Thomas J Jordan: Systemic risk and regulation – managing the challenges

Speech by Mr Thomas J Jordan, Vice Chairman of the Governing Board of the Swiss National Bank, at the 5th Annual Meeting of the Swiss Finance Institute, Zurich, 3 November 2010.

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Introduction

The handling of systemic risk in financial systems is an immense challenge. First, because it is not always possible to pinpoint the precise sources of systemic risk due to complex interdependences in global financial markets. Second, because before the outbreak of a crisis it is almost impossible to identify which domino will be the first to fall and thereby bear the ultimate responsibility for causing the financial system suddenly to falter and even collapse. Finally, the impact of systemic risk can extend way beyond the system that is initially affected. When the financial system is close to collapse, the costs are enormous, as was clearly apparent in the latest financial and economic crisis.

In my presentation today, I will talk to you about where we currently stand in our examination of the background to this latest crisis and how we can best address the diverse challenges in relation to systemic risk in the financial system. I will begin by explaining the issue of systemic risk in a little more detail, taking the recent crisis as my example, and making it clear why regulatory interventions in the financial system are necessary. On the basis of these explanations, I will then present the key criteria, which, in my opinion, should be used as guidelines when designing regulatory measures. In other words, I will be sketching the core components of a kind of roadmap for containing systemic risk. However, since we can never rule out the emergence of a new crisis, we also require a well-placed safety net. This will help to secure an adequate supply of liquidity to banks and markets, even at times of increased stress. A final section will be dedicated to this area, with some remarks on the importance of the central banks' function as lender of last resort.

Systemic risk and the financial crisis

Normally a number of different factors are simultaneously responsible for the accumulation of systemic risk over time leading to a crisis – as happened in the recent crisis. A number of well-known examples of possible risk factors and undesirable developments in the financial system include irrational market developments (e.g. bubbles during the upswing or fire sales during the downswing), inadequate or inappropriate regulation (e.g. weak points in Basel II), excessive confidence in markets and models (e.g. VaR), false incentive systems (such as implicit state guarantees for systemically important banks), and complex and intransparent products (e.g. complex securitised loans).

In summer 2007, these factors were combined or interacted with one another to create a situation where confidence was suddenly withdrawn from the global financial system, which then went out of control. Even though three years have now elapsed since the start of the crisis, it would be rash of us to claim that we have clearly identified *the* cause of the accumulation of the systemic risk revealed in the crisis and are now in a position to prevent the accumulation of such risk in future. For instance, although the bubble in the US housing market was identified at a relatively early stage, its threat to the system was totally underestimated. This fact clearly shows that systemic crises and their effects are difficult to forecast. Even in summer 2007, as it became obvious that the US housing market was in a very precarious situation, almost no-one foresaw the huge impact this would have on the global financial system and the world economy.

Ladies and gentlemen, we are all aware that systemic crises will occur again and again. This is because risk in the financial system pro bably always emerges at a moment when we are not yet in a position to fully identify or understand it. However, irrespective of this fact, at this point I would like to stress how important it is that we use all the resources at our disposal to try and contain the effects of systemic crises or lessen the probability that such a crisis will occur, at the very least, even if we are unable to prevent crises altogether.

First, systemic crises are enormously costly. Naturally, that alone does not justify state intervention. However, the legitimation for active state intervention can be derived from the fact that systemic risk gives rise to negative externalities, i.e. market failure, if it is not taken into account in the decision-making considerations of market participants. This means that the social costs of systemic crises are higher than the private costs. In the financial sector, this issue is particularly delicate, because of specific characteristics that can give rise to negative systemic externalities of the kind I have just described.[1] I will return to this important topic later in my presentation.

Second, based on historic experience, I am convinced that both the magnitude of systemic risk and the probability that systemic crises will occur can actually be reduced through intelligent regulation. Sure, they can also be sharply increased by incorrect regulation or lack of regulation. Yet, improvement can be achieved even if it is not easy to identify the accumulation of systemic risk and even if regulation will never be perfect.

Consequently, the need and the potential for mitigating the accumulation of systemic risk through regulation raises a number of questions with regard to the specific design of such regulation. Where do we start? How do we set priorities? Which principles should we abide by?

The number of regulatory solutions that have been proposed are as numerous as the possible triggers of systemic crises. Often, individual solutions focus on one specific cause. In my opinion, there are so many possible causes of a systemic crisis that it is insufficient to focus on just one specific cause when drawing up possible regulatory solutions. It would be an illusion to think that the issue of systemic risk could be totally eliminated in the long-term with such an approach.

