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CRISES MANAGEMENT

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1 INTRODUCTION

Crises do not always have an idiosyncratic nature. Even for public authorities involved in the oversight or prudential supervision of market participants and market infrastructures, such as payment and securities settlement systems, the definition in a short time frame of the causes of a contingency situation can be difficult. The timely reaction to a crisis can be determinant for its timely resolution and for the minimisation of the possible costs on the real economy. It can further reduce the risk of contagion to other market participants or infrastructures, nationally or internationally.

If already in normal circumstances central banks and prudential supervisors need to co-operate, this need increases in case of crises. Often the co-operation needs even to be extended to other authorities. The major goal of crises management is to reduce the likelihood and costs of failures on the market and to eliminate systemic risk taking into account that under certain circumstances poorly performing institutions or systems can add to systemic risk if they are permitted to continue operations.

As today, pure bank runs might be an out-to-date phenomenon; deposit insurance schemes usually exist, capital adequacy and large exposures are mostly regulated. This contributes to preserve depositor's confidence, reduces insolvency risk and contagion possibilities. A financial institution finds itself probably not too often in the situation in which it is solvent and lacks at the same time of collateral to require central bank funds. Nevertheless this possibility could occur and trigger systemic risk, especially if illiquidity stems from a payment or a securities settlement system. For this reason central banks, as other public supervisory authorities, give importance to crises management activities. Historically, public authorities have rarely disclosed principles on crises management as they face a trade-off between transparency, accountability and constructive ambiguity.

Crises management measures vary according to their different nature ranging from re-capitalisation measures, which have been historically considered as being outside of the scope of central banks, to the channelling of private sector funds to institutions under distress. As concerns central bank involvement in crises management, today's economy calls for a minimalist role as lender of last resort. The provision of emergency liquidity is a measure which relates as first instance to monetary policy because it creates liquidity, causes money supply to increase; it relates to banking supervision because it requires an assessment of the solvency and liquidity of institutions; and it relates to the functioning of payment systems because the latter can represent a channel of contagion for the crisis. The difficult recognition that a crisis is a solvency more than a liquidity crisis usually calls for a limited use of central bank money.

The use of private sector funds is usually the measure preferred in this context because it does not entail the creation of moral hazard and avoids imbalances in public finances. When no private sector solutions are possible or when they result to be insufficient, then public authorities may have to intervene to reduce systemic risk and limit losses.

2 FINANCIAL CRISES

2.1 Definition and causes

A financial crisis has been usually defined as any situation where (a) financial institution(s) or (a) system(s) is/are not able to meet its obligations, independently of the underlying reasons, and which can possibly create distress to the proper functioning of the financial system. A crisis is usually perceived as a sudden or potential difficulty suffered by a substantial part of the credit system and is generally associated with a loss of confidence in the financial soundness of assets or of one or more financial institutions on the market place.

Crises have two major components; the change in economic fundamentals and the crisis expectations of market participants. The analysis of the first component can provide for an appreciation of the depth of the crisis, while the analysis of the second can give estimation on possible bank runs which would further exacerbate an existing crisis. As a result, the magnitude of distress can go beyond what can be explained by economic fundamentals.

Indicators for an upcoming crisis can be different, such as for example a breach of solvency ratio requirements, liquidity problems, suspicion of money laundering or fraud, concerns about management practices, heavy customer and key staff number reduction, slowing business activity, the deterioration of asset quality or an increased concentration of risks. Even the arising of external shocks, such as adverse developments in the market, nationally and internationally, could affect the institution/system's capability of servicing its ongoing commitments.

2.2 Crises anatomy

Financial problems might build up over an extended period of time before they convert into a crisis. Systemic events are usually the result of underlying difficulties of longer time. Once a crisis occurs, it undergoes usually three stages.

During the first phase the financial system shows excessive risk taking and excessive credit expansion caused by a lack of market discipline, but after a short time period, due to the deterioration of balance sheets, institutions are usually obliged to restrict their lending in order to improve their capital ratios. In the majority of the cases, a crisis shows up first as a liquidity distress but might quickly transform into a solvency crisis. On the other hand, if an institution is experiencing solvency constraints and market participants are aware of the situation, they might slow down payments towards the troubled institution which in turn will probably experience liquidity constraints.

During the second phase, viable institutions need to be re-capitalised and unviable ones liquidated. Financial restructuring and corporate debt restructuring are usually the measures implemented during this phase, while insolvency laws provide the adequate legal environment.

The recovery of the real economy defines the last phase in which on one hand nationalised institutions can be privatised and on the other hand supervision and oversight can be re-targeted according to the needs.

During the different stages, authorities can interact depending on the degree of the market distress and according to their respective competencies. Liquidity constraints are usually under the central bank's focus while solvency constraints remain under the focus of the banking supervisors and Governments. Nevertheless, even if theoretically this split between the respective competences might be clear, real crises often have a mixed nature and call therefore for a co-operative intervention of different authorities. This cooperation achieves importance not only during the management phase of a crisis but also during the pre-crisis phase in which cooperation represents a preventive measure.

2.3 Crises costs

The costs to be borne by the real economy due to a crisis are usually difficult to be estimated in advance. They range from credit rationing and severe liquidity shortages to misalignments of asset prices and difficult allocation of risks and are partly related to the speed at which public authorities can enforce crises management and resolution measures. Recognising the costs caused by a distress is important; on the other hand, crises costs encourage debtors' discipline. Costs can remain focused to the specific sector in which the crisis has occurred, e.g. the financial sector, or can spread vertically to other sectors of the real economy and therefore impact economic fundamentals, such as output and employment.

Beside the evaluation of costs to be born by the real economy itself due to market distress, public authorities evaluate also which costs can be caused by the implementation of crises management and resolution measures. The provision of emergency liquidity by the national central bank to the financial system for example entails different costs. They include moral hazard, i.e. the belief widespread by the market that the national central bank will automatically step in as lender of last resort to avoid financial crises in future; administrative costs of transferring resources to the institutions under financial distress. Other measures, such as more structural ones, might include an increased tax burden imposed to taxpayers.

