

HOW TO BRING IN SYSTEMIC RISK CONSIDERATIONS INTO FINANCIAL REGULATION AND SUPERVISION?

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Introduction

It has long been recognised that there are dangers in the almost exclusive focus of the micro-prudential regulation and supervision on the stability of individual institutions, failing to pay attention to the stability of the financial system as a whole (e.g. Borio and Lowe 2002, and Crockett 2000). However, rather little was done to change the approach prior to the present financial crisis. There are excellent and comprehensive analyses of the regulatory and supervisory failures leading to the present crisis e.g. in de Larosière (2009) and Turner (2009) reports, and in the documents developed in the G20 process. It has now become clear that the systemic stability aspects were not well understood, which contributed to the severity of the present crisis, and that the pro-cyclical linkages between the financial sector and the overall economic performance are stronger than anticipated.

Consequently, the debate on the correct regulatory response has been centred on the question on how to reduce systemic risks to avoid another crisis of this magnitude. Frustration with the present framework has led many academics and policy-makers to propose an intrusive approach to deal with the issue, which could be labelled as "*elimination of systemic risks*". This approach includes: proposals to restrict the business activities allowed to regulated institutions (including "narrow banking" proposals or even nationalizations of retail banks); higher capital ratios and leverage caps for systemic institutions; focusing supervision solely on legal units rather than financial groups; departing from international home-host principles and treating subsidiaries and branches as independent institutions; and cutting interbank and OTC derivatives market links between financial institutions.

In this presentation, I will argue against this approach and favour an alternative much less intrusive approach to "*manage systemic aspects*" via targeted measures *within* the current

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risk-based prudential framework. While not attempting to be comprehensive, I will also try to offer some concrete proposals to deal with the systemic risk aspects. I will organise my remarks in three categories: 1) Mitigating the financial stability concerns linked to the contagion of problems from one individual (systemic) financial institution; 2) Limiting the pro-cyclicality of financial regulation; 3) Enhancing the cooperation and coordination between micro- and macro-prudential authorities.

Underlying my analysis is the definition of financial stability adopted by Padoa-Schioppa (2004) as ..."*a condition in which the financial system is able to withstand shocks without giving way to cumulative processes that impair the allocation of savings to investment opportunities and the processing of payments in the economy*". This definition focuses on the implications for the *real economy* as the key concern for public intervention in the financial sector. It also represents a broad definition of financial stability including the contagion of idiosyncratic problems across the financial system and the spreading of common problems of several financial institutions simultaneously. While the present crisis clearly started from idiosyncratic problems (i.e. the huge losses from US sub-prime related securities of Bear Stearns and Lehman Brothers and few other major institutions) and contagion through financial markets due to lack of liquidity, it has since then turned into a situation where the weakened condition of the whole financial sector and pro-cyclicality have triggered a major global recession.

A. Limiting the risk of failures of institutions that could not be allowed to fail

Limits to size and/or business activities

As one solution to eliminate the systemic risks stemming from individual failures and to limit the moral hazard consequences of the public rescues of systemic institutions, *limits to the size* of single institutions have been proposed by e.g. Buiter (2009) and also Governor King. Size of institutions (that are "too-big-to-fail") is considered to be the relevant aspect here. A complex or international business is not seen as a threat to systemic stability when business volumes are small.

A related and rather widely advocated proposal to deal with systemic risks and moral hazard has been "*narrow*" or "*public utility banking*". Underlying this idea is also a lack of trust in the ability of regulation or supervision to adequately contain the risks of financial institutions.

In this approach, banks would just hold retail deposits on the liability side and reserves and very low risk or secured debt instruments on the asset side. Only "narrow banks" would be entitled to take care of retail deposit and payment activities; and one could limit the public safety net (deposit insurance and lending-of-last-resort) to "narrow banks" only. These institutions would not be allowed to engage in other financial activities, or have other sources of funding, thus limiting the size of the banks and eliminating the possibility of

excessive risk-taking (i.e. moral hazard). While "narrow banks" would be closely supervised, the remainder of banking and financial activity would be completely free of regulation and supervision; but also excluded from the safety net.

