Two Generic Instruments of Financial Crisis Management:

Bankruptcy Law vs. the Lender of Last Resort

(plus another two, which makes four)

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**1. Introduction**

This article proposes a property rights and contracts, i.e. an institutionalist framework for the analysis of financial crisis as the various policy responses they may call. Four degrees of crisis are thus identified, that each corresponds to specific institutional tools. First is private endogeneisation which is represented here by a generic bankruptcy procedure: a court-based, retail institution allocates capital losses among agents and return production factors to the market. Second are coordination crisis that affect market exchanges as whole and raise problems of information and liquidity. The lender of last resort (LLR) is then the classical answer to market seizure and to a systemic break-up of exchanges. Tough in the literature bankruptcy and the LLR are rarely brought together, they are in fact the two canonical responses to market crisis. This derives from their being both governed by the pre-crisis distribution of property rights: their aim is to restore exchange with the most limited deviation possible from their initial structure, and so protect as far as possible microeconomic calculability and predictability. Though historically they have been both operated by a core state institution, bankruptcy and LLR belong to a rather restrictive model of such state: they were both developed before the emergence of the progressive, regulatory or social-liberal state; they are both core institutions of an open-access open-market economy.

The third policy stage and third instrument of crisis management is socialization: the integrity of property rights is now challenged so that the costs of the crisis are spread out. Whereas the two previous instruments targeted only shareholders and creditors, they now reach a population of stakeholders, which of course may vary in sizes. A minimal example is when the law gives special privileges to the tax administration or to workers in the distribution of the proceeds of a bankruptcy. But the underlying principle of a social safety net may be extended much farther, typically when large negative externalities are identified. Think to demand-side macroeconomic policies or to capital injections into banks or auto-producers. The fourth and last step in a crisis is described here as exiting property rights, a shift that often implies that the division of labor between market and hierarchies is modified. A controlled form would correspond for instance to the curtailment of trading on some classes of financial assets, or to the nationalization of an industry (think to railways for example). But the destruction of the formal structure of property right may also take a much broader, uncontrolled and therefore informal; in that case, private wealth may be largely redistributed and across social classes or social segment. It is argued that these ultimate crisis scenarios are typically the outcome of the degenerative form of the previous paradigmatic policy strategies – private endogeneisation, coordination, and socialization.

Section 2 of this article presents a simple, parsimonious description of a contract-based, decentralized economy, that will then help us identifying the different crisis models; this model is directly drawn from Brousseau et al. (2010). Section 3 to 6 then present and discuss our four crisis scenarios and their possible policy responses: bankruptcy, last resort lending, socialization, and property right exit. Section 7 concludes.

**2- A simple description of a market economy**

We start from a representation of a market economy that is as parsimonious as possible, though it also respect two premises: it is micro-founded and it relies on a developed description of its institutional setting. Namely, beyond the primary consideration for property rights and policy tools, it explicitly recognizes that market participation and market exit are not natural facts, or endogenous outcomes of some non-intentional decentralized rule of interaction. The whole argument about crisis and crisis management is that market exit is a highly complex, possibly unstable, rule-based formal process, which operation is most often a core part of a crisis. Moreover, market exit is altogether about market micro-level discipline (vs. moral hazard) and about market coordination (vs. systemic risk). The former perspective carries a strong inter-temporal dimension (solvency) and points to issues of private rights, capital and wealth accumulation, hence the microeconomics of growth. Market coordination, on the other hand, is more synchronic and aggregate in perspective.[[1]](#footnote-1) It is also about price signals and information, market trade-offs, and ultimately about the payment system and monetary institutions. We know that in theory and in practice articulating these two views is a core theoretical dilemma in economics, which may be one reason why bankruptcy and the LLR are so rarely considered jointly.

We thus consider agents that are endowed with wealth and capabilities. They invest them in more or less risky productive activities and, in so doing, they typically enter into a large number of contracts, including inter-temporal, financial ones. Enfranchisement and open markets then leaves individuals with a considerable capacity to trade-off alternate strategies, innovate, accumulate risks, earn profits or lose money. Both individually and collectively, therefore, ex post outcomes can hardly be predicted: technical innovations and shifts in preferences may brutally affect the best business projects, and aggregation effect may deliver un-anticipated results – positive or negative. This is the microeconomic habitat of an entrepreneurial, innovative, open-access economy.

Take as an example the (possibly) most elementary model of a financial crisis. First, market operators are endowed with much extended rights in terms of the type of contracts they can write, the market segments they can enter, the downside risks they can assume, or the way they estimate their equity capital requirements. Second, they exploit these possibilities to compete and extract profit, while de facto following a diffuse market-based measure of risks and its remuneration. As we know, informational asymmetries, mimetic behaviour or monetary policies may affect a lot individual choices hence, over time, the aggregate risk structure carried by balances sheets. Thirdly, it regularly happens that within a generation of financial contracts a substantial proportion fails and possibly causes a systemic market failure. The experience then tells that the large-scale brake-up of financial contracts may rapidly cause disastrous externalities, which might be further increased by inadequate responses from the policy-makers. This is where bankruptcy and the last resort lending come in and where they may also fail and open on a more or less extended socialization of the costs of crisis.