Due to the previously mentioned reasons, in past, lender of last resort operations tended to be restricted to events which endangered the stability of the financial system as a whole, such as the occurrence of systemically important crises, rather than targeting single financial institutions under distress. Exceptions could eventually be made when single troubled institutions might themselves cause systemic risk.

The totality of costs can therefore be split between direct costs triggered by the crisis itself, such as non-performing loans and default on failing banks' obligations and indirect costs triggered by crises management measures, such as the cost of bank nationalisation or the cost of liquidity provisions.

2.4 Systemic risk

Due to the fact that financial institutions are usually tightly interlinked through the interbank market and that the ability of counterparts to meet respective obligations influences crises expectations of market institutions, a crisis can have contagious effects that spread rapidly through the financial sector. Systemic risk arises when crises expectations find economic ground and materialises when the inability of one institution to meet its obligations when due, causes other institutions to fail to meet their obligations when due.

While financial crises can originate from bank or non-bank institutions, they are usually transmitted more rapidly through the banking sector due to the existence of interbank links. The contagion from one financial institution to another derives mainly from different sources, such as payments and securities settlement systems or from the maturity mismatch in the balance sheet of banks. The over-the-counter market can further represent a contagion channel due to the fact that the latter is strongly used for risk sharing between market practitioners.

2.5 Channels of contagion

The banking industry is far more susceptible to contagion than other industries. This has several reasons. One major reason relies on the fact that the banking business has usually a significant amount of debt which is repayable on demand or short term while its assets are usually illiquid and long term. As a result, banks would be required to sell quickly high amounts of assets to face deposit runs during crises. A further reason is linked to the fact that banks have usually a low capital in relation to their assets and this leaves little room for manoeuvre in case losses have to be faced. A last reason is linked to the low level of cash in relation to banks' assets, which may require the sale of certain profitable assets when deposits have to be refunded[1].

Furthermore, because of the characteristics of the banking industry, financial crises can spread quickly not only through the interbank market but also to other industries and can result in large failures. A crisis can find its cause when one or more single market participants suffer difficulties but can further be exacerbated if the institution under distress is an operator of a systemically important payment or securities settlement system, which, due to the nature of its core business (i.e. custody, clearing and settlement of payments or securities transactions) can potentially channel the crisis through its system on the national and international market(s) to market practitioners, e.g. cash correspondents and custodians.

Payment and securities settlement systems can be seen as a channel of contagion and this independently from the banking or non-banking nature of the system's

1 *See G. Kaufman,* Bank Failures, Systemic Risk, and Bank Regulation, *the Cato Journal, Vol. 16 No 1 for details.*

operator or technical agent. The contagion effect is furthermore linked to the auxiliary banking services that a system may supply to its customers' base, such as the provision of credit and securities lending facilities.

Institutions linked to each other through a payment or securities settlement system's network are therefore interdependent due to the sending and receiving of payments or securities transactions (interbank transfers)[2]. The more interbank transfers are of high value and the more a system's disruption can create illiquidity on the market. A further interdependency factor is due to the reciprocal banks' lending and borrowing business (interbank balances) and, more generally, due to the overlapping claims between financial institutions. Liabilities in the balance sheet of one institution can represent assets of another institution and when a loss in asset values is sufficiently significant to exceed the institution's capital, this can cause a possible default on its obligations.

At last, incomplete information on the market provides for a further channel of contagion for crises. Rarely single market participants or single authorities dispose of a full set of information on the crisis. As a result they have to rely on additional information to be provided by other market players.

Contagion via market prices is also considered in literature. The failure of a major securities market player could significantly depress prices. If the market is illiquid, market prices could fall to a level that other active market players having high risk concentrations in the same market segments would also incur in losses. This channel can sometimes become significant when also commercial banks become increasingly involved in trading activities as opposed to the traditional lending business.

2.6 Market pattern

As a result of financial crises, the market itself has developed preventive measures. The shift has been historically towards a better risk diversification by market players through two major methods. The first refers to securitisation techniques and the second to credit risk transfer instruments.

Securitisation refers to the legal or economic transfer of assets or obligations to a third party (vehicle) that holds them as collateral and issues asset-backed securities. These asset-backed securities represent claims against specific asset pools. The advantages for banks applying this methodology are linked to the possibility of transferring assets to a third party instead of holding them. Beside financial advantages, e.g. to obtain an additional source of funding, banks can diversify their risk portfolio and avoid a concentration of risk.

Credit risk transfer instruments, such as derivatives, guarantees, letter of credit, etc., change the relationship between the borrower and the lender and establish a new relationship between the lender and those whom credit risk is passed to.

Credit exposures are used more and more as tradable commodity. Thus, transferring credit risk to those entities being more able to manage it, leads long term to a concentration of risk on limited market players which will have the potential to achieve systemic importance[3].

2 *Idem footnote (1).*

3 *The variation in asset prices is recognised as a contagion channel. An example is represented by the episode of the Long Term Capital Management (LTCM), a hedge fund active on the US market in 1998. The breakdown in fixed-income markets precipitated the hedge fund's collapse. Due to this reason, the Federal Reserve organised an unusual rescue package of $3,625 billion supplied by the market in return of a 90% equity stake in the firm. The stake of the original owners was written down by the remaining 10%. The justification of this action was based on the recognition that the liquidation of OTC derivatives, futures and repos of the hedge fund would have probably generated significant movements in market prices with resulting losses for the counterparts of the hedge fund and potentially other market participants as well. The FED facilitated the discussion and ensured that the solution chosen was the less disruptive for the market.*

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3.1 Legal basis

3.1.1 The international legal environment

The Maastricht Treaty assigns the responsibility for ensuring prudential supervision to the Member States[4]. Prudential supervision is part of the broader concept of financial stability which refers to the preservation of the core economic functions of the financial system by, *inter alia*, channelling efficiently savings into investments. The concept is linked to considerations on liquidity needs of market players, implications on financial markets and on the role of national central banks as provider of emergency liquidity.