The "narrow banking" proposals are rather old and made by Merton and Bodie (1993), and even already much earlier by Tobin and Friedman when considering the virtues of "100 % reserve banking". There are three main reasons why I would think that the "narrow banking" model would be clearly inferior to the present framework of not restricting the business activities of universal banks.

First, the model would be highly *inefficient* as it would break-up the synergies between the credit granting and deposit taking-functions of banks. For instance, Kashyap, Rajan, and Stein (1999) demonstrate that deposit-taking and providing credit lines can be regarded as manifestations of the same liquidity provision function, there are synergies between the two, and the need for liquid reserves and other resources would be much greater if the two services were produced separately.

Second, and most importantly, it will not be credible to leave major institutions *providing credit* to firms and households out of the scope of the public interest in the financial system. Following the definition of financial stability linking it with the performance of the real economy, it is not only the wealth of depositors which needs to be protected, but also the provision of credit to the economy.

Hence, the *scope of regulation and supervision* should be broad rather than narrow. Adoption of the "narrow bank" model would probably lead to a financial environment in which non-bank banks develop even further and uncontrolled and unsupervised risks spread even more. The crisis has demonstrated that also other than banks can be sources of systemic instability and, hence, potential subjects of "bank-like" regulation and supervision. For example, failures of investment banks, SIVs and hedge funds can be sources of contagion to the banking sector. Nevertheless, the banking system might still be the main link between the financial and real sectors of the economy through the credit and payment system channels.

Finally, the "narrow banking" model might not even guarantee the stability of the restricted banks. By artificially restricting the margins earned by banks, one could actually increase the *incentives to gamble* in order to earn higher return on share-holder investment. Hence, a "narrow banking" model would need to be coupled with ultra strict supervision of compliance with the investment restrictions.

The general reason for my negative stance to size and business restrictions is that, ideally, any public intervention should be *neutral*, leaving it to the market forces to shape the structure and scope of the business activities of individual firms. Non-neutral regulation would always also cause competitive distortions, major inefficiencies and limit beneficial innovations. Moreover, the way in which financial activity can be structured makes it easy for financial institutions to circumvent any business limitations.

It is clear that before the crisis *financial innovations* went too far from investor transparency and risk management perspectives, for instance, but the underlying reason for banks' risk-taking in these instruments could actually be non-neutral regulation. Acharya (2009) attributes the expansion in the sub-prime related risks of major banks to circumvention of capital regulations rather than anything else. The two main channels of taking sub-prime exposures were: off-balance-sheet exposures via SIVs guaranteed by parent banks, and large super-senior tranches on banks' trading books, which were both treated much less stringently in the capital regulation than regular on-balance-sheet exposures. Hence, there was strong incentive to take on these risks as the returns on capital were high.

A specific problem is caused by "*too-big-to-save*" banks (as the Icelandic banking crisis demonstrates), which does not quite fit into the above analysis and where size restrictions might be even justified. Notably, the possibilities and incentives of national authorities to control the risk-taking of such relatively very large banks could be limited.

Strengthening risk management in systemic institutions

Rather than "eliminating" systemic risks through intrusive regulations we should strive to "manage" them within the current risk-based prudential framework. The core issue is to strengthen *risk management* in especially systemic institutions in order to limit the probability of their failure.

Risk management standards should be *graduated* to be more demanding for systemic institutions, reflecting the size and complexity of their activities and the externalities of their possible failures. After the outburst of the crisis, we saw that there were major shortcomings in the internal control and risk management functions in even the largest and most sophisticated financial institutions.

The origin of the present problems was the exposure to sub-prime securities. What we have, essentially, is one business area taking such a *large concentrated risk position* that can take down even some of the largest and complex banking organizations, active in dozens of business lines and countries. These institutions did not sell away or hedge these positions (especially in the super-senior tranches), as models told them the positions to be safe to hold and could be priced at a very low risk premium. With the benefit of hindsight, these risks were hugely mispriced and mismanaged. There was no central oversight (and maybe even understanding) of the major risk positions taken as there was largely management by profit objectives at the expense of effective centralized risk management. The senior management has to be aware of the firm-wide risks, risk-taking has to be in line with the overall policy of the organization, and risk management has to be strong enough to put in place the necessary controls upon the business units.