Consequently, I believe it is important that the problem be approached in a systematic manner, and that comprehensible criteria for a list of measures that is likely to be effective be drawn up. Unless a roadmap is drawn up based on principles which guide us in the handling of the challenges we encounter in regulating systemic risk, there is a danger that decisions on the requisite measures will be made arbitrarily, that solutions lacking substance will be implemented or that nothing at all will be done. From the viewpoint of systemic stability, the result would be suboptimal. I will now talk about the criteria for assessing regulatory measures.

Do the measures ensure market discipline?

The first important criterion is whether the measures that are taken can reduce the social costs that can arise as a result of systemic risk. Ultimately, what is needed is an internalisation of the negative externalities, so that market discipline and market order are restored. The TBTF issue, in particular, is an illustration of the fact that the market's power to impose sanctions is not fully functioning at present, since systemically important banks

[1] For instance, information contagion, interdependences (interbank market) non-substitutability of systemically important functions, etc.

cannot currently fail. On the contrary, they benefit from a government rescue guarantee for the very reason that, because of their systemic importance, their failure costs would be so high. Thus, at present, TBTF financial institutions are not obliged to bear the full extent of the risk they assume. In the event of problems they can pass on the risk to the general public. This is a fundamental contradiction to the basic principles of a properly functioning market economy.

In order to contain these market imperfections the guiding principle should be – do what is necessary, but no more than is necessary! Consequently, the measures to be taken need to contribute to stability without obstructing key welfare-enhancing functions of the financial system. In particular, it is important that the measures are first and foremost designed to correct false incentives and to guide them in the right direction so that, first, unprofitable financial institutions leave the market of their own accord and, second, potential losses are borne by these institutions themselves, and not by the state.

Consequently, in my opinion, measures such as a ban on proprietary trading or the introduction of a narrow banking system, that intervene too strongly in banks' business models, are not very suitable. Such measures neither target the objective nor are they in line with the basic principles of the market economy. With regard to the TBTF issue, this principle has prompted the committee of experts appointed by the Swiss Government to draw up proposals including the creation of incentives for banks to become less systemically important overall, thereby reducing potential costs for the economy. At the same time, the committee of experts' proposal will allow for improved resolution in the event that insolvency appears imminent, and this will significantly alleviate the TBTF problem.

Are the measures "structural"?

A second criterion is that the measures should not just address the specific circumstances of the most recent crisis. In other words, fighting the last war will not win the next one. At the same time, the lessons of history show us that certain basic mechanisms repeat themselves in every crisis. Consequently, it is very important that we recognise these general patterns and include them in regulatory considerations in order to improve our crisis prevention. This prevention is geared to establishing instruments whose effects are as broad-based as possible, in other words, instruments that are independent of the specific causes that lead to crises.

One general pattern in financial crises is that market and investor confidence plays a central role.[2] In general, when a bubble is being formed, soaring price trends are initially explained in "rational" terms. In the recent crisis, for instance, developments in the US housing markets were, for a long time, regarded as a logical and unproblematic consequence of state support measures or of innovation in the form of new financial products, as well as the constant inflow of capital from Asia.[3] However, when the first symptoms of a crisis become evident, the focus moves directly to other aspects. Which market participants are exposed? How heavily are they exposed? How can one's own assets be safeguarded in the best possible way? The irrational optimism of the previous period is followed by a rapid loss of confidence and then by a flight to security. A broad-based loss of confidence of this kind can sometimes result in serious liquidity problems, even for fundamentally well-backed banks, thereby triggering far-reaching second-round effects.[4]

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[2] Cf. Akerlof/Shiller (2008): *Animal Spirits*.

[3] Cf. Reinhard/Rogoff (2008): *Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison.*

[4] Cf. Acharya et al (2009): *Manufacturing Tail Risk*. A *Perspective on the Financial Crisis of 2007–2009.*

In my view, a regulatory setup that can handle crises originating from as many causes as possible must pay attention to fundamental mechanisms of this kind. The following example may explain more clearly what I mean: In Switzerland, the liquidity requirements that have been in force since June will help to reinforce trust in the stability of individual financial institutions and ultimately to prevent insolvencies. These provisions require big banks to ensure that liquidity is secured for at least 30 days, even in the event of a significant exogenous shock. Their most important aim is to make sure that, should an event of this kind occur, a clear signal will be sent to market participants that the affected bank has time to initiate the requisite adjustment measures and to stabilise its position, no matter what kind of shock has occurred.

In addition there are also measures designed to counter procyclicality in the financial sector. They will help to prevent downward spiralling or crisis situations, in general. For instance, the large capital buffer proposed for systemically important banks by the Swiss committee of experts for TBTF will have this kind of effect.[5] The new Swiss liquidity standards are also designed with this aim in mind. In good times the liquidity and capital buffers will be increased or maintained, and in stress situations they can be drawn upon.