According to Article 105(5) of the Treaty establishing the European Community "the ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system".

Furthermore, one of the tasks of the European System of Central Banks (ESCB) in accordance with Article 105(2) of the Treaty, and with Article 3.1 and Article 22 of the Statute of the ESCB and the ECB, is to promote the smooth functioning of payment systems.

As concerns deposit insurance law, the legal framework is defined by the Directive 97/9/CE on investor-compensation schemes and by the Directive 94/19/CE on deposit-guarantee schemes. The latter promotes a partial harmonisation of the deposit insurance in the euro area. The Directive makes deposit guarantee schemes mandatory in Member States with a uniform minimum coverage per depositor. The design, funding, administration and level of protection offered by the national schemes have nevertheless been left at the discretion of national authorities.

With reference to insolvency law, the EU legislation sets up principles in the:

- Council regulation No 1346/2000 of 29 May 2000 on insolvency proceedings (effective as from May 2002). It provides that the Courts of the Member State where the centre of the debtor's main interest is situated, which is supposed to be the place of the registered office, shall have the jurisdiction to open insolvency proceedings and the law applicable shall be the law of this Member State. The regulation foresees the possibility to open secondary insolvency proceedings. Insurance and credit institutions are exempted from the regulation.
- Directive 2001/17/EC of March 2001 on the reorganisation and winding-up of insurance undertakings (effective as from April 2003).
- Directive 2001/24/EC of April 2001 on the reorganisation and winding-up of credit institutions[5] (effective as from May 2004). It states that the judicial authorities of the home Member State shall alone be empowered to decide on reorganisation measures in a credit institution, including branches established in other Member States. Reorganisation measures intend to preserve or restore the financial situation of the entity and can include the suspension of payments.

3.1.2 The Luxembourg legal environment

The banking law of 5 April 1993 relating to the financial sector, as amended, provides certain principles for the liquidation of financial institutions and sets up the involvement of the national prudential supervisors in this field[6]. As concerns insolvency proceedings, the national bankruptcy and insolvency law is laid down in Articles 437ff. of the Commercial Code ("Code de Commerce en vigueur dans le Grand-Duché de Luxembourg", livre III - Des faillites, banqueroutes et sursis). It defines principles for starting insolvency proceedings and the formal corporate rescue procedures. The code sets out that the suspension of payments and the lack of financing possibilities are preconditions to be declared insolvent by a District Court. Since the opening of the proceeding by the Court, all acts and payments undertaken by and to the insolvent are opposable by third parties. The Government, on the advise of the Court of Justice, will be responsible for nominating liquidators. Within the official liquidators, trustees are chosen.

4 *The mechanism is laid down in Article 105(5) of the Treaty which stipulates that "the ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system".*

5 *The Directive 2001/24/EC of April 2001 on the reorganisation and winding-up of credit institutions has not yet been transposed into Luxembourg law.*

6 *Loi du 5 avril 1993 relative au secteur financier telle qu'elle a été modifiée, Partie IV: L'assainissement et la liquidation d'établissements du secteur financier.*

The Luxembourg insolvency law supports the principle of unity; i.e. one Court is competent for deciding on the bankruptcy of the debtor, namely the Court of the country where the debtor has its registered or head office, and the principle of universality; i.e. the adjudication of bankruptcy is effective *erga omnes* in other countries where the debtor has assets or branches.

The law of 12 January 2001, implementing the Settlement Finality Directive, gives the BCL responsibilities for the oversight of payment and securities settlement systems in which it participates.

With reference to deposit insurance, the "Association pour la Garantie des dépôts Luxembourg" – ADGL – establishes a protection to the customers of banks and investment firms[7] in Luxembourg. The ADGL was set up on the basis of Law of 11 June 1997 transposing the European Directive 94/19/CE on deposit-guarantee schemes and by the Law of 27 July 2000 transposing the European Directive 97/9/CE on investor-compensation schemes. The deposit association sets up a mutual guarantee scheme covering cash deposits and claims resulting from investment transactions. Luxembourg branches of foreign establishments are also covered by the AGDL. It is up to the Luxembourg prudential supervisor to conclude that an institution is unable to repay deposits and activate therefore the insurance fund. The AGDL represents Luxembourg's safety net.

3.2 Policy issues

In the context of crises management, public authorities are usually linked to several policy issues which influence their decision-taking process, such as:

- Keeping an unsound financial institution into business;

  An institution risks failing when the market value of its assets declines below the market value of its liabilities, so that the market value of the company, its net worth, becomes negative. Encouraging an institution to continue its operations, even when insolvent, would create discrimination between its creditors. This result is due to the fact that better informed creditors would demand the reimbursement of their short term credits (e.g. deposits) reducing the institution's assets further. The loss would then be borne by less informed creditors and creditors with long term credits.

- Avoiding moral hazard;

  Moral hazard can be defined as the risk that the existence of a contract, of an agreement or of market practices will influence the behaviour or the choices made by counterparts in a contract or by market players. The existence of moral hazard raises the incentive of taking unusual risks and increases adverse selection of counterparts (in a transaction) or of market players. In the context of a crisis, moral hazard represents the tendency to take on extra risks by market players, such as to invest in riskier assets, at the expense of the public safety net, e.g. deposit insurance schemes.

  When defining policy responses to crises, authorities face a trade-off between prevention of systemic risk and minimisation of moral hazard. Completely eliminating moral hazard in the presence of a public safety net becomes difficult. Predefining policy measures could imply moral hazard and therefore increase the fragility of financial markets. On the other hand, in order to reduce moral hazard, uncertainty on public policy measures would tend to increase.

3.3 Roles of the market in crises management

Historically, private solutions are usually the mostly encouraged for the resolution of crises because less distorting for the market. Crises can be the result of bank insolvencies, can themselves trigger bank insolvencies or can link both events together. Experience highlights how private initiatives may sometimes not be sufficient to solve a crisis[8] but can limit the costs and effects on the economy and financial markets and can add to crises resolution. The major market initiatives in this context are merger/acquisitions of troubled institutions, debt/loan workout and the creation of a deposit insurance scheme capitalised by banks to ensure banks' creditors in case of financial distress.

