José Manuel González-Páramo: Rethinking risk management – from lessons learned to taking action

Speech by Mr José Manuel González-Páramo, Member of the Executive Board of the European Central Bank, at the Risk and Return South Africa conference, Cape Town, 4 March 2011.

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1. Introduction

Good afternoon,

I was very pleased to accept the organisers' kind invitation to participate in this conference and to speak about a topic that at the European Central Bank (ECB) we consider of utmost relevance: How to adjust our financial risk management frameworks in the light of the lessons learned from the crisis.

Indeed, the ECB has always placed a great importance on the design, development and implementation of sound risk management practices. The financial and economic crisis that started in 2007 and that continues affecting the global economy has prompted us to rethink and further strengthen the risk management function at the ECB and within the Eurosystem (consisting of the ECB and of the national central banks of the seventeen countries that have adopted the euro).

Therefore, it is a pleasure to have the opportunity to share our recent experience with distinguished professionals from the financial industry, such as those present in this room.

My intention is to comment upon a number of issues that may have probably been already touched upon in the previous sessions. More specifically, I will first summarise some of the general lessons for risk managers that we have learned from the financial crisis. I will then discuss how the risk management function needs to be adjusted to the new economic and financial environment. Finally, I will quickly describe some of the challenges ahead for central banks as risk managers.

2. Lessons from the financial crisis

So let me start by referring to some of the key *lessons from the financial crisis*.

From the selection of topics for this conference, with its focus on innovations in risk management and reforms to the regulatory frameworks, it is clear that we have learned very valuable lessons from the crisis. However, the fact that we are drawing lessons from the crisis is not only illustrated by the novelty of the issues under discussion, but also by the different approaches taken to examine topics that were regularly discussed in Risk and Return conferences in pre-crisis times.

As examples of topics that were "usual suspects" in past conferences, but are now presented in a different manner, let me mention two specific issues: (1) the broadening of investment universes, and (2) the advantages in terms of yield pick-up of investing in new markets and asset classes.

In the past the analysis on these issues would have typically concentrated on the return aspects and portfolio management considerations, with only limited space for risk-related considerations in the exposition, the latter usually consisting of some simple references to the tracking error of certain assets against the benchmark portfolios. *Nowadays*, even presentations firmly oriented on return-maximising investment decisions dedicate more time to look at the absolute risks of trading strategies and assets, and this is particularly true for credit and liquidity risks.

Indeed, during the current crisis we have learned the hard way that those "forgotten" risks, which were perceived as not deserving a single slide in many presentations of the past, matter more than we previously thought. For those holding responsibilities in the design and implementation of public policies, to observe the increasing recognition among market participants of the importance of strengthening risk management practices constitutes one of its very few positive consequences.

Causes and dynamics of the crisis

Some of the main lessons from the crisis seem obvious in hindsight, but unfortunately were not seen as such before the outburst of the financial turmoil in 2007 and 2008. In particular, there are clear indications that the way we look now at the trade-off between risks and returns has significantly changed over the past thee years and a half.

However, the key question is whether the shift in attitude towards risk has changed only as a consequence of the materialisation of some "forgotten" risks or whether there is a deeper and more structural explanation for this shift. My view is that the reason why academics, market participants and public authorities devote more time and resources to identifying and assessing risk-related issues is not only the severity of the crisis and the uncertainty currently surrounding our economic and financial systems, but more fundamentally the fact that not only the roots, but also the trunk and branches of the crisis are closely related to risk management and governance aspects.

In this regard, a number of thoughtful explanations of the causes and dynamics of the financial and economic crisis have been put forward. There is no doubt that risk managers can extract valid lessons from all of them, since there may be indeed some truth to all. Indeed, there is probably no single argument that can alone explain everything that has happened over the past few years and we also must remain objective enough to separate ideology from facts, when assessing the different versions of the history that have or may become best-sellers.

Some of the possible causes and elements characterising the nature and evolution of the crisis that have been advanced by commentators include: (i) the excessive borrowing by financial industry and the private sector due to the prevailing low interest rates; (ii) the build up of financial disequilibria and asset price bubbles; (iii) the biased system of incentives that led investors to excessive risk-taking; (iv) the failure by regulators to adapt to the state of the evolution of the financial system; (v) the market failures related to information asymmetry and lack of transparency about risks and characteristics of the different products; (vi) the existence of obvious conflicts of interests affecting key agents needed in the securitisation process; and (vii) finally, the failure of investors to conduct due diligence, blindly relying on information and models that proved to be inappropriate to capture some very relevant risks.

It is probably not very adventurous to say that the bursting of the house price bubble in the US, with the ensuing increase in the default rate and the severe underperformance of the subprime mortgage sector, was the spark that ignited the financial and economic crisis.

In the summer of 2007, as highly leveraged investors were forced to unwind some positions to cover margin calls, liquidity in some fixed-income markets dried out completely. Investors found themselves trapped and were forced to sell assets at considerable discounts. In some cases further sales – particularly for subprime Mortgage Backed Securities – were forced by stop-losses and Value-at-Risk based risk budgets. Liquidity risk-related losses piled up over losses registered as a result of fair value accounting as risks in the real estate sector started to materialise on a scale unseen since the Great Depression.

