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Cash and the financial crisis

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1. Introduction and thanks

I am delighted to be here today at the Deutsche Bundesbank’s Bargeldsymposium. I wish to congratulate the organisers who have conceived and achieved such an interesting programme and a really first-class panel from whom I hope to learn a great deal.

In particular I would like to thank the Symposium organisers, the Deutsche Bundesbank’s Cash Department, its Director Mr Helmut Ritgen and the German central bank for being so kind as to invite the Banco de España to the meeting as the guest of honour. And for giving me the opportunity to represent the Spanish central bank, a decision which not only testifies to a friendship of which I find myself unworthy but also demonstrates a high appetite for risk. It is an honour for which I cannot thank you enough and which I shall never forget; I am indeed sincerely grateful.

Von ganzem Herzen möchte ich mich für diese Einladung bedanken –auch auf Deutsch.

Es ist mir eine Ehre, Gast zu sein, und eine noch größere Ehre, Herrn Helmut Rittgen zu meinen Freunden zählen zu können.

Wie sagte Johann Wolfgang von Goethe?

“Leider läßt sich eine wahrhafte Dankbarkeit mit Worten nicht ausdrücken”.

The distinguished speakers at the Symposium will cover a wide variety of different matters with great professionalism and in great detail. And I find myself at a distinct disadvantage in comparison with my colleagues from academia who are far more qualified in these matters. But I have no intention of letting down my friends at the Deutsche Bundesbank and I am here today to offer you the best of my knowledge, from the viewpoint of a central bank cash management expert. The following address is only the fruit of personal reflection and of many years’ professional experience. Clearly, the views and opinions expressed are my own and do not necessarily coincide with those of the institution I represent. So without more delay, thanking you in advance for your kindness and understanding, let us begin.

2. Cash and the financial crisis

2.1. Crisis of values

Is there any **link** between cash and the financial crisis?

It is important to point out that the **crisis of 2008** began as **a crisis of values**[1] which first shook the financial markets. It then grew into a full-blown economic crisis and subsequently sent shock waves through the labour market, with serious repercussions on employment and the household saving rate, before finally becoming a demand crisis, exacerbated by a serious liquidity crisis.[2]

The crisis of values was also, and in some cases especially, **a crisis of confidence**. The crisis of 2008 was a classic example of "anything's possible", "anything goes", "the sky's the limit". The disbelief, amazement and paralysis witnessed at the various peaks of the crisis reflected complete powerlessness, impotence in the face of the unexpected, the unforeseeable, the impossible. At the source of this process was the crisis of moral values, the breakdown of the basic principles of honesty and professional ethics, the lack of rigour in corporate behaviour, the slur on honesty, the predominance of vulgarity, the focus on the quick buck, the idea that "you are what you own", the false prophets, the creative accounting[3] where the new products invented by a financial market in turmoil (options, futures, puts, calls, derivatives, intangibles) came to be worth more than productive assets, business organisation, know-how and experience, market share and brand recognition. And in the face of it all, analysts, economists and experts with no answers, ridden with hang-ups and doubts, who surrendered to the market, to bonuses and rates of return, letting market forces wash over them to reach all corners of the globe.

This is probably not the right time or place, nor am I the right person, to embark here on an analysis of the financial crisis of 2008. Suffice to say that it was highly contagious, spreading fast and furious with a huge multiplier effect. What could have been no more than the collapse of several greater or lesser institutions developed into a full-blown financial crisis affecting a great many banks. Moreover, the collapse of basic moral values in the corporate world that was at the source of the crisis was exacerbated by the failings of the regulatory authorities, which had to resort to extraordinary arrangements and unprecedented measures. The severity of the situation warranted measures that in any other circumstances would have aroused suspicions (for example, the FED having to bail out an insurance company). The crisis at several (in some cases leading) international banks, the authorities' decision to allow some of them to fail and the spread of a new and seemingly mortal disease that developed rapidly and for which we were totally unprepared recreated ghosts from the past: "banks can fail"; the biggest, the best-known, the most important bank has a hole in its balance sheet twice the size of its reserves; the best-known managers have forced the biggest institutions into bankruptcy. Meanwhile, state officials,

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[1] Let us recall the famous phrase of the then French President, N. Sarkozy, speaking of "… the need to rebuild capitalism". For a shrewd general insight into the recent social changes, see Tony Judt, "Algo va mal".

[2] There is such an abundance, variety and complexity of information on the financial crisis that it comfortably matches what the philosopher Emilio Lledó calls "the huge pool of information" in "La palabra más libre". *El País*, 22 November 2008. This aside gives me the opportunity to apologise for this personal and necessarily subjective approach, which I trust will avoid that "huge pool brimming with toxic data and confused messages".