7 *Investment firms are commission agents, private portfolio managers, professionals acting for their own account, distributors of investment fund shares and underwriters.*

8 *In 1907 J.P. Morgan, the National City Bank and the Osterreische Kredit Bank tried to save the Boden Kredit Bank. The lack of sufficient funds frustrated the initiative. The Osterreische Kredit Bank rescued the Boden Kredit Bank only in the short run; the troubled bank failed in 1931.*

3.3.1 Merger and acquisitions

Merger and acquisitions, in the context of crises management, can be referred to as liability transfers. These solutions act differently from reorganisations but achieve the same results: a transformed balance sheet. A troubled institution can be purchased by another entity with a stronger balance sheet, so that the assets and liabilities of the distressed one are transferred into the new merged entity.

As merger and acquisitions are private solutions, they can be performed if market participants see an advantage in the deal; which supposes usually that the troubled institution still has some net value or that the acquirer can achieve synergies through the acquisition of the troubled business.

3.3.2 Deposit insurance schemes

Deposit insurance schemes represent part of the national safety net. Their goal is twofold. On one hand they aim at protecting depositors should a financial institution fail; on the other hand they aim at promoting confidence and stability of the financial sector. In order to limit moral hazard, the schemes are usually limited in scope leaving deposits of some creditors partly uninsured.

Terms and conditions of deposit insurance schemes are usually explicitly stated in a statute: the protection of depositors is therefore legally enforceable. On the other hand, some countries have implicit deposit insurance schemes informally set up and guaranteed by public authorities but without pre-established rules or statutes in place[9].

Deposit insurance schemes protect private retail depositors from speculating on the financial stability of a given institution, but do nevertheless not prevent the bulk of uninsured wholesale depositors, such as other banks and financial firms holding liabilities in a troubled institution, from withdrawing their deposits. Self-fulfilling bank runs[10] can therefore affect not only retail depositors but also wholesale market players with potentially more systemic impact on the stability of the financial system.

3.3.3 Debt workout

Debt workout is similar to a reorganisation but proceeds outside insolvency law. The workout can be organised by a public authority or by the market itself. This measure relies on negotiations between the troubled institution and the creditors.

3.3.4 Loan workout

Loan workout has the goal to resolve non-performing loans of troubled banks. Each institution has a deep knowledge of its debtors and is usually best placed to workout its "bad" loans. Furthermore, the fact that problem assets are left on a bank's balance sheet can provide an incentive to maximise the loans recovery value.

A way to perform non-performing loan workout is the establishment of an internal workout unit, or a "bad" bank, which takes the form of a separated capitalised subsidiary of the troubled entity. The sole objective of the subsidiary is the workout of non-performing loans and the maximisation of their recovery value. The risk associated with the use of "bad" banks is the fact that troubled entities can transfer their non-performing loans at book value instead of transferring them at market value.

An alternative to the loan workout performed at a decentralised level by the single troubled institutions themselves, is the setting up of an asset management company by the Government (For details refer to section Asset management companies).

3.4 Roles of the national central bank in crises management

When analysing the literature it can be highlighted how central banks usually assumed different roles in the context of crises management. The situation is furthermore complicated when considering that crises do not necessarily have an idiosyncratic nature and that liquidity or solvency problems do not automatically trigger a crisis if they are of a temporary nature. Historically, central banks have focused on those crises which endangered financial stability pursuing usually different

9 *Implicit deposit insurance schemes can be found in certain African countries, Asia and the Middle East.*

10 *Self-fulfilling crises can be detected when deposit withdrawals at failing banks are associated with deposit withdrawal at non-failing banks. In case of non-fulfilling crisis, deposit withdrawals at failing banks are associated with deposit increases at non-failing banks. The difference relies in the fact that depositors might be "wrongly informed" on the financial status of financial institutions.*

objectives, such as to ensure a speedy answer to market distress, to limit to a minimum the costs triggered by the crisis on the real economy and therefore to avoid systemic risk and international contagion. Complexity increases within the Eurosystem because national central banks have to take on their double responsibility as members of the European System of Central Banks and as national authorities.

To achieve an orderly management of crises, central banks are usually interested in maintaining public confidence on the market and to provide for transparency throughout the whole crises management process. As a result, historically, central banks have rarely engaged in lender of last resort operations and usually for short periods of time. This was partly due to the trade-off between the benefits and the costs of acting as lender of last resort.

The major different roles central banks assumed in the past in crises management range from the provision of information, the coordination of private initiatives, the provision of operational assistance and the provision of emergency liquidity.

3.4.1 Provider of information

Public authorities, within their respective responsibilities, have at their disposal different types of information on market participants and infrastructures. Prudential supervisors are usually the public authorities, which mostly focus on market participants, while central banks usually focus on the oversight of the national market infrastructure. Furthermore, central banks are key players on the market.

As owner of focused information on markets developments, participants and infrastructures, information, where available, shall be shared by the respective public authorities involved in crises management on a reciprocity basis.

3.4.2 Co-ordinator of private initiatives

Co-ordination failures of private initiatives due, for example, to the existence of asymmetric information between market participants and depositors, can increase the fragility of financial markets. This fragility can concretise either in bank runs, when belief is spread that one or certain financial institutions could be illiquid or insolvent[11], or in an increased number of participants/suppliers, such as cash correspondents or custodians, leaving a payment or securities settlement system when believed unsound. The result points towards a worsening of the balance sheet of the institution under distress and/or an increased inability of the system to meet its obligations towards customers and suppliers in an orderly way.

Central banks historically have acted as co-ordinator of private sector initiatives in order to channel excess liquidity from liquid institutions to illiquid ones. This mechanism functions under the assumption that illiquidity is not too significant and depending on the willingness of other market institutions to intervene.

The need for a public authority to act as a co-ordination device underlines the fact that crises can be partly related to fundamentals and partly self-fulfilling. In this context, crises expectations of market practitioners achieve a certain importance.