We need to have a framework that supports *incentives* for sound risk management. Supervisory authorities cannot perform this function and the main responsibility must lie with the banks themselves to implement sound internal governance and risk management.

However, regulation and supervision also need to play an important role. Managers and traders are given implicit or contractual incentives by share-holders to take on risks. But it can be seen based on the finance literature that the incentives can be “wrong” due to principal-agent problems and failure to internalise the costs of financial distress and systemic risks (see e.g. the seminal analysis by Dewatripont and Tirole 1993).

There has been a lot of attention in the literature to effective *market discipline* in providing the incentives for sound risk-taking and management. However, the present crisis has demonstrated major failures in the ability of market discipline to constrain institutions' behavior (see e.g. Gropp and Vesala 2003 and 2004 for discussion on the possibilities and limits of market discipline). The incentives of creditors and share-holders to influence management could be thwarted by the fact that systemic institutions would always remain in the public interest to be rescued without losses to non-insured creditors and even share-holders. Incentives to influence can also be reduced by the difficulty of reaching private sector solutions in case of major institutions (Mayes et. al. 2009). Hence, one would need to generate much stronger incentives to creditors and share-holders by restricting the public sector safety-net and setting out pre-agreed rules to deal with failing institutions, but even this might be regarded as time-inconsistent policy. Therefore, the role of official regulation and supervision is central in supporting sound risk management in systemic institutions, while market discipline should assume a complementary role.

More precisely, regulations would need to set out strong-enough *standards for risk management*, like independent and strong-enough status in the organization; and for corporate governance, such as requiring remuneration policies which do not encourage taking huge short-term bets. The observance of the principles in the actual activities of the institutions will need to be closely supervised, which puts high demands on supervisors' resources, and supervisors should spend more resources and set higher standards regarding the actual implementation of the principles in systemic institutions.

Changes to prudential requirements for systemic institutions

First of all, it is clear that the present prudential framework is *not neutral*. Basel II favours large size through lower capital charges for more sophisticated and bigger banks that can adopt more advanced internal modeling approaches. This is justified by creating incentives to develop more sophisticated risk management tools. As noted, Basel II also treated certain risks more favourably than the risks on the regular balance sheet. These two-types of shortcomings will have to be corrected in order not to actually lower the risk absorbing capacity of the large systemic institutions. There are already decisions aimed at fixing the second type of problems, while unfortunately not yet to eliminate the benefits of size.

Some observers have advocated *higher capital charges for systemic banks*, but this would go against the neutrality principle and cause new types of distortions. I would rather graduate the risk management principles and the intensity of supervision to be greater for systemic institutions, as I already noted.

Second, we will have to be much more critical towards the use of *models* and the assumptions on which the models are built. The present crisis has demonstrated many shortcomings: There has been too much reliance on historical data and the assumptions of neutrality and continued availability of market liquidity; and correlations between risks has been hugely underestimated, for instance. One aspect of systemic risks which needs to be recognized is that correlations tend to increase at times of stress and risk and capital allocation models will need to take this into account. Supervisors need to take a conservative stance, in my view, towards allowing for diversification benefits as these tend to disappear at times of stress when capital actually needs to be available to absorb losses.

Models will continue to be central for modern risk management and we should not reverse the developments put in place in Basel II extending the use of models also to the calculation of the minimum capital requirements. The key lesson is that the models cannot be left to dominate judgment - like seems to have happened - and firms will have to develop *stress testing* practices to identify the severity of the risks outside the scope of the models, or which are deemed by the models to be highly improbable.

Third, the internal controls and limit policies of the firms themselves must be substantially strengthened to avoid single business lines (or even single persons) from taking *life-threatening* risk positions, even how improbable the risks might seem. The problems experienced now are not new - single risk positions have taken down relatively big banks even before - remember Barings; and similar modelling failures resulted in the near-collapse of LTCM.