In the absence of asset liquidity and with many of the main actors in financial markets undergoing painful processes of loss-recognition, consolidation and deleveraging, some of the assumptions of the models regularly used for risk management did not hold anymore. For instance, this was the case of the assumptions of price continuity and sufficient arbitraging activity that underlie proper market functioning.

Furthermore, a variety of assets had to be priced using models that were over-reliant on assumptions and inputs such as credit ratings that had come under strain, thereby increasing the scope for model risk. As a result, uncertainty about the "true" fair value of the assets being held by financial institutions increased significantly.

As if the discovery of these "forgotten" risks – the liquidity risk as well as tail market and credit risks – would have not been sufficient evidence of the failures of investment decision-making practices at the global level, the default of Lehman opened our eyes even wider and the focus shifted to counterparty risk. This source of risk became increasingly important due to the implementation of hedging and trading strategies based on derivatives contracts, which were very concentrated on a few institutions.

Financial globalization and international integration, which are key components of the recipe for global prosperity, acted during the crisis as a channel for the transmission of shocks to the global economy. Systemic risks arose due to the interconnectedness of the financial systems and the impossibility to isolate the problems within the sectors and institutions that were hit first. The global financial architecture showed deficiencies that need to be addressed in order to strengthen the foundations of our economic systems.

The role of risk management in the crisis

In general, most of the causes of the crisis that I have just described relate to some extent to a clear deviation from well-established principles in the management of risk by financial institutions and investors. Common sense risk management practices such as "know your counterparties", "invest only in products you understand", "do not outsource credit risk management by relying exclusively on external credit assessments", "do not rely exclusively on quantitative models, no matter how sophisticated they are" were abandoned.

Overconfidence in: (1) the ability of portfolio managers to generate returns, (2) the advantages of financial innovation to spread in an efficient way risks and returns, (3) the adequacy of models and data used to estimate risks, (4) the efficiency of markets, and (5) the ability and willingness of monetary authorities to mitigate the effect of downturns in asset prices, did not allow the capital markets to adequately reflect upon and price-in the considerable risks that were being built.

Quite obviously, the crisis has taught us some lessons. Expressions like "stress-testing", "black-swan", "animal-spirits" and even "sovereign debt" have become the new buzzwords in the financial industry. Risk managers have been reminded of model risk; portfolio managers have discovered the true face of risks; market participants have started to think about the compound effects of risks, the dynamics of crises and the impact of systemic risks arising from macroeconomic shocks, contagion effects and "hidden imbalances"; academic and practitioners have further analysed market failures, particularly based on behavioural and institutional aspects; and a certain degree of scepticism has spread, leading to some people wondering whether there is a genuinely risk-free asset and what are the real benefits of diversification.

It seems clear that the "risk reassessment" process in the wake of the financial and economic crisis has been rather extensive and, perhaps, even excessive. For instance, market reactions to recent rumours about the financial soundness of institutions and sovereigns have been in some cases "off-the-charts". Likewise, markets that had traditionally enjoyed lively trading activity and relatively good liquidity conditions completely dried-out.

The shift in attitude that we have experienced in recent years relates not only to the ability of market participants to take risks, but also to their willingness to take them. In general, the crisis has eroded the capital position of the financial industry, forcing some institutions to embark on a process of deleveraging and risk downsizing that, in absence of an orderly mechanism, may bring global capital markets further down. This process has dragged the real economy and the fiscal position of many countries, thereby contributing to the further deterioration of the global picture of risks.

This sort of negative feedback from financial factors can be explained both from the *fundamental* side, as global risks did increase while the ability to absorb losses decreased, but also from a *behavioural* perspective, since confidence disappeared as the evolution of the crisis pushed us to unchartered territories and away from the comfort zone in which we thought we were living.

As central bankers, but also as risk managers, we fear that in some cases we may have gone too far, and that what we see now cannot be explained only in terms of a better understanding of risks, but in many cases reflects a sharp increase in risk aversion that it is not always fully justified by the "learning process". It seems obvious that we need to incorporate in our decision-making process and in the models we use to support it, the notion that markets are driven by behavioural factors.

All in all, one can optimistically conclude that this time some important lessons have been learned and hope that by implementing the necessary reforms, confidence can be restored. In any case, a crucial question remains: has the crisis changed our minds in a permanent manner or are we just living in a "crisis" mode and the lessons learned will be forgotten shortly after once the crisis is over? Or if I may paraphrase the title of Reinhardt and Rogoff's best-seller, is this time any different?

To make it truly different we need to take action.

And we need to take action on different battle fields.

3. Adapting risk management to a new economic and financial environment

We need to start adapting our risk management frameworks to a new economic and financial environment.