Agents that keep contracting whereas they should have exited the market are a crisis pattern about as recurring as the symmetric account of a vast number of solvent or viable firms being declared bankrupt. What this says is that institutions that govern market exit are thoroughly exposed to informational problems. If creditors could observe from the outside the solvency of a potential borrower, they would stop lending as soon as its net wealth converges towards zero. In other words, default by an insolvent debtor would just not happen and there would be no need for a bankruptcy law. By the same token, there would be no need for a lender of last resort, which only exist because money markets regularly fail.

Unpredictable social outcomes and the possibility of negative externalities is indeed where policy making arise from. If all market or social equilibria were satisfying ex post, both from an economic efficiency and a social fairness viewpoint, why would government intervene? In this perspective, the simple framework for analysing crisis management that is presented here can also help understanding more general patterns of policy making.

**3- What is a bankruptcy rule and how does it work ?**

Two things are important when considering how a bankruptcy works: it is a judicial procedure and its aim is to allocate and absorb the capital losses incurred by an insolvent debtor firm among its creditors. Because the former has more debt than assets, a rule should allow for an orderly distribution of the residual value of the firm. If not creditors may run either straight to the assets or, more probably, to the court, where they would ask the judge to seize this or that asset as an individual guarantee. In other terms, creditors would all rely on private remedies, or do-it-yourself options, with the consequence that the overall outcome might well be drastically sub-optimal: a first-arrived, first-served distribution of residual net wealth is not apriori fair and predictable, and it surely destroys the firm even when it might have deliver more value if restructured and restarted.[[2]](#footnote-2)

When creditors run to the court, however, they ask the judge to enforce pre-existing rights, whether of a contractual or a legislative nature. Either they have a lien on some collateral asset or they rely on the statutory principle that the debtor’s assets, as a whole, guarantee all junior debts. In essence, bankruptcy rules respond to the adverse incentives that emerge from the conjunction of those individual rights with the perceived insolvency of the debtor. It is premised on the observation that contractual exchange is an efficient coordination mechanism only as long as the contractual discipline holds.

In a very strong and discrete way, the bankruptcy judge then substitutes individual, market-oriented rights with a wholly different set of rules, of an explicitly collective and judicial character. Yet, because market exit is not an endogenous outcome of market transactions, but calls for an extended change in the set of rights that governs behaviors, this transition is typically discrete and highly disturbing, from a micro-economic perspective. Even though the rules of the game in this matter are generally well-known, the expectation that a given debtor might enter bankruptcy may still cause considerable instability, whether one consider individual agents or market exchanges as a whole.

This one-off transition inevitably implies a sharp and complex shock for all agents, that is reflected in the standard clauses that have been written for centuries in almost bankruptcy statutes:

- A judge suspends the individual rights of the parties;

- Control over the assets is transferred to a representative or a trustee of creditors; debts are accelerated, i.e. they are considered as if they had all come due; a stay on all payments is generally declared. Fresh money with absolute priority may also be contributed, as under the ‘Debtor-in-Possession’ rule of the current US Chapter 11 rules.

- New debt contracts, anticipated debt amortization, or donations, decided in the days before the adjudication of bankruptcy may be annulled retrospectively if it emerges that they had been decided in the anticipation of a coming procedure, thus in breach of intercreditor equity.

- The civic and professional rights of the failed debtor are typically affected: for instance he may not contract during the course of the procedure or he may be put in jail; his correspondence, more generally rules of privacy and the protection of commercial secrets are suspended. Because bankruptcy is still about contracts and agency, information remains a defining problem both within and outside it.

- At the same time, the creditors are forced to join a single, monopoly judicial forum where they will have to prove their titles and where specific rules and sequences of information-sharing and deliberation are imposed on them.

- A court official monitors the successive steps of this structured discussion and offers guarantees that issues of information, expertise or market power will not bear too heavily; in this perspective, a bankruptcy procedure is premised on the notion of a “level playing-field”, though one that benefits in fact from stronger public guarantees – just because so much is at stake, from a massive redistribution of wealth to the mere economic survival of many agents.

- The final decision and, critically, the choice between restructuring and continuation on the one hand, and liquidation on the other, is then made collectively by the assembly of creditors, on the basis of a (weighted) qualified majority vote. From a jurisprudential point of view, however, this vote gives only an indication of where the common interest should lie. As such it is not a binding decision: co-contractors don’t have per se the capacity to infringe into each others’ property rights. This is why, for their joint decision to become binding, a judge is (again) needed.

Therefore, the procedure is both opened and closed by a judgment. The former suspends private market rights and the latter reinstates them after the parties have made their decisions and the capital losses have been distributed. Debt titles, as written in the asset side of each creditor’s balance sheet, are thus being adjusted so that the net losses implied by the failure are absorbed – they do not float around and certainty as regard the solvency of market participants is restored. Of course, as creditors take their losses they may in turn become insolvent, so that a second round of bankruptcies might become necessary among them – and so forth. This is often how systemic crisis start. This is in fact the generic mechanism whereby private insolvency is regulated in a market economy.