Supervisors should as a matter of priority see to that such concentration risks are addressed by means of adequate stress tests (so-called *reverse stress tests*). While institutions need to hold capital against concentration risks (in their Pillar 2 capital allocation), I think the extreme risk concentrations are not a capital allocation issue, but that institutions should refrain from taking-up altogether risk positions that would lead to the failure of the entire institution in any adverse situation.

In addition, supervisors should effectively enforce the Basel II / Pillar 2 requirement for banks to identify and manage *all* material risks at the group level irrespective of the structure of legal entities and to cover the risks with adequate capital buffers. In this context, *supervisors' powers* to require limits to risk positions and ask for higher capital buffers might need to be clarified and strengthened. At the moment, these powers can be in EU countries too vaguely stated, or allowed to be used only too late to be effectively used by supervisors (CEBS 2009a).

Finally, it is important for banks and supervisors to consider the concentration risks related to the specific *business model* employed. The obvious lesson from the cases of Northern Rock and Icelandic banks has been that the business models based on financing rapid growth by strong reliance of market-based funding can result in a major vulnerability. In response to these events, supervisors globally and in the EU have rapidly drafted new

guidance and regulation of liquidity and funding risks. For instance, introduction of a core funding ratio is being considered as a new supervisory yardstick.

Managing interconnectedness between institutions

Strict limits on interbank exposures and exposures between parent and subsidiary institutions, effectively banning OTC derivatives by asking them to be moved on exchanges, and requiring always real time gross settlement of payment obligations rather than allowing net settlement, represent proposals to "eliminate" systemic risks stemming from the *contagion* of individual firm failures. Also here I would support the "risk management" approach to deal with the systemic risks for the same principle reasons of enforcement difficulties and high efficiency costs caused by intrusive regulations I already discussed. Inter-institution exposures should be dealt with as one aspect of managing concentration risks, and, without going into details, interbank markets and OTC derivatives markets could be made more transparent and resilient by moving towards clearing house-solutions.

Banning intra-group exposures, or requiring subsidiaries to fulfil all prudential requirements in the same way as individual institutions, would effectively cancel the efficiency benefits of centralised funding and risk management. Effective *consolidated supervision and co-operation* across different authorities should be relied upon instead.

Finally, co-operation in *colleges of supervisors* should be further developed to exchange information and to plan and execute supervisory duties such that all supervisors could be comfortable with the level of supervision. Safeguards in regulation are, however, needed for instance for the host supervisors of systemic branches of foreign institutions to guarantee access to relevant information and supervisory decision-making. Recent changes adopted in EU legislation move to the right direction, while the actual supervisory co-operation practices will need to be stepped up.

B. Addressing the pro-cyclicality problem

There is quite a lot of consensus on the need to remove or at least reduce the impact of the pro-cyclical elements of financial regulation (Basel II, IFRS rules etc.) on real economic performance. The objective is clear: *"to have a mechanism that allows the buffer of capital above the regulatory minimum to be built-up during an economic boom and strong earnings growth so that the buffer would be available to absorb higher losses in stressful environments"* (Financial Stability Forum 2009). There are, however, quite diverging views on how the objective should be accomplished in practice.

I think we should focus on having a buffer that is able to deal with the business cycle fluctuations. Having a buffer aimed at covering also losses from extreme adverse events or worst case scenarios could result in unrealistically high or inefficient capital charges (e.g. Rajan 2008 presents the drawbacks of too high capital requirements). These risks

should rather be covered by internal limits on risk concentrations, as I already noted. Rajan (2008) also makes interesting suggestions about how private capital insurance could be used to draw on extra capital when needed (replacing the need for an ex ante buffer), but I will not be dwelling on such proposals. I will concentrate on how the size of the capital buffer (i.e. the target level of capital above the minimum charge) should be determined and how the buffer could be depleted when needed.

Determining the size of the buffer above minimum capital requirements

A principal choice is between non-discretionary, rules-based and discretionary mechanisms (leaving the size of the buffer to banks' and supervisors' judgment). There are clear arguments in favour of a transparent *rules-based calculation* of the size of the adequate capital buffer. Most importantly, investors might not allow the depletion of the buffer if it is not clearly set out in advance that banks will build-up a buffer above the minimum capital requirement in an expansion and will run it down in a recession.