[3] A term used by Luis Ángel Rojo, the Governor of the Banco de España when the state took control of Banesto, Spain's leading privately-owned bank, to refer to the new and imaginative methods used to value and recognise certain financial transactions, assets and derivatives. For some experts, this may be considered a forerunner of subsequent banking crises.

governments, economic experts and regulators seeking urgent weekend solutions (to be implemented over the weekend to avoid market disruption) decided to put huge unprecedented sums of money on the table to bail out fraudulently managed businesses.[4] And at the same time, news reports informed that some of the leading executives responsible for the crisis were going home with their pockets lined (with severance pay, bonuses, pension funds, performance bonuses, etc,) and with broad smiles on their faces. In the end, the impact on the social fabric was devastating in terms of budgetary imbalance. The principle of financial orthodoxy warranted focusing the main policy aim on achieving a balanced budget,[5] through severe public expenditure cuts, mostly in social expenditure at the national level. Some experts showed that the Welfare State was not financially viable and a major decline in income[6] ensued, together with **a dramatic and unprecedented rise in unemployment and in social inequality indices**.[7]

What is behind all this? In my view, there is an extraordinary breakdown in the principle of social trust.[8] Much of the population has come to believe that many of society's leading figures have shirked their responsibilities, have not been equal to the task, have not kept their promises or upheld their beliefs. They told us that all was well and it was not, so either they had no idea what was going on or it was all a lie. Their behaviour has been most unseemly. Banks collapsed; bank executives were unprepared and acted dishonestly; supervisors were ineffective and failed to comply with their obligations; rights that were once secure are secure no longer; promises were broken and have become worthless; the future is totally uncertain; it seems there is no one in whom we can trust…There is, therefore, **a tremendous crisis of confidence.**

2.2. Crisis of confidence

The financial crisis as a crisis of values; the crisis of values as a crisis of confidence in the social fabric. Here some kind of link starts to emerge between the financial crisis and cash, because what is cash but a deposit of trust? What is the **basic principle** that allows **cash** to function correctly and grants it its main characteristics? What is it but trust?[9]

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4 The popular belief that the cost of the crisis has been very high would not seem to be far wrong. In the summer of 2014 the European Commission published the report on the cost of the capital support provided for the restructuring of the European banking sector in the period 2008-12. The total –over €591,000 million– represents 4.6% of GDP on average across Europe (in some countries, up to 10% and even 40% of GDP). These figures refer exclusively to direct capital support provided to the banking sector.

5 An extreme example of the political consequences of the crisis was the amendment of Article 135 of the Spanish Constitution that was rushed through Parliament in September 2011 (Official State Gazette No. 233 of 27 September 2011, pp. 101931 to 101941.

6 GDP per capita in Spain has retreated 16 years in comparison with the EU to stand, in 2013, at the 1996 level (see Eurostat News Release 96/2014 of 18 June 2014).

7 The increase in inequality is twofold: inequality has risen between countries (see Eurostat News Release No 96/2014 of 18 June 2014) and between social classes (see Eurostat's 2014 Annual Report and "Human Development Reports, Table 3 Inequality-adjusted Human Development Index" of the United Nations Development Programme, 2014). For a general analysis, see the excellent comments by Juan Diez Nicolás in "La globalización y las crisis", ABC, 11-04-2014.

8 Some commentators speak even of a more serious phenomenon: a "breakdown of the social contract", the very foundation of modern society.

9 "… trust is the critical Word. It becomes an intimate attribute of money". Peter Praet, "The role of money in a market economy". The same insistence on the concept of trust has also been made by the Chairman of Bundesbak, relating it to the other trust: which must deserve the central bank from its own citizens. Trust is the basis of money ... but a currency can only be stable if the citizens has confidence in the central bank's ability to adequately perform their job and keep the prices stable. "This

International meetings of professionals in the cash management sector discuss the main areas of concern and the list seems endless: technical issues, production, cash handling, communication, security, risks, etc. But there is one concern that is never mentioned because it is so obvious, because it is the first and foremost concern: **trust**. Cash is based on the trust we place in it; without trust it would not exist. Cash is trust.

The collapse of the world as we had known it for many years and the emergence of the unprecedented, the unacceptable, the extraordinary triggers an inevitable loss of security and of references, it raises doubts and undermines confidence. Confidence in what or in who? In the system, in the social framework, in institutions, executives, leaders, politicians, bankers. And in cash? Not in my view, or at least not yet.

This is a crucial point: to note that the collapse in confidence in institutions, values and leaders did not affect confidence in cash, which continued to be trusted by society at large, thus fulfilling its main obligations and functions.