An example in this context is represented by the behaviour of the Bank of England on the 24th of February 1995 when Barings notified the Bank of England that its securities subsidiary in Singapore incurred significant losses in the Japanese financial markets. Barings asked for support in winding-down its activities. Troubles were nevertheless not concentrated only within the branch but across the whole group headquartered partly in London and partly incorporated in the Cayman Islands. Massive flows of funds were in fact cross-subventioning the different entities of the group to cover losses. Due to the fact that insolvent institutions were not allowed to trade, the decision had to be taken before next-business-day opening. The Bank of England invited take-over bids from third parties with potential interest in the troubled institution. With no prospects of a rescue and because it was believed that the institution would not bear potential systemic risk to the financial system, Barings entered bankruptcy administration. The Bank of England offered its willingness to provide liquidity to the UK banking system to avoid market disruptions. Shortly after a Dutch financial institution proposed to purchase Barings and assume all its liabilities.

(Source: International financial conglomerates: implications for bank insolvency regimes, R. Herring, 07.02)

11 *Insolvency is the situation where liabilities exceed assets, illiquidity is the situation where an institution faces a maturity mismatch in its balance sheet but has positive net worth because it is still solvent.*

3.4.3 Operational assistance in winding-up

Central banks can assist winding-up operations. One possibility is to provide central bank human resources for asset management companies, which are public vehicles aiming at managing the non performing assets of troubled institutions. A further possibility would be to provide temporarily liquidity to a failing institution until the Government would establish an asset management company or a similar public vehicle for the management of assets and liabilities of the failing institution. The latter type of intervention is sometimes defined as lender of last resort in literature, but does not refer in reality to the real role of a central bank as provider of emergency liquidity[12].

An example in this context is represented by the intervention of the Bank of England in the bankruptcy proceeding of Drexel Burnham Lambert, a cross-border financial conglomerate. Because the market was not able any more to distinguish between solvent subsidiaries and the rest of the group entities, it was reluctant to incur intra-day credit exposures even vis-à-vis solvent subsidiaries. The market feared in fact that subsidiaries could fail before their own transactions could be correctly settled. The Bank of England set up a settlement facility for a UK subsidiary by interposing itself between the subsidiary and its counterparts. Because the Bank of England was a trusted party this measure worked well. The facility permitted the subsidiary to pay amounts on accounts at the name of the Bank of England in favour of its counterparts; once the Bank of England confirmed the receipt of funds to the counterparts, the latter discharged their obligations and the transactions were finalised.

(Source: International financial conglomerates: implications for bank insolvency regimes, R. Herring, 07.02)

3.4.4 Lender of last resort

3.4.4.1 Basic assumptions

The lender of last resort function has been extensively debated in literature, but has been used within different contexts. Usually it is of common understanding that this functionality implies the provision of emergency liquidity by the national central bank at its discretion under certain conditions.

Historically, central banks, in their role as lender of last resort, have acted under one or several assumptions. The provision of emergency liquidity implies costs and is usually provided in situations which entail a certain degree of uncertainty. The goal(s) which are usually put forward by those central banks which acted as lender of last resort can be summarised as follows:

- the restoration of confidence in the financial system;
- the prevention of widespread failures, systemic risk and moral hazard;
- the correction of market asymmetric information;
- the prevention of a massive collapse of asset values;
- the prevention of bank runs;
- the avoidance of a credit contraction which would significantly influence the length of the crisis;
- The prevention of market distortion.

3.4.4.2 Types of operations

Emergency liquidity has been provided either to the financial market as a whole or directly to individual financial institutions under the assumption that the institutions in question are unable to collect financial resources on the market. Where no other lender is capable or willing to lend sufficiently quick and enough to solvent but illiquid institutions capable of causing systemic risk, the lender of last resort function finds a possible implementation. The ways and the conditions under which this functionality can be used, can differ according to idiosyncratic situations.

12 *Throughout the financial crisis of the 90's, the Bank of Japan acted several times as "lender of last resort".*
Article 25 of the Bank of Japan Law provided the legal basis for this action giving the right to the central bank to provide liquidity support as well as risk capital. The Bank of Japan has provided liquidity assistance in 1997 after the failure of Sanyo, a small sized securities house, which defaulted on its unsecured money market obligations and created a liquidity shortfall in the interbank market. The Bank of Japan had to supply liquidity to the banking system via purchase of eligible bonds, repurchase agreements and bilateral lending to banks against eligible collateral. ("Central banks and financial stability: exploring an intermediate land", *Central Banking Conference, 24-25 October 2002).*

Operations of lender of last resort can be accomplished in the following ways:

- through open market operations[13];

These types of operations are performed in the same way as the ones implemented by central banks during normal times, but on a larger scale. Emergency liquidity is provided to the whole market under the belief that the market is deep and efficient enough to channel liquidity to those institutions under distress.

- through discount-window lending operations;

Under this option, the central bank bypasses the market and targets (a) selected institution(s) under liquidity distress in the belief that authorities can allocate liquidity better than market forces. This type of operation raises the risk that apparently illiquid but in reality insolvent institution(s) could be maintained in operation; asymmetric information also entails the risk of distorting competition.

3.5 Roles of other national authorities in crises management

3.5.1 Government

The Government usually handles bank restructuring. The aim herewith is to restore the solvency of (a) troubled institution(s) and to further restore its profitability so to ensure its survival in the longer term. The ultimate aim is to boost the capability of the financial system to provide for financial intermediation and to ensure public confidence.

Restoring solvency impacts balance sheets of institutions, for example by raising additional capital either from private owners or from the Government, by reducing liabilities, e.g. writing down the value of the institution's debts, or by stripping out problem loans.

Restoring profitability affects costs, for example by eliminating operating costs, by restructuring the management structure or by improving credit assessments and regulation.

3.5.1.1 Re-capitalisation – provision of risk capital

If systemic risk exists, it may be warranted to support even insolvent institutions. Re-capitalisation is not done through the provision of a loan as traditional lending of last resort operations, but through the injection of capital of public nature into an existing or newly established institution.