Whereas the market allows for the decentralized, voluntary exchange of property rights, bankruptcy delivers a similar result though on a rule-based, judicially-controlled, collective basis. And as it proceeds this way, bankruptcy works locally as an aggregation mechanism that takes in all legitimate parties, imposes itself as a monopoly forum, and enforces a deliberation and decision rule that will reallocate property rights and redesign the Coasean firm. Hence it delivers the same results than the market, though via a different mechanism that handles property rights, information, and interest in a thoroughly different manner. Ultimately, the measure of its efficiency is indeed its capacity to return to the market all the production factors (capital, labor, entrepreneurship), within a business structure that will deliver superior efficiency. This is the reason why bankruptcy is a welfare increasing mechanism.

***How bankruptcy laws fail***

The long history of bankruptcy laws, since the European Middle-Ages, tells that bankruptcy is a core state institution (it is never privatized or sub-contracted). At the same time it is an utterly fragile institution that can be altogether captured, manipulated, circumvented or ignored. This vulnerability should be seen primarily as a testimony of how contested market institutions can be, and how complex is the enforcement of the selection rule that underlies a Darwinian economic model. The norm that should govern market exit (solvency) and the actual exit procedure are both social constructs which, as such, may vary over time and be exposed to open contestation by agents.[[3]](#footnote-3)

The bankruptcy may then fail when it excludes for example a class of agents, which do not have access to its services. Take the case of the informal sector in developing countries, where access to courts and to legal protection is partial. This may reflect different forms of social exclusion, though also a direct cost issue: a very general rule is that bankruptcy procedures are not subsidized, at least at the margin, hence their operating costs are supported by the parties, i.e. by the remaining assets. A great many micro-firms and personal businesses may then be excluded, just because they cannot finance themselves through court. This would then have adverse consequences on their capacity to borrow, invest and grow. Similar examples are offered by other limited-access economies where all agents have access to legal and commercial institutions, like in early modern Europe, where non-traders could enter a bankruptcy process.

The operation of a bankruptcy procedure is also directly constrained by its market environment. Its attraction to agents will inevitably be affected by the depth and efficiency of the secondary market for capital goods and real estate assets, which drive the returns of liquidations.[[4]](#footnote-4) If there is little to expect from liquidation, creditors may just not take the pain to join the process. Or, more often than justified, they may grant the debtor a continuation agreement that would leave him with a mandate to sell assets over a period of some months or years. This would represent a sub-optimal contract, under which capital would remain frozen for more time than under efficient market conditions and where new agency problem would have to be addressed.

A symmetric problem is raised before bankruptcy is declared. In a strong legal and market environment, distressed firms may sell long-term assets without supporting major discounts; or, equity investors may take a stake and restructure the firm before it supports the high fixed-costs of a judicial procedure. This is again a property rights argument: tradability is a defining character of ownership that weighs heavily in the services it offers hence on the value agents give to assets. Volatility in asset markets (say financial and real estate assets), or the possibility that they may not be traded at all, even for short periods of time, may then cause large exogenous shocks on firms with short-term financial structure. In other terms, volatility in the asset markets directly affects the quality of the exit signal: if it is unstable or unreliable, screening will be dysfunctional. Poorly regulated market coordination, as reflected in recurring liquidity shocks, will inevitably affect the operation of bankruptcy. Sais in other terms: in an economy with asymmetries of information and complex balance sheets, bankruptcy has to be thoroughly articulated to LLR operations. The exit function and market coordination cannot be envisaged as orthogonal problems.

**4- The Lender of Last Resort (LLR)**

Last resort lending is therefore a highly centralized, unilateral act by a Central Bank that targets an emerging or actual systemic risk and targets the market conditions of virtually all agents in the economy. In practice, it offers to banks and financial intermediaries the possibility to exchange long term illiquid assets against cash at a time when the markets has seized and does not offer anymore this service. It thus responds to a market failure by helping the banks addressing their in-build maturity mismatch between long-term assets and short-term liabilities. In so doing it helps them answering a sudden withdrawal of deposit-holders or inter-bank counterparties, and thus suppress the primary incentive to run: namely, the perception that only a limited pool of cash is available. The LLR thus contributes to systemic regulation and to individual sanction by providing the liquidity or information that helps differentiating them. Specifically, it controls a part of the informational risk to which the bankruptcy judge is exposed, primarily because the Central banks and the bank regulators have private information.[[5]](#footnote-5)

The easiest starting point for describing the operation of a LLR remains the canonical, though contested definition given by Walter Bagehot in his description of the London money market. In *Lombard Street* (1871) he defends that when confronted to a systemic crisis, a Central bank should first lend freely, and therefore supply the agents with as much liquidity as they want, thus suppressing the incentive to run or panic. Second, last resort lending should offered at a high or punitive interest rates, that will incite the agents to return to the decentralized money market as soon as possible. Then, liquidity should only be provided only against the best collateral, like Treasury bills and, lastly, the “solvent but illiquid” banks should only be supported.