2.3. Cash as a deposit of trust

Cash is trust, and not only because I trust that this piece of paper in my hand is worth what it says it's worth. It is trust because I am not worried, I know that others, my fellow citizens, accept this piece of paper as a store of value. They are prepared to supply me with the goods or services I need in exchange for this piece of paper; they firmly believe that it is worth its face value, and as all the parties concerned believe that the others trust in that value, trust spreads and grows from individual or personal trust to social trust. Not only do I trust in the value of this banknote, I trust that my fellow citizens will maintain their trust in this banknote, that they will value it, accept it and receive it as a symbol of value. This is the mainstay of my trust, because if others were to lose their trust in the value and use of banknotes (cash), then my trust would be worthless and cash would be unable to function. I can accept a banknote without trusting in it because I am convinced that others believe in it, that they will accept it and confer value on it. This is, therefore, the essence: trust, the trust held by others.

In normal circumstances, news that my bank (the bank where I keep my savings, because I trust it) is in difficulties, or that my bank manager (heaven forbid!) is a scoundrel rather than an honest person worthy of my trust, would make me very anxious indeed. What should I do in such a situation? Should I withdraw my money from a bank that arouses such doubts and uncertainties and take it to a safer place? Where? Well, to a different bank, a bank that has a sound balance sheet and that conserves the old values of honesty and integrity. How do I transfer the money, my money, my savings, from one bank to another? By using the normal system for the transfer of funds[10] (I haven't lost confidence in the banking system, just in one person or institution, in one of its agents). I have no doubts about the money itself, or about the

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trust, in which central banks have been hard working in recent decades, is undoubtedly your most valuable asset." Dr. Jens Weidmann. Prasidente der Deutschen Bundesbank. Er {Öffnung der Bargeldsymposiums. Frankfurt and Main, 10.10. 2012

[10] Clearly the system is somewhat more complex than this brief summary may suggest. Technical and economic issues relating to electronic transfers of funds (time factors, value dates, costs and fees, etc.) may be important in these transactions to recover funds.

banking system overall. In this case, electronic transfers of funds (by cheque or transfer) between institutions do not reduce the money supply, or the funds held at banks, and nor do they affect the amount of currency in circulation. Accordingly, doubts about the health of one particular bank need not have any impact on cash.[11]

But what if I have lost faith not in one bank but in the banking system overall? If I believe that all banks are in danger? That if the big banks, the "untouchables", the best banks have fallen, who's to say the rest won't follow suit? In this case, it would make no sense for me to take my money to another bank, which would present the same risks and generate the same fear and uncertainty as my traditional bank: "there is no one you can trust". When it is the entire banking system that is called into question, I have no alternative but to take my money out of the system. How? In this case, in cash. I cannot use electronic money which I will never have control over, so cash is the only possibility.[12] And in this case the consequences are very different.

If doubts spread from an individual case to the system overall, from fear to crash, the situation becomes very different, triggering a run on cash as customers rush to withdraw their savings. Accordingly the amount of currency in circulation grows, while bank balance sheets decline. Paradoxically, despite this increase in the amount of currency in circulation, liquidity problems appear immediately in view of the shortage of cash at the banks. This translates into delays in payments, affecting trade and exchanges of business and citizens and solvency of credit institutions and tightening credit standards and …, well, you can imagine the rest...[13]

In summary, in my opinion the answer to the initial question about the relationship between financial crisis and cash crisis is neither direct nor clear. Experience shows that through the deepest financial crisis since the crash of '29, the cash, far from being adversely affected, became a safe haven where citizens put their confidence.

[11] This is true in theory, although not always in practice. In recent years we have seen how individual difficulties at one big bank can trigger a sharp increase in the demand for cash, as customers who are suspicious of the institution's electronic transactions choose to withdraw their savings in cash (in Spain, in the case of Bankia, among others).

[12] There have been numerous reports in the media on this phenomenon, in many cases extensively illustrated in quite a sensational manner. A recent headline in the Spanish press seemed to indicate immutable trust in cash: "Spanish companies accumulate cash to withstand the financial crisis. At the end of 2011 big companies held a record €40,000 million in cash" (*El País,* 6 March 2012). Another headline, in this case from the US, took a different stance: "travelers carry more and more money in cash" (New York Times Service, Paris, 24 November 2013). Or alternatively, this report indicating that the crisis was so severe that it was even affecting cash: "Economic crisis triggers unprecedented drop in cash in Spain" (*El Confidencial*, 10 March 2010).

[13] Needless to emphasize how easy it is to make news headlines on this topic and contribute to a disproportionate increase in confusion. . Sure you remember some of the following headings, each more contradictory: "Sweden is moving towards elimination of cash" in Svenska Dagbladet (http://www.svd.se/), April 2013; "Israel is moving in the phasing out of cash," May 2014 "Japan fails again and check that printing money does not solve the crisis," November 2013 "The solution to the crisis is to print more banknotes, says Stephen King one analyst of the world's largest banks, HSBC, "November 2008. Etc.