The provision of risk capital through public funds has been historically provided by central banks also. The costs of the operation have been therefore reported in the central bank financial statements. It has often been stated that this operation seems to go far beyond the role of a central bank due to the fact that it increases the need to impair the costs of the operation which could lead to financial distress at the central bank. As a result this could undermine public confidence towards the institution. For this reason it is best done by other public authorities, such as Governmental entities[14].

As a result of re-capitalisation the Government becomes the owner of the troubled financial institution. This provides usually the opportunity to change the management structure.

This measure usually implies high fiscal costs.

3.5.1.2 Asset management companies

The Government might not directly re-capitalise banks. For this reason it can set up an asset management company. The latter has the goal to separate non-performing loans from the balance sheet of troubled financial institutions. Asset management companies can be publicly owned and publicly managed or publicly owned and privately managed. A mixed ownership represents a further possibility[15].

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13 *An example is given by the Federal Reserve Bank response to the LTCM's crisis. The Fed did not provide funds directly to LTCM but to the wider market. Several major creditors and counterparts of LTCM agreed to take over its management and to inject funds to manage its orderly unwinding. (IMF, Global Financial Stability Report: Market Developments and Issues, World Economic and Financial Surveys, 09.03)*

14 *(i) Governments have historically stepped into several crises to nationalise troubled institutions. Certain institutions have been nationalised to a large extent and have been subsequently resold.*
(ii) Following the spread of the Asian crisis in 1997 from Thailand to Korea and Japan, the Japan Government has undertaken the following major steps:
- Nationalisation of the two major troubled banks; Long Term Credit bank and the Nippon Credit Bank.
- Let foreign companies or brokers (General Electric and J.P. Morgan respectively) take Japan banks over.
- Use of a public vehicle to take over bad debts of major banks.

15 *Banking crises in Asian countries have been managed through the creation of asset management companies. Some of them have been set up by private banks.*

Asset management companies seek to restructure banks, so as to prevent bank runs, avoid credit crunch and improve financial intermediation. These vehicles need to have adequate absorption capacity of non-performing loans. Their ultimate goal is to sell the assets of the troubled institutions on the market under the condition that the market has an interest in buying the assets offered. Such an interest can be represented for example by companies which would like to invest in low-valued assets with the hope of an increase in value in future. The assets to be sold need furthermore to be liquid to be easily sold and the selling operations have to be transparent to the general public in order to attract adequate counterparts.

These vehicles can be of different types, such as asset disposition vehicles and restructuring vehicles. The former have the goal to sell assets promptly through bulk sales or securitisations. The latter are set up on a longer term basis and are aimed at restructuring non-performing loans prior to their sale. The aim is to make assets as much as possible financially viable and therefore attractive to the buyer. The restructuring process can include cutting costs, restructuring product lines, staff reorganisation, etc..

Asset management companies can value the assets they take over in two ways.

The first method foresees the immediate evaluation of expected losses. The goal is to clarify the magnitude of the problem, the costs and impact of the crisis. The drawback of the method relates eventually to the possibility of exaggerating the perception of the distress during economically depressed times.

The second method[16] foresees the deferring of losses as long as law permits it. The goal is to use the bank capital and the current income to gradually offset losses. The advantage is that banks are not forced to massive sales of assets with depressive effects on asset prices. The drawback depends on how quickly the bank problems can be resolved, so as to avoid that losses increase in time.

The creation of asset management companies is usually considered as a tool to increase the chances of recovery of institutions' profitability. Banks can therefore resume lending in the short term and accelerate recovery. On the other hand, this measure does not ensure that troubled institutions will be sustainable in the long run. To achieve this, institutions need to control their debt structure closely.

Under severe circumstances and time constraints, the Government has convened with the national central bank that the latter would supply emergency liquidity assistance to the concerned institution until an asset management company is established or even thereafter. The Government usually guarantees the lending.

16 *This method has been used by the Resolution Trust Corporation (R.T.C.) in 1989 to liquidate the assets of Saving and Loans. In the same way assets of Crédit Lyonnais and Sagitrans/Safitrans were liquidated.*

(1) The Swedish banking crisis gives an example on how the creation of an asset management company could facilitate the rescue of the financial sector. The chronology of events has been the following. Banking crisis in Sweden became systemic by 1992. Seven largest banks accounting for around 90% of the market suffered losses which represented around 10% of Sweden GDP. Non-performing loans were significant in relation to the total capital of the banking sector. Banks' shareholders increased their capital in some troubled banks.

Maintaining liquidity and avoiding financial system collapse was judged as a first important goal. The Government formally announced in 1992 a guarantee on banks' liabilities non restricted in the amount. The guarantee did not cover the shareholders' rights; only the bank's creditors' rights. A second step for the Government was to engage in negotiations with the market to cover banks' losses by the shareholders' capital.

Further, a separate authority, the Bank Support Authority, was set up to administer the guarantee given to banks and manage the developments of insolvent banks. The banks applying for support at the Bank Support Authority had their assets valued according to specific criteria depending on the extent of their solvency problems and their forecasted recovery probability. The Bank Support Authority evaluated the expected loan losses of troubled banks and valued real estate assets. The goal was to remain transparent in the restructuring process and gain public confidence and the confidence of banks' creditors.

The Supervision Authority and the Central Bank were also involved in the process. The Central Bank had the role of provider of liquidity at normal interest rate but was not involved in bank insolvency. Collateral was not required for granting loans to banks. The amount that could be granted was unlimited. The solvency of the central bank was not impaired because the Government supplied a bank guarantee. Loans were given also in foreign currencies to offset the loss on credits granted in foreign currencies to troubled Swedish banks.

The Government guarantee on banks' liabilities was terminated on 1996 and replaced by a guarantee on deposits financed by the market. At that time GDP losses were contained at 6% avoiding deflation.

(Source: What lessons can be learned from recent financial crises? The Swedish experience., U. Bäckström)

(2) A further example of asset management companies can be found during the crisis of the thirties in the U.S..