In addition, new discretionary instruments could generate countercyclical effects, thereby guarding against possible imbalances in the financial system. For instance, one possibility would be an obligation, which would apply to all banks, to accumulate additional capital buffers in times of excessive credit growth. However, to date, experience with this kind of regulation is limited. It is therefore necessary to evaluate these instruments carefully.

Do the measures contribute to the robustness of the regulatory setup?

A third important criterion is that consideration must be given to the fact that each individual measure, on its own, is either insufficient, or displays shortcomings that are often not directly obvious, or can be manipulated or even avoided. These latter three problems become particularly acute as the measures become more complex. One way of countering these weak points is to make use of *simple* instruments, as an alternative to, or to supplement complex instruments.

The benefits of simple instruments are, first, that although they are often less detailed and specific, they are more effective in a crisis. For instance, it is true that a straightforward restriction in banks' leverage using a simple instrument, the leverage ratio, does not do justice to the different risk classes of assets and may, in some circumstances, have unintended effects or create false incentives, as can any other regulation.[6] However, excessive leverage, in an absolute sense, is usually a clear indication that a company is carrying a high level of risk with regard to its solvency.

In the recent financial crisis, the leverage ratio of certain financial institutions was so high that their entire capital would have been eroded as a result of a mere 2% loss in the value of their assets. It could then be clearly demonstrated that the institutions with relatively low leverage weathered the crisis much better than those with high leverage.[7] Second, simple instruments offset the shortcomings of complex rules, in particular. In this way they provide a kind of safety net in case the complex regulatory approach emits incorrect signals. For instance, the

[5] A "capital conservation buffer" whose function is to achieve this effect is also planned within the Basel III framework.

[6] With respect to the leverage ratio, it is argued that this measure creates incentives to substitute high-risk assets for low-risk assets, thereby increasing a bank's overall risk exposure.

[7] Comparing 2006 data for a broad sample of banks, a recent BIS study concludes that the mean leverage ratio of eventually severely stressed banks were lower than the mean leverage ratio of non-stressed banks. Cf. BIS (2010): Calibrating regulatory minimum capital requirements and capital buffers: a top-down approach.

risk assessment models upon which the risk-weighted capital approach is based are most certainly prone to error. For these reasons, Switzerland decided to introduce a leverage ratio for the big banks as far back as 2008.[8]

Another way of making regulation more robust is by ensuring the diversification or complementarity of measures. Once again, the leverage ratio is a good example of this, since it has to be complied with along with the fulfilment of risk-weighted capital requirements. It is harder to simply manipulate this kind of system through regulatory arbitrage.

The benefit of complementary measures can also be strikingly illustrated using the example of the Swiss proposals aimed at mitigating the TBTF problem. The recommended policy mix represents a combination of complementary measures relating to equity, liquidity, risk limitation and organisation. More equity and liquidity must guard against insolvency on the part of systemically important institutions. These measures can support and supplement one another and, if necessary, counterbalance individual weaknesses. For instance, should the capital buffer prove insufficient and a crisis situation nevertheless arise, a rescue of systemically important functions can be facilitated by means of preparatory organisational measures involving improvements in the resolvability of banks.

Integration in the international environment, yet accounting for national circumstances

The fourth criterion is that the decisions on the measures that are finally taken must ultimately be embedded in an international framework while simultaneously taking account of specific national circumstances.

At international level, in particular, agreements on regulatory standards are based on negotiations in which the interests of different countries at different stages of development, with specific financial market structures have to be reduced to a common denominator. Often these interests diverge significantly.

A uniform definition of capital, the same risk weighting for assets around the world and the same calculation for the leverage ratio are extremely important. Only by applying the same definitions worldwide, can the soundness of individual banks be compared internationally. It avoids the possibility of financial institutions engaging in arbitrage through the establishment of complex cross-border legal structures.

These international decisions are also far-reaching in their importance because they predetermine the options and limitations faced by national regulators. However, implementation at national level is ultimately decisive. In particular, it is the deciding factor as far as financial institutions in any one country are concerned. In this respect, an international minimum standard cannot suffice when it comes to addressing specific national problems. For instance, at the moment, the Basel III package does not address the issue of systemically important banks, which fundamentally concerns Switzerland. Because of this concern, proposals that go beyond Basel III were presented in the report of the committee of experts.

Central banks as the lender of last resort for markets?

I will now move on to another point, which is directly related to the topic of this conference – liquidity. Since markets are constantly undergoing dynamic processes of adjustment, it is clear that another crisis can never be completely ruled out. Complete security is impossible.