3. The role of cash in the economy

3.1. Cash as a lubricant for the economy

There are many interesting ways of analysing the role of money in the economy. My approach here is neither very orthodox nor very original, and it almost certainly has its failings.

Briefly, I see a country's economy like a vehicle that needs at least three things for it to run. First, the engine, which can have more or less power, acceleration, resistance, flexibility, etc., all of which depend (returning to the example) on the size of the country, its raw materials and natural resources, its geographical location, its population, etc., as well as its history, education and culture and its social, labour, legal and cultural institutions.

Second, an engine must have fuel, which continuing with our simile depends on the social and institutional framework that defines a country, its confidence in and expectations for the future, its respect for and acceptance of the rules of social conduct, its capacity for innovation and improvement, its view of change and social, technological and cultural progress, its entrepreneurial mindset, its observance of rules, its legal and institutional framework, etc.

Lastly, in order for an engine to run smoothly, a good design, more or less engine power and fuel is not sufficient; it must also be well oiled. And to continue with our simile, money is the oil that lubricates a country's economy, that makes for fluid, smooth, economic and efficient trade, that facilitates confidence and redistribution and that allows specialist sectors to produce increasingly efficient goods, in the knowledge that the technology, productivity or efficiency gains or economies of scale will boost living standards.

It is a very simple example, but it serves to remind us that all three elements are essential for an engine to run smoothly. It is true that there are major differences from one engine to another in terms of power, design and capacity, but it is also true that the best engine may not necessarily run well if it lacks the right fuel, and even then it may not run properly if it is not well oiled.

We should not confuse the role played by each of these elements; all three are essential, but they are not interchangeable and they each have a different role to play.

3.2 Cash as a store of confidence

So cash is essential to lubricate the economy. And it also plays another no less important part: it upholds and strengthens social trust in the development and progress of society; the permanence and security of its acceptance by society make it essential for the evaluation of the outcome of the process of accumulation of work and for the correct functioning of institutions. The guarantee and permanence provided by institutions that are devoted to the production and handling of money, the guarantee of continued and future acceptance of cash by all sections of society are factors that are essential to society, even though we may be unaware of the role they play. Cash is one of the soundest elements of the social contract by which society is governed. And not just because of the traditional "promise to pay the bearer" on banknotes, but because of the collective awareness of the security of cash, its continued value and its future acceptance by all sections of society. I can trust the value of banknotes as payment for my work because I trust how they are handled and that they will be accepted, I trust their value, their permanence and naturally the promise to pay –the social contract– that they represent.

3.3 Quantitative significance

The third aspect I wish to mention is the sharp decline, in relative terms, in the currency in circulation in respect of the weight of personal and familiar wealth[14], of economic and of the overall money supply. And in consequence, the loss of relative importance of cash in the control of monetary policy. One need only ask any central bank cash management expert how concerned they are about the relationship between the currency in circulation and the level of inflation. Most likely they are not at all concerned. Cash management experts are well aware that the success or failure of their work must be measured in terms of efficiency, targets, cost control, improvements in distribution systems, etc. Nowadays, no central bank chief cashier has quantitative limits on banknote issuance, in comparison with just a few years ago.

Cash is no longer the main component of monetary aggregates and, from the standpoint of monetary policy management, its role has changed completely.

Another singular feature of cash that is rarely mentioned is its atavistic nature and its connection with purely emotional (irrational?) elements of human behaviour. What do I mean by this? Cash has certain special characteristics that link it to feelings and to deep and primitive human sentiments. For many years cash was more than just money. It was a symbol, of power in some cases or simply of social success. In many other cases it was the result of a lifetime’s work, of our intelligence and our efforts, of years of dedication and saving so that we could leave our children something that would guarantee them a better future. It was, in a nutshell, a reflection of social progress.

Moreover, especially in rural areas, money has always represented security, a means of defence against future adversity or uncertainty. Housing, land, machinery, … these are all necessary for people to live and work, but they can change in value or deteriorate. But not money; the value of money is guaranteed, it lets you buy whatever you want or need, directly. Money is security for the future[15].

3.4. Cash and monetary policy

So why did we say there may still be good reason to study cash, if it is no longer important the composition of the national wealth, the amount of money in the economy or the control of monetary policy? My answer is this: in view of its symbolic and symptomatic value.

Developments in recent years, and specifically the events of the major financial crisis of 2008, clearly highlighted two key trends:

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[14] The amount of money in circulation is very often connected to GDP and its value is frequently recalled (between 6 and 10% depending on the country). In my opinion this ratio is wrong and not significant. Less frequent and more significant in my opinion, is to see the weight of cash as a part of the national wealth and its relative importance in the distribution between different types of assets that comprise it. It is in this sense that I argue that should be no doubt about the effective weight reduction as a component of national wealth over the last twenty or fifty years, besides the reduction of its importance within the set of monetary aggregates. Phenomenon of long trend that was altered in the last quarter of 2008.