The two last clauses in this classical definition shape in fact the delicate interaction rule between bankruptcy and last resort lending. First insolvent banks should not benefit from LLR support but be addressed to a bankruptcy court or be restructured, one way or another.[[6]](#footnote-6) Second, an insolvent bank that still has a portfolio of good assets should even not be allowed to exchange them against cash at the Central Bank. The point is that, by so doing, the Central bank would disturb the orderly operation of a coming bankruptcy procedure: continuing exchanges against cash until the whole portfolio of good assets is liquidated would allow for a full reimbursement of the first arrived creditors, at a time when a collective, fairer rule of distribution is already warranted. Hence, when the bank would eventually be brought to the court, the last creditors would be left only with the bad assets. An effective exit rules requires an effective LLR that will regulate the exit signal; but the LLR also requires an effective exit rules.[[7]](#footnote-7)

These two supplementary rules of interaction carry an important correlate: in good doctrine, LLR operations should cause neither a net transfer of wealth towards private agents, nor a capital loss to the Central bank. If it would, then it may transform itself into a vehicle for the socialization of private losses; in practice this would start when, knowingly or not, the Bank would start buying at face value dubious assets. Meanwhile, it would be unable to stabilize its domestic money and capital markets, which would remain unsettled by the continuing uncertainty regarding counterparty risks.[[8]](#footnote-8) Failure of a LLR then typically results from a situation where its operator is either unable or unwilling to suspend insolvent or unviable debtors, therefore allowing those agents to remain in the market and keep unsettling it.

Too-big-to-fail is then the popular diagnostic, and indeed a rather common occurrence. Variations may then be differentiated by asking what the metric of “big” is, in this phrase. While today the reference is usually to the size of the balance sheet, hence to some notion of market power, “big” has also been referred to the size of a nuclear arsenal, or more commonly to political weight, or leverage, or access in general to public resources.[[9]](#footnote-9) Capture by interest groups is then a constant threat for an LLR, just like for a bankruptcy court. Because both institutions may handle large amounts of private wealth, and because they may affect in such a powerful way the social position of so many, they are inevitably subjected to strong pressures, primarily by the most powerful interest groups. Taking out of the market a large conglomerate, a blue-blood family holding company, or a considerable financial group may thus rapidly challenge public authorities –courts and central banks as well.[[10]](#footnote-10) They would then fail to enforce a flat, impersonal exit rule that is a needed part of any open access economy.

Quite often, the failure of crisis manager is caused by their incapacity to control the interaction between market exit and monetary support. The Lehman crisis, in September 2008, is a case in point: for weeks, the Fed had supplied massive liquidity to the bank until the authorities decided that this was not anymore a viable course of action: too much public resources had been committed, the risk of moral hazard was compelling, and the prospect for a privately-based consolidation of the firm were deem. Still, when they opted for market exit and liquidation, consequences were exceptionally destructive: they called for more LLR and more bankruptcies, during many months.[[11]](#footnote-11)

Another example is the current example is the current EU crisis. Since spring 2010 the market for Greek sovereign debt, to name just one, has been supported by a mix of LLR funding by the European Central Bank, and interest-bearing financial support offered by the International Monetary Fund and other EU members. The main reason for this support, and for its extension in spring 2011, has been the perceived systemic risk to which the European commercial banking system would have been exposed, if a debt restructuring was decided. This is a standard case where market exit is rejected with the hope that the debtor country will be able to service all the debt, hence to endogenize all adjustment costs without renegotiating. And the downside, very clearly, is that absorption will fail so that a broader, more destructive market crisis will follow suit, sooner or later.

**5. Socialization**

Bankruptcy and the LLR respond to market crisis following the principle of a least-disturbed distribution of property rights. The LLR, as just mentioned, should operate on the principle that it does not cause wealth transfer between agents, specifically between public and private ones. Because its aims it to restore market stability and therefore to allow contractual commitments to be fulfilled, it preserves altogether, and by the very same act, the integrity of private balance sheets as that of the payment system that support market exchange. Bankruptcy, on the other hand, thoroughly restructures private property rights, and even relies for this on qualified majority votes. Still, a core underlying principle, it can be argued, is to obtain ex post a distribution of property rights that is the least distant from what the normal execution of contracts would have delivered.[[12]](#footnote-12) In so doing, it allows for a privately-based, individual absorption of capital losses while preserving, as much as feasible, the time-horizon of microeconomic calculation. Both, therefore, are predicated on the principles of market efficiency, distributive equity, and microeconomic predictability.

Still, in good doctrine, bankruptcy and the LLR are two instruments that are exclusive one to the other, yet complementary, though never supplementary. In other terms, the default view should be: first, that any actual instrument being mobilized in a context of crisis belongs to either one or the other of these two models; second, at any point in time, a key strategic choice for crisis-managers is which one to choose; thirdly, they do not respond to the same diagnostic, hence they cannot be substitute.

By contrast, what bankruptcy and the LLR don’t do is socialization, or: the redistribution of the costs of the crisis along different lines than those observed in the ex ante distribution of private rights and investment risks. Socialization may then take very different forms: it can be controlled and targeted or not, or it can be intended by explicit policy initiative or be non-intentional. Consequence can also be very different, ranging from the possibility of some moral hazard to large and permanent costs on the future recovery of private contracting, risk taking and capital accumulation. Three examples of socialization can be considered, that reflect an increasing overall impact of the distribution of property rights and wealth.