As a starting point, I think we should strongly refrain from introducing another *capital adequacy yardstick* than the Basel II risk-based minimum capital charge. The original justifications for risk-based capital charges underlying the Basel II reform are still very valid (see e.g. Gordy and Howells 2006). Only a risk-based measure avoids the incentives to risk-arbitrage and to take on risks that are high, but which would be allocated too a low capital charge in a non-risk based system. At least there is no strong evidence yet accrued by supervisors that - while difficult and resource-consuming for both banks and supervisors - Basel II charges could not be reliably implemented by banks. Moreover, Basel II measures have favourable information content compared to non-risk based capital ratios.

Hence, also when determining the target buffer to be used to absorb economic fluctuations we should use a measure that draws on the *internal models* and the actual detailed portfolio composition of individual banks. Using any other measure for the target buffer size (e.g. macro-economic variables such as credit growth figures as in the Spanish "dynamic provisioning" model) and imposing the same rudimentary target for all banks would fail to capture the risk profile of individual banks. This would also not take into account differences in the modelling of Basel II capital minimum capital charges: i.e. whether the internal models are based on the "through-the-cycle" or "point-in-time" methodologies for internal ratings, or on something in between.

I also hold a strong view against having *public authorities* determining when a capital buffer should be built-up or when banks could move down from the target level towards the minimum capital charge. This idea of public "engineering" is currently quite strongly held by e.g. European policy makers.

There are several reasons why it will not possible to allocate this responsibility to any public authority, domestic or international. First, large banks have global portfolios and economic fluctuations are not synchronised across countries. A publicly determined use of

capital buffers cannot take into account the specifics of banks' individual portfolios. Second, it could be difficult for supervisors to coordinate the required buffers for a cross-border financial group and its different entities. Third, it will not be possible to determine a suitable trigger point in terms of macro-economic variables. Banks could, for instance, have positive profits even when the economy has started turning down or the demand for credit has slowed down. The lowering of the required capital level might not change anything (credit development could be only demand rather than supply driven), or it could come either too early or too late. A lot of discretion would need to be given to public authorities, but then we would depart from the favoured rules-based approach. It is also doubtful whether public authorities could have the information to spot supply constraints in credit granting, which should trigger a lowering of the required capital level.

In sum, we should have a mechanism to determine the size of the buffer that is based on individual banks' internal models and specific portfolio composition, maintains the risk-based measurement of capital charges and which automatically allows for the depletion of the buffer when needed. Such a mechanism is possible to be defined by determining the required buffer as a difference between the capital levels calculated using *risk parameters estimated for recessionary conditions* (i.e. recessionary PDs and LGDs) and those based on minimum capital charges under the allowed Basel II methods ("point-in-time" parameters or "through-the-cycle" parameters - i.e. current or average parameters over economic cycles). The usual official definition of a recession could be referred to also in this context.

In such a mechanism, banks would be required to have a capital buffer based on *recessionary parameters*: PDs and LGDs estimated for historical recession periods for each of their country and sector-based portfolios. This kind of an approach is considered for banks' and supervisors' Pillar 2 dialogue by CEBS (2009b) to judge the adequacy of banks' current capital buffers. Such a methodology could, in my view, form a basis for actual hard-wired regulation of banks' capital buffers when applied at the level of banks' credit portfolios, or most preferably, at the level of each internal rating grades.

In this approach, banks would be required to build-up and hold the capital buffer as long as the current parameters (PDs and LGDs) are below the recessionary ones. While rather complex, the calculation would be based on banks' *existing modelling approaches*, but extending the data requirements to cover the past recession periods. Pillar 3 disclosures should be expanded to cover the determination of the capital buffer.