[15] That kind of magical character who sometimes have cash and many economists forget, has been stressed more than once recognized by people of recognized standing. Lawrence H. Summers, President Emeritus of Harvard University and previous Secretary of the Treasury of the United States said in the presentation of the book by David Wolman, "The end of the Money," that " A World with different and new money will be a different and new world …The lives of Citizens and central bankers alike will be pronfundly altered ... ". And extremely graphically, other authors remind us the ancient of the relationship between man and money: “Nach dem zum Haushund domestizierten Wolf durfte das Geld wahrscheinlinch der treueste Begleirter des Menschen in dessen Geschichte sein”."Besides the domesticated wolf, the money is probably the most faithful companion of man on earth" (personal translation). What can not happen in vain, some would say.

The loss of relative importance of cash as a component of the money supply and its consequent separation from the processes of control of monetary policy.

The conservation and strengthening, where possible, of its role as a “second resort”. When institutions fail, when financial money is called into question, when basic guarantees collapse and instability risks multiply, cash once again becomes a safe haven.[16]

What does this mean? It means that cash is both a symptom and a reflection of the crisis situation in society. Political leaders should not underestimate a situation where there is extraordinarily high demand for cash. It is a sign that something quite important is happening, even if there are other factors that conceal the reality from us or that lead us to complex or confused analyses. The strong demand for cash in September 2008 reflects the panic that swept across all sections of society with the visible onset of one of the biggest crises in history. The demand for cash linked to the Bankia crisis in Spain shows that, once a climate of mistrust has developed, even the usual arrangements for electronic transfers of funds become worthless as the public demand their money directly over the counter.

The liquidity injection policy is no longer a cash policy. The speed and the scale of the effect that may be achieved by means of exceptional liquidity injections into the system via the interbank markets cannot possibly be compared with cash measures. Only in certain exceptional cases will cash be a liquidity factor: it is rather a confidence factor, or a factor that makes for flexible and fluid retail payments.

Nowadays, there is a totally different explanation for the constraints –and there are constraints– on the use of cash, linked to the fight against money laundering and unlawful or unreported transactions, or to bank protection arrangements. There have been cases of drastic measures taken to ban cash withdrawals at bank branches, but either the impact on image was worse than expected (the infamous “corralito” seen in certain Latin American countries) or the measures were very short-lived and had only a minor impact (the case of the restrictions on cash withdrawals in the Cypriot banking crisis). Essentially, these measures are a reflection of the inability of a country’s political and economic leaders to tackle a problem, rather than a solution or a response to the problem.

[16] I am not saying that it is the “only” safe haven. One need only look to the gold market or the submarkets for diamonds and other valuable assets to see that there are also other safe havens that flourish particularly at times of panic.

4. Cash crises

If we had to specify the different types of possible cash crisis we would say that there are four:

1. The first and most fundamental occurs in the event of **large-scale counterfeiting** of the national currency. For this to take place, the quality of a counterfeit must be so high that it becomes really dangerous. In addition, its scale and dissemination must sow doubt among the general public regarding their ability to distinguish between genuine and counterfeit banknotes. The multiplier effects of rumour, bad news and fear turn this into a socially dangerous phenomenon that must be countered by rapid, forceful decisions, to implement a sophisticated and well-coordinated plan of action to avoid a collapse in confidence. Examples of this type of crisis have occurred in many countries.[17]

In such a situation, the central bank's cash experts must act promptly, offering alternative technical solutions by providing new banknotes, with different security features; withdrawing from circulation, as soon as possible, the counterfeit notes; working with police to tackle the origin of the counterfeiting; coordinating with communications experts the most appropriate confidence and information messages, etc. The aim is not only to prevent the payment system from being affected, but also a possible diversion of domestic demand for cash towards banknotes issued by other states, which may become a generally accepted means of payment within the country. The aim is to show to the public that they are right to trust the issuers of cash, who know how to protect the authenticity of banknotes and successfully combat counterfeiters. Historically there is no lack of examples of this situation.

2. A second type of crisis arises in situations of **hyperinflation** when money in general (not just cash) suffers a very significant loss of value. The authenticity of banknotes is not called into question, but their utility as a medium of exchange or store of value is, in a situation in which the price mechanism has ceased to be effective as an instrument to ensure the functioning of the economy and the value of goods is constantly changing.