The most elementary case is the inclusion of non-contractual rights in the distributive rule to be followed when a firm is liquidated by bankruptcy court. Bankruptcy having always been a statutory institution, including such privileges is indeed old practice. It was used in previous centuries to protect the debts owned to e.g. churches, doctors, innkeepers, or undertakers. Today, this typically extends to the tax and social security administrations, and to the workers. By definition, they only carry junior debts, since the payments of taxes and wages are not supposed to be backed by collateral. But there is also the case of damages, as when a firm has been convicted for environmental damages before going under. In those cases a class of stakeholders is added to the two only broad classes of shareholders and creditors. De facto, the firm is now being considered as a body that is part of a broader network of social obligations, of different legal quality, that extend beyond contracts and property rights. This is why the term of socialization is actually deserved.[[13]](#footnote-13)

Another example is the common situation during systemic financial crisis where insolvency and illiquidity are not anymore discernable. In other terms, it may prove either impossible or unwise to apply the straight Bagehot rule and immediately close intermediaries that present a negative net wealth. This is typically the case in a situation of multiple equilibria where the crisis may cause a fall in the value of some classes of assets which, in turn, under mark-to-market accounting, imply the insolvency of some investors. In those cases, postponing bankruptcy and offering liquidity support might prove the best option, provided a return to normal conditions on asset markets restores solvency. Or, a bank may be indeed insolvent though closing it at the height of the crisis may only add more instability. Here again, liquidity support may be warranted provided sanction is applied ex post: that is, the initial shareholders loose their stake and the firm is restructured or sold to new investors.

At this point, the discussion has actually extended from non-contractual stakeholders to a broader concept, with a much larger potential reach: i.e. negative externalities. Public capital injections into banks or large industrial groups are examples where the twin rules of bankruptcy and LLR have been de facto suspended. This is typically justified by the large social costs that were anticipated if those concerns had been allowed to go under. It may then prove that the financial leverage of governments, and their possibly longer time-horizon, may allow them to operate as equity capital investors, at a time when private equivalent cannot operate. They may even make a positive return, eventually. Or, more often, taxpayers may end up covering part of the external costs of a private failure. Other, comparable examples of this sort then include stays on foreclosures, bank holidays and other debt moratoria that were indeed common practice during the nineteenth century, specifically in the US. All implies in fact a large, often undifferentiated suspension of the contractual obligations of either the debtors or the creditor banks.

The next steps, on this increasing scale of socialization, is then predicated on an ever larger mobilization of fiscal or quasi-fiscal resources, in the name of a social safety net that may calls for ever greater wealth transfers: either between parts of the population, or between generations. A social safety net is the standard example, though one may also consider the case when deposit-holders or interbank creditors are insured by government fiat.

6. **Exiting property rights**

A wholly different class of scenarios corresponds to cases where the structure of property rights is directly and thoroughly challenged so that the conditions under which the economic division of labor will eventually recover will be qualitatively affected. These scenarios first correspond to policies that deliberately aim at restricting the capacity of agents to trade in a given number of goods, services or assets. Ready examples are classes of financial contracts, but one may also add permanent capital controls, price and quantity regulations, or nationalizations. In given historical and political-economic circumstances, such moves can be actually analyzed as reflecting the perceived failure to build the legal and institutional environment that would support sustainable contractual provisions of these goods, services and assets. Think about the transition to repressed finance after the crisis of the 1930s, or to state-controlled railways or utilities, in post-War Europe.

Yet, exiting property rights can also be fully uncontrolled: it may then affect agents in an overly indiscriminate way, with no or few consideration for their specific contractual or balance sheets constraints. The consequence, in those cases, is a widespread, informal redistribution of wealth that is neither contractual nor fiscal. The impact on the ulterior capacity of agents to exchange and invest is therefore much larger, because wealth redistribution is more extended and microeconomic calculability may fall drastically. The potential consequences as regard future contracting, hence the future dynamic of the division of labor, may then be permanent and very costly in welfare terms. The social and economic fabric of society would then be thoroughly affected, over the long run. These experiences actually remember us that such societies may actually collapse: agents may prove unable to support continuing social exchange while remaining faithful to past contracts; in the worst cases, the broader definition and distribution of rights, as constitutionally negotiated between citizens and rulers, may fall apart.

In practice this disaster scenarios result from degenerative forms of the previous models of crisis and crisis management - bankruptcy, last resort lending and socialization. Socialization can indeed feed on itself as a weaker of property rights makes it more increasingly difficult to defend them within the policy process. And, of course uncontrolled monetary support to the economy may eventually cause substantial inflationary wealth redistribution – though only in the medium term. The long-standing failure to respond to financial crisis is typically reflected into ever more destabilizing interactions between the solvency dimension (bankruptcy/ debt write-offs) and the coordination dimension (LLR). The overall trend is then towards more informal redistribution of wealth and more unsettled trading conditions. Balance sheets tend to loose their binding power and the division labor contracts.