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8 The introduction of a leverage ratio is also planned within the Basel III framework.

Consequently, at times, the markets will be unable to provide sufficient liquidity in an efficient manner. In such cases it is essential that central banks are able to step into the breach temporarily as lender of last resort. In this way confidence in the financial institutions can be restored, and the vicious cycle of liquidity bottlenecks, forced fire sales and bank runs can be ultimately avoided.

By providing emergency liquidity assistance, central banks aim primarily to stabilise the precarious liquidity situation faced by *solvent* institutions. Above and beyond this, the increasing importance of systemic risk has made the emergency liquidity provision to entire markets ever more imperative. Markets can also be faced with liquidity runs. This was only too evident from the high risk premia observed in the interbank market during the recent crisis. It is conceivable that central banks will take on the role of market maker of last resort in such situations in order to secure key market functions. Indeed, in certain situations it is essential.[9] In an acute crisis, the costs and probability of a system collapse can be reduced in this way.

However, the assumption of a lender of last resort or market maker of last resort function is not without problems. First, it does not guarantee long-term stabilisation in every case. Second, these crisis measures are no substitute for tackling the root causes or for lack of robustness on the part of financial market participants.

In particular, the presence of a market maker of last resort is associated with a variety of incentive problems.[10] It can, for instance, encourage market participants to enter into excessive risk exposure in the expectation that the central bank will step into the breach if necessary. Above and beyond this, in taking on the market maker of last resort function, a central bank assumes significant financial and reputation risks.

To summarise, the direct and indirect costs of this kind of market intervention need to be weighed up against the overall economic costs of a system-wide implosion of liquidity. At a time of significant stress in the system, we must probably retain a second line of defence of this kind for use when needed, if we are to carry out our task of ensuring sustainable welfare growth in the spirit of our mandate. However, liquidity or market assistance of this kind needs to be examined carefully, case by case. It must be planned as a distinct supplement to the first line of defence and clear principles laid down in connection with its provision. Last but not least, it must only be used to "kick-start" a market that is fundamentally capable of survival. Taking on a permanent market replacement function is something that should, fundamentally, be avoided.[11]

Conclusion

Ladies and gentlemen, I now come to the conclusion of my remarks today.

The accumulation of systemic risk represents a serious threat to the stability of financial systems. It is therefore important, on the one hand, to recognise this risk at an early stage and, on the other, to develop measures capable of containing it. I have spoken about four fundamental criteria for evaluating measures of this kind. In very brief terms, these measures must, first, be conducive to maintaining market order, second, aim to tackle the structural causes of systemic crises wherever possible, third, contribute to the robustness of the regulatory setup and fourth, be consistent with international regulatory principles while, at the same time, not fail to take account of national circumstances. This list of criteria must be

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[9] Cf. Buiter/Sibert (2007): *The Central Bank as Market Maker of Last Resort*.

[10] Cf. Nikolaou (2009): *Liquidity (risk) concepts. Definitions and interactions*.

[11] Cf. Tucker (2010): *The Crisis Management* Menu. In: Ayadi et al. (ed.): *Crisis Management at Cross-Roads, pp. 13–25*.

interpreted as a systematic and pragmatic set of procedural instructions – or, to use the term I used before, a roadmap. By observing these criteria, we can make a significant contribution to better managing the challenges that arise in connection with systemic risk in the financial system.

To a large extent, ongoing international regulatory reform fulfils these criteria. For instance, the narrower definition of capital and the adjustment of risk weighting under Basel III removes a number of key weaknesses in the Basel II standard. The individual regulatory efforts undertaken in Switzerland are also in line with these criteria, in particular the TBTF package and the leverage ratio. However, the reforms have not yet been fully carried through. For example, work to contain the TBTF problem at international level has only just begun. It is important that the measures that are still pending also fulfil the criteria I mentioned before. In addition, there are also many proposals on the table that do not comply with the criteria of this roadmap. Thus, we need to act carefully to make sure that we introduce only effective and reasonable regulation and that we do not unnecessarily over regulate the system.

It is also important to recognise that the definition of suitable measures by experts and the authorities represents no more than a first step. What ultimately makes the difference is that steps are taken to ensure they are actually implemented. The democratic legitimation, in particular, is an essential prerequisite for this. At the end of the day, it is politicians who must bear responsibility for the regulatory measures. Supervisory authorities and central banks play an advisory role but cannot make decisions on the introduction of the necessary laws and ordinances. Consequently, an important function of supervisory authorities and central banks is to provide clear justification for the considerations upon which the proposed measures and instruments are based, so that they are comprehensible for the political decision-makers. Here, too, the roadmap I have presented to you can be of assistance.