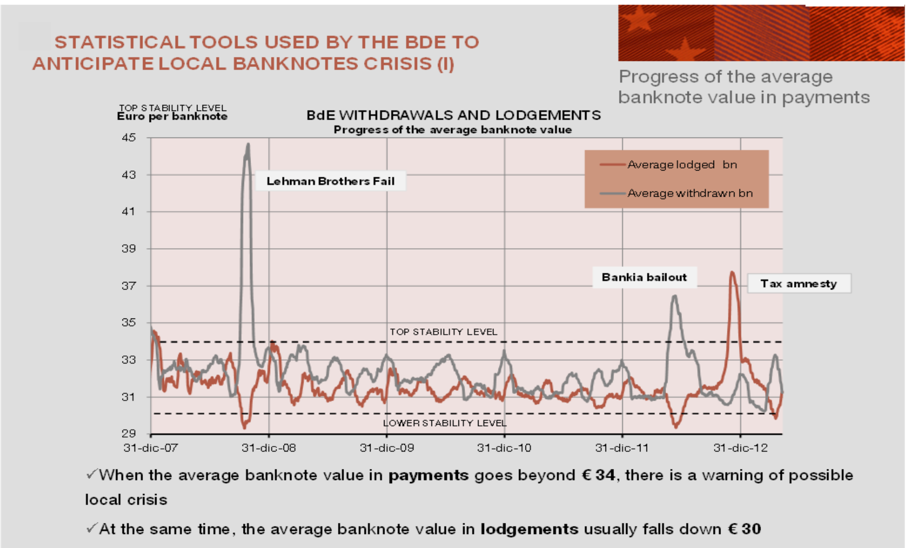
[17] An indication of just how disastrous the effects of a crisis of this type can be is the fact that major state-sponsored counterfeiting operations have occasionally been instigated in an attempt to drastically weaken the enemy's economy.

In this case economic measures need to be successfully implemented to repair the situation and restore the necessary price stability to the system ensuring an appropriate set of values for the functioning of the economy.

3. A third type of crisis occurs when a loss of confidence in alternative payment systems leads to an **extraordinary increase in the demand for cash**, which is sought by the public as a safe haven. This unexpected, exceptional growth in demand forces us to consider the capacity of a central bank to respond to crisis situations and confidence generation processes. This would be the case that we are considering when we analyse the relationship between cash and the 2008 financial crisis. The figures speak for themselves.

Chart 1 shows the enormous increase in the demand for banknotes that the Banco de España experienced at its counters following the bankruptcy of Lehman Brothers (15 September 2008).

Gráfico 1

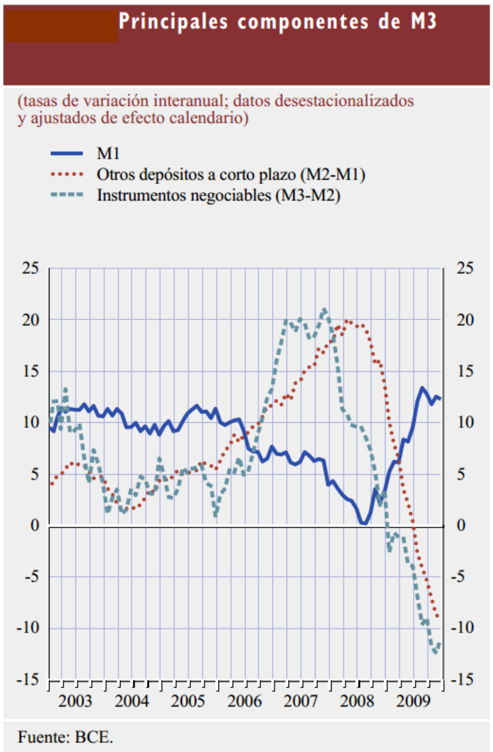


In the aftermath of this and other bankruptcies, "assets on savings accounts were turned into cash, which boosted the value of euro banknotes in circulation by an additional €40 billion"[18],

[18] Section 3 (entitled "Banknotes and coins") of Chapter 2 of the 2009 Annual Report of the European Central Bank, p.130.

cash clearly playing the role of an alternative to financial saving, as clearly revealed by the European Central Bank reports (chart 2)

Gráfico 2



Fuente: BCE.

Although these cash crisis situations occur unexpectedly, central banks ought to have tools available to enable them to anticipate their arrival and maintain an active position to mitigate the foreseeable consequences of panic among banks' current account holders:

This type of crisis, which we recognise as the one that has been occurring over the last few years, has led central banks to study new models for analysis, to try to prevent/anticipate these exceptional situations and to be able to adopt measures to mitigate the attendant risks. Some of these new models are statistical and are based on the ongoing analysis of changes in cash flows (amounts of cash put into circulation and withdrawn by the central bank, distribution by denomination and average banknote value) and their comparison with historical time series. As other central banks, the Banco de España, has also worked on these type of studies (charts 3 and 4).