This scenario was illustrated in an exceptionally violent manner during the 1997-1998 Asian crisis, primarily in Thailand and Indonesia: in these two financially-open economy, the Central banks lost control over LLR issuing and the courts failed to enforce the bankruptcy.[[14]](#footnote-14) In a matter of few weeks, the result was excess supply of money leading to large scale capital flight, and a steep fall in the exchange rate. Since a tangible part of firms were indebted in foreign currency, the result was a deeper, more general solvency crisis, therefore more incentives to export capital. At that point, illiquidity and insolvency could not differentiated anymore, a vast proportion of the stock of financial contract in the economy were broken, and contractual activity fell steeply; in Indonesia, street-corner, retail trade even stopped in the larger cities. In a world of free capital movement, a central bank that issue a local currency has considerably less leverage to act as an LLR than the issuer of international currency.

Two types of scenarios may then be differentiated depending upon the role of the Central Bank: if it looses control over money printing it then opens the door to an inflationary distribution of wealth; if not contracts will be formally broken and market discipline will dissolve.

*Fragmentation*

Fragmentation scenarios result from the failure to sanction the incapacity of debtors to settle their payments on time: as they keep contracting though without being able to respect the market coordination rule, markets will gradually broke apart; in other terms, the division of labor will fragment because its coordinating mechanism does not hold anymore, so that agents will stop contracting, or they will only contract within a narrower range of potential counterparties. Although it is comparatively rare, this experience has a generic character.

One example is the textbook seizure of an interbank money market, where counterparty risk becomes uncontrollable: exchanges seize (or its circulate only between the Central bank and individual banks); or the market fragments between classes of intermediaries that trade on the basis of mutual recognition, reputation, or private information. In other terms, the impersonal, open access character of the market brakes down into sub-segments and adds more uncertainty and more inefficiency.

A similar process could be identified, other things equal, in countries like Argentina (2000-2002) and Russia (1996-1998), when the failure to enforce an exit rule lead to a process of spatial fragmentation.[[15]](#footnote-15) As large firms or local governments kept operating, and thus continued entering payments obligations, while been unable to pay them, they gradually started to issues IOUs. That is, they substituted cash payments by debt titles, in part or in whole, which were then accepted as instruments of payment, for instance for settling local taxes and public services duties, later in the local retail trade. In other terms, real goods markets started to brake apart because, in the absence of an effective sanction of insolvency, the payment system was fractured so that parallel, low quality monies emerged. The next step would have been the gradual differentiation of the respective rates of inflation and the formation of inter-regional exchange markets.

Lastly are the dilemma of ‘global governance’ at times of crisis: markets being now characterized by an extended capacity to contract across borders, though on the basis of still fragmented national jurisdictions, any failure or brake-down in transactions inevitably raises the risk of a fragmented, disorderly, hence costly response.[[16]](#footnote-16) This is not new: since the late nineteenth century, lawyers, diplomats and trade lobbies have never ceased asking for better coordination between bankruptcy proceedings, though with very limited progress.[[17]](#footnote-17) It is only since the 1990s, and primarily within Europe, that tangible steps have been taken. Otherwise, the risk is still there that assets located in a given country and debts in another one will be hard to match. Although dimensions of social chaos and possible widespread unrest are absent, the overall outcome is marked again by a distribution of the costs of crisis that is altogether unpredictable, unfair and inefficient. Consequently, because deviations from the ex ante distribution of property rights and risks are large, consequences on ulterior contracting might be substantial.

*Monetisation*

The failure of agents to settle their contractual obligations, i.e. to endogeneise contractual discipline, may deliver a wholly different outcome if the Central bank steps in and prints money. The resolution of insolvency then takes the road of monetary debasement, hence that of an informal transfer of wealth from debtors to savers. As was seen during the global financial crisis of 2008-2009, standard LLR operations do not immediately raise inflationary problems, however: as a rule, a dysfunctional central bank cannot engineer a hyperinflation in a matter of weeks or months – it is a long term process, even the eventual outcome is short and brutal. Yet, when either the state or the banking sector is massively insolvent, and their debt is not restructured, constant access to central bank lending is the way high inflation comes about. This has been illustrated by the post World Wars episodes as well as by the Latin-American and Post-Soviet inflationary cycles of the 1980s and 1990s respectively. The fall in the real term value of balance sheets, or credit aggregates, then reflects wealth transfers and the narrowing of financial and credit markets. Like in the case of fragmentation, wealth is redistributed in a most disorderly, often violent manner: in fact it is up for grab. Firms fall prey to opportunistic bargain hunters or speculators play on market volatility, specifically on the foreign exchange market. On the other hand, high inflation typically comes with less bankruptcies, just because it is caused by excess liquidity in the economy, not a draught of it.

**7. Conclusion: from crisis management to policy-making**

This article proposes a framework for analyzing financial crisis based on a property rights perspective: crisis are framed as the outcome of a more or less extended accumulation of unsustainable debt in the agents’ balance sheets. Crisis in settlement of those debt contracts may then take four forms, of increasing seriousness, ie of increasing potential welfare costs. To these four stages of crisis correspond four policy instruments, or four possible responses by policy makers which in turn may all possibly fail and increase further the magnitude of the crisis.

Hence, a crisis may remain at the micro-level and then call for private endogeneisation of the implied losses, in which case the representative institutional response is an effective bankruptcy procedure. Second, the crisis may affect market coordination, most commonly the payment system, so that the canonical response should be last resort lending. Thirdly, policy makers may decide to redistribute or socialize the costs of the crisis among a more or less extended population of stakeholders. Lastly the structure of property right may be either thoroughly intervened or destroyed, in which case the potential costs as regard the future recovery of contracting are maximal.