The beauty is that this kind of a buffer would be *automatically depleted* in a recession without any need for discretion by public authorities. The extra capital buffer would disappear when the risk parameters correspond to (or be above) the currently prevailing parameters and the difference between the target level and the minimum capital charge would be zero. Banks would also not be required to acquire extra capital when economic conditions deteriorate as there would not be an increase in the required level of capital in a recessionary period as happens under the current pro-cyclical Basel II rules. This approach would also be consistent with the previous recommendations of supervisors for

banks to move towards the "through-the-cycle" measurement of risk parameters (while clearly more demanding).

The capital buffer requirement should be strongly *enforced by supervisors*, e.g. by not allowing dividend pay-outs when the buffer is not in place. For small banks following the standard formulas, an automatic buffer could also be developed based on the migration of external ratings in times of a recession. However, the need would be much smaller than in the case of the internal models-based approaches as they are much strongly pro-cyclical than the standard ones.

In effect, banks would be required to hold capital to cover the risk-levels in historical recession periods, which would mean a significant *increase in the capital requirements* in good times. A transition rule should be established to move to these higher requirements, and the increase in the requirements should await, naturally, the ending of the current recession. An increase in the required level of capital from the levels calibrated for Basel II is justified in my view on the basis of the experiences of the present crisis in addition to dampening pro-cyclicality: many banks have clearly been too highly leveraged.

Do we need other measures?

There are dangers in a simple, non-risk based *leverage ratio*, which is currently widely advocated as another capital adequacy yardstick. Having such a measure could easily crowd-out the risk-based Basel II measure, resulting in a loss of their beneficial features, unless it is used as a mere floor to Basel II measures, lowly-calibrated to pick-up only extreme leverage levels and "outlying" banks.

Such a measure could also be easily *non-neutral* by treating unevenly banks with high amounts of regular on-balance-sheet exposures, such as retail mortgage loans, unless off-balance-sheet items are accurately brought in the measure. Then we are easily back in the complex measurement of exposures. I think it will be much more advisable to remedy the observed shortcomings in Basel II measures - also re-considering the correct calibration of the different exposure types, e.g. real estate exposures - rather than embarking on the complex work on completely new types of capital charges.

Basel II framework is based on the idea of covering unexpected losses with capital and the expected ones with *accounting provisions*. Under the IFRS rules, provisions have not covered expected losses as the rules only allow provisioning against incurred losses; hence creating a need for higher capital levels to cover the share of provisions as well. A clear improvement would be represented by a system where provisions would take up their appropriate role to cover expected losses, preferably determined again on the basis of banks' internal models. It seems, currently, that the IFRS rules are being changed in this direction. This would require a change in the present accounting standards. In a much less pro-cyclical accounting system based on adequate provisions, the principle of mark-to-market, or fair asset valuation could be in my view more easily kept. Thus, we could keep the favourable feature of early recognition of economic losses of the current IFRS rules.

C. Effective cooperation between micro- and macro-prudential authorities

The most general lesson from the present crisis is that we will have to pay much closer attention to the risks taken in the expansion phase and make sure that, at the same time, adequate financial buffers (capital and provisioning reserves) are created to withstand the risks and sound banking policies are maintained. Supervisors will also have to look at the developments at the level of the *entire financial sector*. One institution may look all right in relation to others, but the whole industry may be accumulating huge concentrated risk positions. A typical feature in the inflation of credit-asset bubbles has been "disaster myopia", meaning that private bankers may not sacrifice enough thought on the possibility that the expansion in credit and asset prices might one day come to an end. Adopting a more cautious strategy could also mean significant loss of market share. It may have to be the task for supervisors and central bankers to challenge the industry in such instances.

The crisis has shown that central banks' macro-prudential supervision has lacked tools to mitigate systemic risks. In practice, the most important avenue for macro-prudential concerns to result in corrective action is to work through micro-prudential *regulatory and supervisory standards*. Conversely, macro-prudential analysis can be of great significance for micro-prudential supervisors as they traditionally focus on individual institutions' risks rather than risks in the financial system as a whole. Hard separation of the two functions would risk leading to a situation in which neither central banks nor supervisory authorities would be able to perform their functions satisfactorily (Crockett 2000).