- Bankers agreed as first measure to create a centralised lending institution (National Credit Corporation) contributing with $500 million each to its capital. The company had to provide loans to troubled banks which did not have enough eligible collateral to obtain liquidity through the discount window of the FED. The approval of loan applications from banks by the National Credit Corporation was too slow.
- U.S. Government created the Reconstruction Finance Corporation (RFC) to grant loans to banks and railroads in the first instance. In a second stage the RFC was allowed to:
  (a) legalise nationwide holidays to shut down banks;
  (b) further broaden the eligibility requirements of the FED discount window;
  (c) streamline procedures to reorganise banks if insolvent;
  (d) purchase stocks of banks to re-capitalise them. The RFC could re-capitalise only sound banks but had flexibility in defining banks as sound.
- U.S. Government created the Federal Deposit Insurance Corporation to grant deposit insurance to solvent banks only.

(Source: The political economy of the reconstruction finance corporation's bailout of the U.S. banking system during the great depression, 05.94)

3.5.1.3 Blanket guarantee

The Government can eventually give a blanket guarantee that all banks will meet their obligations. This measure usually targets crises which spread over a significant part or the whole financial market. In the majority of the cases, the protection supplied by the guarantee is granted as an open-ended liquidity support to all financial institutions regardless of their financial standing. The goal of the measure is twofold: on one hand the aim is to boost market confidence, but on the other hand the aim is to delay the failure of troubled institutions so as to increase the possibility of re-capitalisation.

This measure can be linked to the suspension of prudential supervisory requirements for a short time period. It furthermore implies high fiscal costs. Moreover, experience shows that the implementation of blanket guarantees seems to prolong crises.

Countries, which had implemented unlimited blanket guarantees, usually transformed them over the time in privately-funded deposit insurance schemes with a limited coverage.

3.5.1.4 Exit strategies

The typical exit strategy foresees the failing of a troubled entity and includes two major aspects: liquidation and reorganisation. Liquidation has the aim to convert the assets of the insolvent entity into cash and to distribute the proceedings to the claimants. It acts on the asset side of the balance sheet. Reorganisation has the aim to readjust the claims of the stakeholders and tries to preserve the entity. It operates on the liability side of the balance sheet.

Insolvency law provides for the legal framework in this context.

3.5.2 Securities/banking regulators

Securities regulators have the possibility to relax or suspend specific trading rules. Due to the fact that liquidity is usually drying up during crises and stock exchanges might experience turbulent trading and value reductions, specific trading rules can be relaxed in order to prevent panic-driven selling of stocks. This role refers to the fact that asset price movements can represent a significant channel for crises contagion.

Banking regulators can, inter alia, relax or suspend prudential supervisory requirements for a short time period in case of financial distress. This measure can target (a) single institution(s) or the whole market depending on the needs.

Securities/banking regulators are typically involved in crises management measures but more in exit strategies, as they are also called upon in the context of proceedings of failing institutions.

3.6 Principles for crises management

3.6.1 Information sharing

Roles of the different authorities in crises management and prevention can be seen as quite complementary.

As concerns crises management, different authorities have different statutory responsibilities and have therefore at their disposal different measures which they can implement according to the nature and the type of crises. Their role is nevertheless dependent, among other factors, on the flexibility and will other authorities have when exercising their roles. A typical example refers to the possible role of a central bank as lender of last resort vis-à-vis the role of the national deposit insurance scheme. In fact, if the national deposit guarantee scheme can provide liquidity to illiquid banks, the role of the central bank as liquidity provider can be limited. The contrary can be true if deposit guarantee schemes can use their funds only when coping with insolvent institutions. In this case, the central bank's burden as provider of emergency liquidity becomes potentially more significant.

As concerns crises prevention, the cooperation between different authorities also achieves importance.

On one hand, cooperation and information sharing between central banks, prudential supervisors and insurance supervisors on systematically important market players and participants in payment systems would enable both institutions to have a more comprehensive view of the stability of the market place and on possible threats. This cooperation would best take place periodically.

On the other hand, the cooperation would facilitate the timely reaction of the authorities to the contingency as they would already have a cooperation and coordination framework in place. The information exchanged multilaterally or bilaterally for crises prevention purposes develops a better awareness and preparedness of authorities to crises management.

3.6.2 Cost sharing

Due to the fact that different authorities have different roles and responsibilities in crises management, the costs of resolving market distress are indirectly shared between the different authorities accordingly to the measures they have implemented. This phenomenon can be referred to as cost sharing.

Cost sharing does not suppose a split of the total costs born by the public sector in resolving the crisis, but supposes a cooperative involvement in the process without prejudice to respective responsibilities. The principle of cost sharing can be used in the same way when both private players and public authorities participate to crises management.

An example of the implementation of the cost sharing principle can be found in the US financial bailout of September 11. Key players have been of different nature: the Federal Reserve, the Government and the Securities and Exchange Commission (SEC) acting within their respective roles. The major public interventions can be summarised as follows:

Federal Reserve:
- Expansion of discount window lending ($118.25 billion);
- Purchase of U.S. Treasury securities to provide liquidity through open market operations ($81 billion);
- Reduced reserve requirement;
- Swap arrangements with ECB for $ liquidity provision ($50 billion);
- Swap agreement with Bank of England (£30 billion);
- Swap agreement with Bank of Canada ($10 billion);
- Lowering discount rate target to 2.5%;

SEC:
- Relaxed trading rules, e.g. allow firms during one week to repurchase own stocks without volume limits (buy-backs were of around $45billion).

Government:
- Approve emergency aid legislation;
- "Act of war declaration" to help insurance and reinsurance companies;
- Legislation to act as "insurer as last resort" to cover outstanding insurance claims;
- Bailout package for airline industry ($5 billion direct grants and $10 billion in loan guarantees, $150 million cash for ensuring business, cap insurance claims at $100 million per airline);
- 2-weeks tax exemption to certain businesses;
- Establishment of a four-person board to decide how loans to companies were distributed. Members were the FED, Treasury, Budget and Transportation Office.