Two remarks may be added at this point. First, these successive strategies of crisis management illustrate four models of states that are well aligned in history. They are respectively the early modern judicial states, with utterly limited capacities to develop public policies in the modern sense of the word. Then is the libertarian model often associated with laissez-faire, nineteenth century economics – hence an economic regulation centered on the judiciary and a Central bank. Thirdly is the redistributive, social-liberal state of the second half of the twentieth century, under both its American and European versions. Lastly is either the more interventionist and corporatist models, or the failed state which fails to preserve the elementary conditions for an expanding market economy. Because this framework offers a typology both of crisis and of crisis management strategies, one may then analyze specific historical cases and question how policy tools were mobilized and how the affected the dynamics of contractual disorder.

Second is the suggestion that policy-maker may not only try to limit or redistribute the cost of crisis. They typically also try to avoid that the risk that they would repeat themselves in the future. This also applies to more limited, hence less socially disruptive events. The framework that is proposed here also accounts for this more ordinary intervention by policy makers that try to shape social outcomes in ways that would increase welfare over time. The four strategies that have been identified may then correspond to four reform strategies that work through four distinct institutions: private law, market regulations, institutionalized safety nets, and the regulation of the public/ private divide.

BIBLIOGRAPHY

Bagehot W. 1873 [1999]. *Lombard Street, A Description of the Money Market*, New York, John Willey.

Baird, Douglas G. 1986. The uneasy case for corporate reorganizations. *Journal of Legal Studies* 15 (1).

Baird, Douglas G. 1987. A World Without Bankruptcy. *Law and Contemporary Problems*, 173.

Bernanke, B., 1981. Bankruptcy, Liquidity, and Recession. *The American Economic Review*. 71(2), Papers and Proceedings of the Ninety-Third Meeting of the AEA. pp. 155-159.

Bolton, Patrick. 2002. Towards a Statutory Approach to Sovereign Debt Restructuring, Lessons from corporate bankruptcy practice around the world. miméo, Princeton University, octobre, 47 pages.

Bordo M. 1990. The Lender of Last Resort: Alternative Views and Historical Experiences. *Economic Review*, Federal Reserve Bank of Richmond, 76 :1.

Brousseau E., Y. Schemeil and J. Sgard. 2010. Bargaining on Law and Bureaucracies, A Constitutional Theory of Development, *Journal of Comparative Economics*, 38 (3), 253-266.

Buiter, Willem H. and Anne Sibert. 2008. The Icelandic banking crisis and what to do about it: the lender of last resort theory of optimal currency areas. *CEPR Policy Insight*. 26, 22 pages.

Carruther B.G., Halliday T.C. 1998. *Rescuing Business : The Making of Corporate Bankruptcy Law in England and the United States*, Clarendon Press, Oxford, 582p.

Commander S., Mumssen C. 1998. Understanding barter in Russia. BERD, London, EBRD Working Paper 37, 38p.

Dewatripont M., and Maskin E., 1995. Credit and Efficiency in Centralized and Decentralized Economies. *The Review of Economic Studies*. 62 (4), pp. 541-555.

Enoch Ch., Baldwin B., Frécaut O., Kovanen A. (2001), “Indonesia: Anatomy of a Banking Crisis, Two years of Living Dangerously, 1997-1999”, FMI, Washington, WP/01/52, 139p..

Goodman P., 1993. The Emergence of Homestead Exemption in the United States : Accomodation and Resistance to the Market Revolution, 1840-1880. *The Journal of American History*, vol. 80, n° 2, septembre, pp. 470-498.

Goodhart, Charles A.E. 1999. Myths about the Lender of Last Resort. *International Finance*, 2(3), pp. 339-360.

Hagan, Sean. 2005. Designing a Legal Framework to Restructure Sovereign Debt. *Georegetwon Journal of International Law*. 36(2), pp. 299-402.

Halliday, Terence and Bruce Carruthers. 2009. *Bankrupt: Global Lawmaking and Systemic Financial Crisis*. Stanford: Stanford University Press.

Haussmann R., Velasco A.. (2002). Hard Money’s Soft Underbelly: Understanding the Argentine Crisis. Harvard University/ KSG, 64p..

Herring, Richard J. 2009. Wind-Down Plans as an Alternative to Bailouts. Pew Financial Reform Project/ Briefing Paper 15. 21 pages.

Hood, Christopher C. and Margetts, Helen Z. 2007. *The Tools of Government in a Digital Age*. London: Palgrave Macmillan, xiv-218 pages, dont 10 pages de biblio et un index.

Humphrey, Thomas M. 2010. Lender of Last Resort: What It Is, Whence It Came, and Why The Fed Isn’t It. *Cato Journal*. 30(2), pp. 333-364.

International Monetary Fund. 2009. Addressing Information Gaps. Staff Discussion Note, 09/06, March.

International Monetary Fund. 2011. The Too-Important-to-Fail Conundrum: Impossible to Ignore and Difficult to Resolve. Staff Discussion Note, 11/12, may.