Gráfico 3

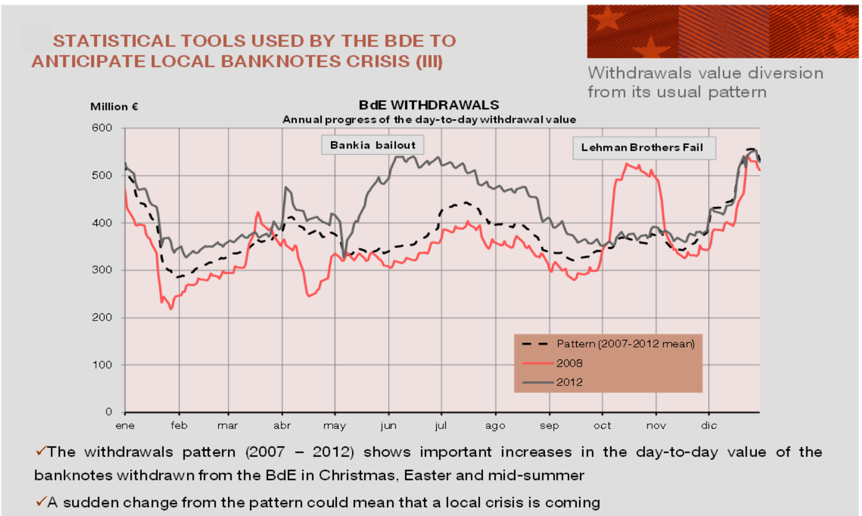
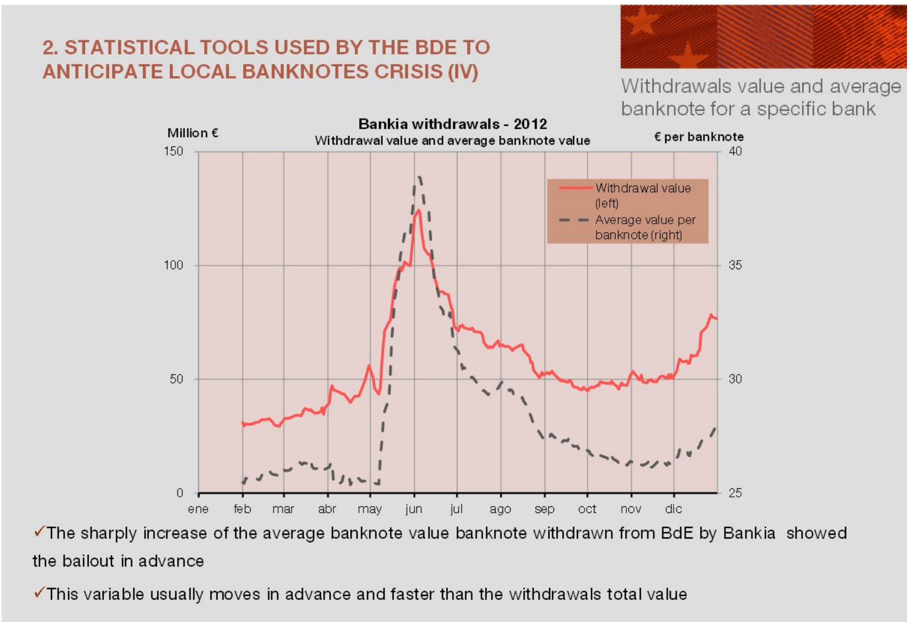
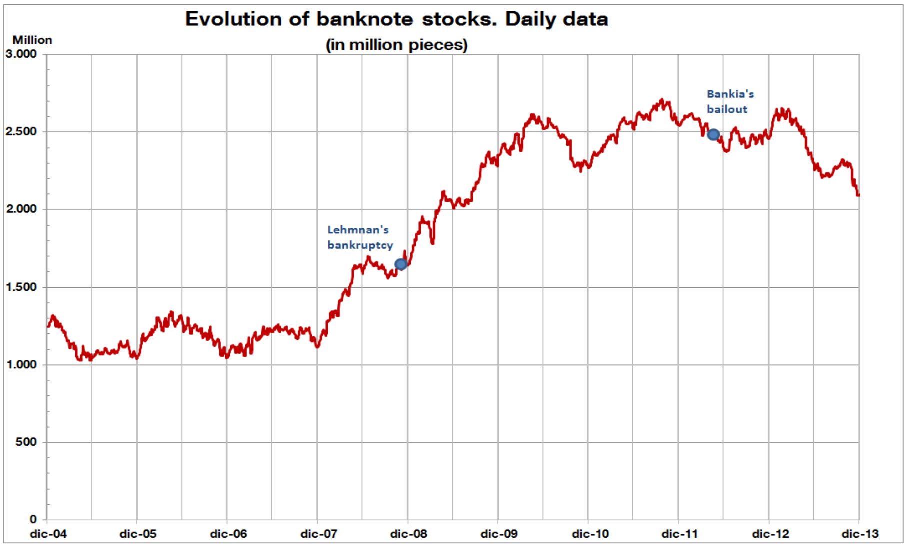


Gráfico 4



Also, the capacity of a central bank to respond to these situations should be based on prudent stock management, which could lead to the holding of a volume of banknote stocks that might seem excessive in good times, but may be meagre in times of crisis. This stock should be divided up among several logistical centres for country-wide distribution, with a centralised real-time information system for the stocks at each point. Chart 5 shows the results of the policies being pursued by the Banco de España, reinforcing the banknote stocks, anticipating some social indicators.