The institutional framework has been built on the *segregation of the duties* of the micro-prudential supervisors and central banks exercising macro-prudential oversight. The recently agreed framework for supervision in the EU based on newly created EU bodies: European Systemic Risk Board and three sectoral European Supervisory Authorities, represents a chance to develop strong co-operation between micro- and macro-prudential supervision and the necessary regulatory and supervisory actions to counter financial stability risks. The framework is still based, however, on the separation of micro-and macro prudential supervision into different structures, and there could be obstacles to smooth cooperation and information gathering. Having the prudential supervision of banks and other institutions conducted within or closely linked with central banks would overcome this separation.

The information demands of effective macro-prudential supervision at the European level are high. Confidential information on systemic entities has to be *pooled* together at the EU and even global levels as it is not possible for national authorities to monitor all contagion links between institutions, or monitor the stability risks to integrated money and capital markets and payment systems (Enria and Vesala 2003). Information needs to be collected without constraints at the EU level also because national authorities may not have the incentives to inform of risk exposures of their national institutions due to conflicts of

interest. The data on individual cross-border groups should be shared freely in supervisory colleges as well, including all national supervisory authorities of such groups.

Moreover, crisis management decisions would easily be sub-optimal if conducted only from a national perspective. Hence, there are clear needs for strong *EU-level decisions and co-ordination* in such matters.

Take as an example that a problem would emerge for a major player in the interbank market. The assessment of the potential for contagion would require information, which resides with other central banks and supervisors, while the home country authorities are only able to assess the “first-round effects”. Bilateral arrangements may be activated to signal the problem to all the supervisors of the banks with which the ailing institution has large exposures. But how could the impact of the “second-round effects” be assessed without a fully-fledged multilateral setting?

A shared “too big to fail” bias in rescue policies would virtually eliminate this co-ordination problem, but only at the cost of heightening moral hazard. If it is agreed that banks, which do not give rise to major systemic problems, should be allowed to exit the market; multilateral co-operation should be in place to assess the real scope for contagion in the interbank market at the EU-wide level. The need for multilateral co-operation is even more pronounced when there is widespread tension affecting a large number of participants in the market, due, for instance, to a common external shock causing a drying-up of liquidity.

Even if the systemic relevance of the crisis were correctly assessed, co-ordination is required to effectively activate the policy tools. There could be a problem in terms of cost sharing, particularly if systemic implications in other Member States are relevant. In addition, the tools to be activated might take into consideration damage limitation at the domestic level only. For instance, the central bank may decide to provide liquidity support to the domestic lenders, thus encouraging other central banks to intervene as well. Alternatively, an “orchestrated solution” could be sought, which does not take due consideration of the legitimate rights of all foreign creditors.

Conclusion

In this paper, I have argued against responding to the present crisis by “eliminating” the sources of systemic risks. This response can be tempting, but it would cause too a high efficiency loss and would probably be unenforceable in any case.

Instead, the sources of systemic risks should be “managed” within the present risk-based prudential regulation and supervision framework. While supervision should be graduated and more intensive for systemic institutions, financial regulation should be neutral with respect to size and business model in order not to cause further distortions.

More specifically, I supported:

- Development and effective supervision of stronger risk management standards for especially systemic institutions;
- Focusing more on concentration risks (including business model risks) by institutions and supervisors and limiting contagion risks via diversification requirements;
- Requiring limits on risk concentrations that could be life-threatening via "reverse stress tests";
- Strengthening the Pillar 2 supervisory process that all material risks are covered by institutions' risk and capital management processes irrespective of legal structures and seeing to that supervisors have adequate powers;
- Demanding higher capital buffers to limit the pro-cyclicality of the Basel II, basing the size of the buffer on banks' own risk parameters and data for recession periods;
- Limiting the role of the simple leverage ratio (if any) to a simple and lowly-calibrated floor for capital adequacy;
- Changing accounting rules to allow for provisions to cover expected losses over economic cycles;
- Eliminating the strict separation of the macro-and micro-prudential supervision,
- Having unconstrained pooling of information for macro- and micro-prudential purposes, and developing stronger centralised co-ordination of supervisory and crisis management decisions regarding major systemic financial groups in the EU.

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