# Jackson Thomas. 1982. Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors’ Bargain. Yale Law Journal, 91.

Jackson, Thomas H. 1986. *The Logic and Limits of Bankruptcy Law.* Cambridge: Harvard University Press.

Lindert, S.H., and Peters, B.G.. 1998. The Study of Policy Instruments: Four Schools of Thought. In Lindert and van Nispen, ed. *Public Policy Instruments: Evaluating the Tools of Public Administration*. Cheltenham: Edward Elgar. Pp. 33-45.

Paollera della G., Taylor A. M. 2003. Gaucho Banking Redux, NBER, Working Paper 9457, janvier.

Radelet S. 1999. Indonesia : The Long Road to Recovery, Harvard Institute for International Development, Development Discussion Papers, n° 722, june.

Sachs, J. 1995. Do we need an International Lender of Last Resort?, Frank D. Graham Lecture, Princeton University, april.

Schwartz, Alan. 1993. Bankruptcy workouts and debt contracts. *Journal of Law and Economics* 36 (1).

Schwartz A. 1999. Is There a Need for an International Lender of Last Resort? *Cato Journal*, 19 (1).

Sgard, Jérôme. 2009. Against International Governance: Bankruptcy Laws and Globalisation, 1870-1940, contribution to the Conference, *Power, Institutions, and Global Markets: Mechanisms and Foundations of World-wide Economic Integration, ca 1850-1930*.

Skeel, David A. 2001. *Debt’s Dominion, A History of Bankruptcy Law in America*. Princeton, Princeton University Press, 281p.

Sonin, C., Zhuravskaya E. 2000. Bankruptcies in Russia: Away From Creditor Proection and Restructuring, *Russian Economic Trends*, 9:1, mars, pp.6-12.

Warren, Elizabeth. 1987. Bankruptcy Policy. *University of Chicago Law Review*. 54.

Warren E. 1993. Bankruptcy Policymaking in an Imperfect World, 92 Mich. L. Rev 336.

Wessels Bob, Bruce A. Markell, Jason J. Kilborn, 2009. *International Cooperation in Bankruptcy and Insolvency Matters*. Oxford, Oxford UP. 267 pages.

Westbrook, Jay L., 1996. The Lessons of Maxwell Communication. *Fordham Law Review*. 64.

Woodruff D. 1999. *Money Unmade, Barter and the Fate of Russian Capitalism*, Cornell University Press, 228p..

1. This point is illustrated as contrario by the theory of “Soft Budget Constraints” as in Dewatripont and Maskin (1995): by taking the case of centrally-planned economies, it explains how the absence of credible commitment to sanctioned bad investment decisions eventually explains bad allocation of resources and low economic growth. [↑](#footnote-ref-1)
2. On the theory of bankruptcy, see Jackson (1986), Baird (1986, 1987), Warren (1987); the debate around the creation of a “bankruptcy court for sovereign states”, as also seen a number of interesting contribution such as, for instance Hagan (2005), Bolton (2002). [↑](#footnote-ref-2)
3. [Accounting rules, default event] [↑](#footnote-ref-3)
4. In other words, bankruptcy is a capitalist institution not only because it sanctions insolvency; also because it requires a potent market structure in order to reallocate efficiently the assets of failed debtors. [↑](#footnote-ref-4)
5. In the very large literature on the Lender of Last Resort, see for instance Bordo (1990), Goodhart (1999), Humphrey (2010); an important part of the recent analytical discussion on the LLR as considered its possible international form, see here: Sachs (1995), Schwartz (1999), [↑](#footnote-ref-5)
6. On the large post-Lehman debate on how to liquidate a failed bank efficiently, see for instance Herring (2009). [↑](#footnote-ref-6)
7. For a rare (though limited) analysis of how liquidity and bankruptcy interact see Bernanke (1981). [↑](#footnote-ref-7)
8. This proposition is illustrated historically in the emergence of bankruptcy laws well before LLR operations became established practice. In fact all Western European countries, or trading cities, had a bankruptcy well before they even had a Central Bank. [↑](#footnote-ref-8)
9. International Monetary Fund (2011) [↑](#footnote-ref-9)
10. On the political economic context of bankruptcy reform in the case for instance of post-crisis emerging Asia, see Halliday and Carruthers (2009). [↑](#footnote-ref-10)
11. See also the Icelandic 2008 crisis, as analyzed by Buiter and Sibert (2008). [↑](#footnote-ref-11)
12. Jackson (1982, 1986) [↑](#footnote-ref-12)
13. Warren (1987, 1993); Goodman (1993) on the Homestead Exemption Act, in the 19th century US. [↑](#footnote-ref-13)
14. See Enoch et al. (2001) and Radelet (1999) on Indonesia. [↑](#footnote-ref-14)
15. On Argentina, see Haussmann and Velasco (2002), Paollera della G., and Taylor (2003); on Russia see first Woodruff (1999), then Commander and Mumssen (1998), Sonin and Zhuravskaya E. (2000). [↑](#footnote-ref-15)
16. Westbrook, (1996) on the Maxwell bankruptcy, in the early 1990S; Wessels, Markell and Kilborn (2009) on present regulation of cross-border bankruptcies, in Europe and beyond. [↑](#footnote-ref-16)
17. Sgard [↑](#footnote-ref-17)