Gráfico 5



Finally, one of the new risk mitigation measures learnt during this crisis is the recognition of the advantages of a new model of relations and communication with the professional agents involved in cash distribution, such as banks, cash-in-transit companies and other intermediaries. When the time comes, this will allow the means of transport available to distribute cash to be efficiently allocated.

4. The fourth case involves what could be called a **perfect storm**. This occurs when trust in the issuer is lost and cash loses the basic pillar that provides its justification. There are few solutions to this apart from restoring trust. This is an extreme crisis situation that requires radical action. Fortunately there are few examples of such a crisis.

The latter situation seems far away and is something not normally conceived as possible, thankfully. And we're not here to question this attitude. But it should move us to consider that the media collected more frequent news about the phenomenon of BIT COIN or on the extent in various countries of the so-called "social or solidarity coins," local level but increasingly accepted.

5. Lessons learned

The relationship suggested in the title of this talk between financial crisis and cash crisis does not appear to be evident. Indeed, while the symptoms of the crisis and its effects worsened, there was no loss of confidence in cash. On the contrary, cash has become a safe haven of growing importance. However, that very reaction to cash has led to some unexpected and exceptional increases in demand that have jeopardised the central bank's capacity to respond, forcing cash management systems and cash supply programmes to be reconsidered, in the light of the needs of society. The effects of the financial crisis have been felt by cash, making a far-reaching review of its functions and management mechanisms essential.

At the same time, the crisis has alerted us to the dramatic effects of loss of the fundamental element of confidence – the foundation on which cash is based and also its justification – so that if confidence in the institutions that issue money is ever lost, or a climate of distrust spreads regarding the acceptance by the public of legal tender banknotes, the basic structure of the system would be affected and the situation could not simply be addressed by designing the perfect banknote or reducing levels of inflation.

This twofold relationship between crisis and cash and the complexity of events have enabled some conclusions to be drawn, which must be studied if similar mistakes in future are to be avoided. Some of the main lessons learnt during the crisis in relation to cash are, in short, as follows:

1. Cash is not today a useful instrument for monetary policy management; there are much more appropriate, rapid, effective and efficient mechanisms for providing the system with liquidity.

2. The new situation requires a far-reaching review of the function and responsibilities of cash managers. No longer is it enough to put banknotes into circulation and control their quality. Today, they must also manage quality, use professional criteria to meet society's demand, anticipate problems, promote product innovation and collaboration among participants to develop a cash cycle model that meets the public's needs.

3. The exercise of this new function must take particular account of the importance of cash as a reputational element of central banks' image in society. If trust is the critical element on which cash is based, the solidity of the central bank's image in society is the base that sustains the issuing institution.

4. The review of functions and responsibilities must be based on criteria of management efficiency, neutrality with respect to means of payment and management transparency. There is little sense in saying that the central bank should promote cash because it generates seigniorage, i.e. a profit for the central bank. But equally inappropriate would be for the central bank to decide, in order to boost efficiency and modernity, that electronic means of payments should be imposed on society because cash is expensive. This is a matter on which there are opposing positions, but there is no doubt that this subject is today on the table and gives rise to controversy.

5. Central banks, particularly after the ordeal of the crisis, have an important responsibility today as key managers in crisis situations. It is no longer sufficient to say that they are doing their work well; rather the important thing is to be in a position to respond to emergency situations and to anticipate unforeseeable events or exceptional demands. Quality management and cost savings are no longer enough. Business continuity exercises study the systems that enable an institution or firm to continue to perform its activities when an unexpected event occurs that affects the institution itself; but that is no longer the issue. What is important is being capable of responding to the trust that society places in public managers and of ensuring the functioning of payments systems in order to mitigate the damage that may be caused by natural (earthquakes, floods, etc.) or man-made disasters (attacks, explosions, etc.) that affect society as a whole or part thereof and not just a single company or institution. The reputational element has placed new responsibilities on central banks, as recipients of society's trust.

6. Last, but not least, my personal opinion is that the crisis has served to remind us of the role of cash as a social indicator. Close monitoring of changes in the demand for and use of cash may be a very useful way of detecting more profound changes in the social fabric; it is no longer a question of knowing if we are going to be capable or not of meeting an exceptional demand (that should be a matter of course), but whether we are capable of analysing and interpreting the roots of those deeper social movements from which these cash movements stem.

That's all for today. I really appreciate your patience and look forward to your comments or questions.

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