The interaction between different authorities enabled a quick reaction to the crisis. It seems that no public authority took up the leading role in crises management. Nevertheless their cooperation was straightforward. Important is to notice that market participants themselves had the obligation to contact public authorities in case of large changes in their balance sheets (the same principle has been used during the Swedish banking crisis).

3.6.3 Coordination

Crises management tools are of different nature. The following table summarises, in a non-exhaustive way, the major measures which can be implemented for crises management and resolution.

Table 1 ***Crises management tools***

Measures	**Nature of measures** (Responsible authority)	**Type of measure**	**Financing method**
Central bank liquidity support (lender of last resort role)	Public (Central Bank)	financial	public funds
Central bank medium-term liquidity support (provision of liquidity to viable banks in restructuring phase)	Public (Central Bank)	structural	public funds
Reduction of reserve requirements	Public (Central Bank)	financial	/
Co-ordinator of private initiatives	Public (Central Bank)	organisational	/
Deposit insurance	Public (Deposit insurance scheme)	financial	market
Closure of insolvent institutions	Public (Government)	structural	taxpayers
Merger/takeover of insolvent institutions	private	structural	market
Privatisation of state-owned insolvent institutions	Public (Government)	structural	taxpayers
Debt workout	private	financial	/
Loan workout (asset sale)	Public (through asset management companies) Private (through the creation of bad banks)	structural structural	taxpayers market
New capital injection	Public (Government) or private	financial	Taxpayers or market (shareholders)
Blanket guarantee	Public (Government)	financial	taxpayers

Due to this diversity in responsibilities of public authorities, the coordination of the whole crises management process achieves particular importance. To strengthen this principle, it has to be underlined how the actors involved in a crisis or potentially involved in it, such as public authorities, market participants, creditors, operators of market infrastructures, can have different priorities and objectives when dealing with crises management. This diversity stems also from the overlapping between the national and the international dimension, e.g. in case of crises of large international financial groups, crises which have a national dimension but have a cross border spill-over effect on foreign markets, or crises which have effects on different market segments.

On the other hand, the more complex a crisis is, the more actors will probably be involved in crises management and the more it will be difficult for one single institution to assume the role of coordinator without prejudice to its and others responsibilities.

The coordinator shall, *inter alia*:

- Ensure the timely reaction of public authorities to the crisis; e.g. organise meetings and roundtables between (i) public authorities involved and (ii) between public authorities and market practitioners eventually;
- Contribute channelling the relevant information needs and flows between the authorities involved;
- Coordinate the organisation of the communication vis-à-vis the market and the press;
- Stress the need to evaluate systemic implications of the crisis;
- Stress the need for consistency throughout the management process between the different crises management and resolution measures to be implemented by different authorities;
- Stress the need for coordinating the timing according to which measures are implemented.

In order to perform the before-mentioned tasks, the coordinator shall be informed timely about steps taken by the different authorities.

4 CONCLUSIONS

Crises are complex events, they can be triggered by different causes and can themselves have different impacts on market participants, infrastructures and the economy as a whole. Due to this complexity, crises management does not result in a straightforward or easy task.

The field of crises management is comprehensive and includes all measures which can be implemented by the private sector as by the public sector with the goal to resolve a market distress. Different measures provide for different results. Supervisory measures have, *inter alia*, the aim to assess the solvency of distressed entities and of containing the scope of failures if any; central bank measures have the aim of providing emergency liquidity, of ensuring the smooth functioning of market infrastructure and of avoiding systemic disruptions; government measures have, *inter alia*, the aim of assessing potential fiscal costs and eventually of winding down the institutions under distress; while deposit insurance funds provide for a part of the national safety net.

Even considered that crises management can hardly be pre-defined or pre-organised, best results can probably be achieved by involving different actors from both the private and the public sector.

When dealing with crises management, two aspects achieve importance; i.e. the technical resolution of the crisis, which refers to the application of the best measure to timely resolve the distress, and the minimisation of the direct and indirect costs to be born by the economy and markets. Costs refer to direct costs imposed on the economy due to the market distress, such as the failure of a large number of market players for example; indirect costs born by other economies or markets not directly touched by the crisis itself but influenced by spilled-over liquidity or financial constraints; and costs caused by the measures applied by the authorities themselves.

A financial crisis does usually not develop in a short time frame. Financial distress is probably materialising in a first instance under the form of a liquidity shortage which might then transform into a solvency problem. Regulatory authorities, including national central banks as possible provider of emergency liquidity and as institutions in charge of the oversight of payment and securities settlement systems, would be probably called upon by the market to intervene in case of widespread market distress. For doing so, the authorities would need to understand to which extent the crisis has a liquidity or has already a hidden solvency nature and to which extent systemic risk is present.

A further specific need arises in the context of crises management, i.e. the need to develop preventive measures. On one hand, as for crises management, it is difficult to be prescriptive when dealing with crises prevention. On the other hand, crises prevention can be more easily organised and planned because it is usually an ongoing process. The most straightforward preventive measure refers to the organisation of a cooperative framework on two levels; the national and the international one. As concerns the national level, the cooperation framework could involve a qualitative exchange of information on an ongoing basis between regulatory authorities. The same would apply at a cross-border level.

Further preventive measure is the execution of crises tests organised by market practitioners themselves in order to check their resilience to market distress. Tests can be eventually complemented by the inclusion of public authorities in the exercise.

As a result, what is more striking in the whole, is the extent to which public authorities can assume different roles in crisis prevention, management and resolution depending, *inter alia*, on the roles assumed by other public authorities accordingly to their respective responsibilities.

Furthermore, it has to be highlighted how, beside to statutory roles respective public authorities have in the context of crises management and resolution, a new role achieves importance: the role of coordinator. The latter role does not imply the taking up of the ultimate responsibility in the context of crises management, but refers more to the coordination of the information flow, of the communication framework and of the resolution measures without prejudice to respective responsibilities of the different actors involved in the whole process. Referring to the double responsibility of central banks as national authorities and as members of the ESCB, central banks could be well placed to assume the role of coordinator in the context of crises management.

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