial instruments only exacerbated this problem.

Starting with 2010 the pressure about sovereign debt and its effect on markets was more and more important in the euro area and this was due to the fact that many banks had big volumes of government bonds and as a consequence high exposures in case of a fall in their value.

But government bonds are also used as a guarantee for transactions and this could mean that a fall in a country's rating could affect the banks' access to financing and the costs.

According to The Global Financial Stability Report 2010, when the crisis started important banks had major problems in terms of currency and maturity mismatches and this lead to a high vulnerability. Many of them depended on volatile short term financing. In 2007 due to increased problems in the US liquidity quickly deteriorated and contagion manifested itself in the case of international banks and lead to a sharp unprecedented fall in spreads.

Due to this situation many banks were forced to rethink their financing models in order to find more stable financing sources. But when doing this they must take into consideration the national characteristics. For example, in the UE financial derivatives are less used.

Banks also started using deposits in order to insure a stable financing sources and because they were guaranteed by the authorities. But even so in Spain from 2010 to 2012 deposits went down by 159 bn euro, in Greece by 80 bn and in Ireland by 21 bn, on the other hand in Portugal they increased by 4 bn. it is very important that after 2012, the volume of deposits started to grow in all countries.

In Europe the problems about public debt sustainability started before the banks had a chance to exclude the troublesome assets from their balance sheets and this made them vulnerable to the sovereign debt crises. Even the most important institutions were confronted with problems with financing and higher costs. And so the sovereign debt crises turned into a banking crises.

Considering the increasing problems in financing the demand for liquidity from the central banks increased. That is why the ECB decided to offer a large variety of operations in the market, two of which were long term financing operations (LTRO) that amounted to 1000 bn euro. A large part of the liquidity was absorbed by banks in countries under EU-IMF agreement.

Besides finding more stable financing sources, banks started to improve their capital. In the pre-crises period banks maintained their capital to asset ratio relatively stable, but after 2008 it started to increase and the annual growth of assets became negative.

Conclusions

The recent financial crises came to prove the relationship between financial crises and bank financing structure. In case of financial turmoil even the well rated banks can have difficulty accessing long and short term financing. This could determine them to use alternative financing methods or to intervene in the structure of their balance sheet and this, in turn could lead to a limiting of the banks' ability to finance the real sector.

This is an important lesson for the banking system because their balance sheet should depend more on stable financing and should be balanced from a currency and maturity point of view.

The complexity of the new financial system means that despite the additional regulations problems are becoming more complex and dynamic. The lack of fiscal space will determine financial instability to develop further and will cause price instability and increases in debt as well as financial market distortions. Moreover the instability of a country should not be regarded individually but globally by looking at its connections with other economies.

Globalization, deregulation or technological and financial innovations have allowed banking activity to develop beyond the borders of a certain country and so the level of international banking assets has reached impressive levels. This brings into discussion importance of a banks' size in the case of a financial crises.

The recent crisis has proven the importance of take into consideration financial stability when configuring monetary and financial policies.

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