Public authorities need to incorporate the lessons from the crisis into the regulation in a meaningful manner. Among the different regulatory measures that need to be taken to prevent similar crisis in the future let me mention the following:

1. promoting sound risk management practises and better integrating the risk management function into the decision-making process of agents;
2. addressing the challenges posed by "too-big-to-fail" institutions and the related moral hazard;
3. enhancing the global financial infrastructure to make it more robust to crisis, by promoting instruments and initiatives to mitigate counterparty risks and limiting the channels of contagion of firm- or sector-specific shocks;
4. further encouraging transparency, fair valuation and standardisation in the elaboration of financial statements; and
5. redesigning regulatory policies and capital requirements to avoid procyclical effects, for instance by introducing dynamic provisioning mechanisms as well as liquidity and funding requirements.

The implementation of changes to the international banking regulatory standards as proposed in the Basel III accord will represent a key milestone in this regard. The gradual adjustment to the new regulatory framework over a sufficiently long period, also to take into account the weakened economic position of many developed countries and financial systems as a consequence of the crisis, will mitigate the impact of implementing the new rules. In the medium to long run, the transition to a regulatory framework designed to improve the capital position and the risk management practices of financial institutions will play a major role in fully restoring the credibility and public confidence in the financial system.

Further initiatives aiming to improve the governance and transparency of capital markets and institutions will also be needed to restore the orderly functioning of the markets. In this regard, the ECB has launched, in cooperation with market participants, an initiative to disclose loan-by-loan level data in the European ABS market, which in our view will help reviving such market and mitigate some of the risks associated to those products.

Of course, this initiative relies on the will of market participants to improve the way in which due diligence is performed. The commitment of the ECB and the Eurosystem in this regard may serve market participants as a benchmark. It is the duty of public institutions to live up to the highest governance standards, and therefore we strive at continuously improving our due diligence and risk management practices.

We expect that financial institutions and private investors in general also will rethink their governance and risk management functions. In this respect, risk management should help driving the strategy and decision making processes by defining the extent of the risk appetite of the institution clearly and by establishing a clear enterprise-wide risk management system. In this context, the design and attribution of risk budgets and the clear communication of risks to decision-making bodies and to all relevant business areas should be ensured.

A better due diligence in the risk management function requires reducing dependence on the output of specific risk models and on external assessments, such as those provided by rating agencies. The correct understanding and assessment of risks requires the development as much as possible of internal capacities to evaluate risks. In addition, it is essential to understand that historical data, opinions and models are just tools that aid the comprehension and communication of risks, but with limitations that need to be accounted for in the decision-making process.

In this regard, I would like to emphasise that what constitutes a severe problem is not so much the use of risk measures such as Value at Risk, models like the single-factor Gaussian copula model for credit risk, and risk opinions like external credit ratings, but rather the lack of understanding of the limitations of those measures and models.

Accordingly, there has historically been an over reliance and mechanical use of models and external opinions that constituted one of the critical failures of the financial system before and during the crisis. Those models, measures and opinions are still valid tools, but need to be used in a correct manner, and need to be complemented by other tools and, more generally, by expert judgement.

Risk managers should not simply take comfort in recent historical regularities and in well-established standards for risk measurement. Discomfort should be their habitat. All business areas of the institution should contribute and challenge the risk management function to look at risks in a different manner and to adopt better communication strategies.

We have recently lived through many “what-ifs” that almost nobody thought of, and although risk management is all about dealing with uncertainty rather than making point forecasts, our warm and placid financial models, fed with short-sighted inputs, were not capable of adequately capturing the risks that ended up materialising.

In hindsight it seems unbelievable that we believed in models that were predicting that nothing terrible could happen in 99 out of 100 years, usually using less than 10 years of data to construct such prediction. In the last 100 years, not counting the recent crisis, we have experienced 2 world wars, the Great Depression and an increasingly frequent number of financial crises affecting specific sectors and regions that have often been a source of contagion.

It does not take a statistician to prove that the models were fundamentally misused. It just takes common sense, but as the saying goes, this may be the least common of the senses.

How could we be ready for the unthinkable if we were not even ready to assimilate past experiences? Some have said that standard risk management models could not capture a “black swan” event. Well, in some cases they could not capture a white swan either.

In this regard, stress testing is seen as one of the core elements of a modern risk management function. The design of plausible yet demanding (forward-looking) stress tests both at the business area and at a firm-wide level can significantly contribute to understanding the sources and the consequences of the risks faced by the different institutions.

One of the key lessons that we have learned from the crisis is the interaction between different types of risk. This interaction sometimes leads to compounding effects that were not properly captured by the risk management tools available before the crisis. A comprehensive risk management framework should therefore not only be firm-wide, but also encompass and aggregate in a meaningful manner the different types of risks to which a specific firm or institution is exposed. We need to pay attention to inter-risk correlations (i.e. the interaction across different types of risks), as much as to intra-risks correlations, and build a portfolio that is as diversified as possible on both dimensions and that matches our hedging needs or our risk-return preferences.

But the single most valuable lesson that we have recently learned is that crises are more frequent than what we tend to think. In this regard, we should also be ready for new crises that will be different from the present one. No matter whether the next crisis ahead will be due to increases in the prices of oil and food, to geopolitical tensions or to the bust of potential asset bubbles in emerging markets, we should stand ready to react to any of those possible shocks.

In order to be prepared we need to understand that finance and economics are not natural sciences, there are no “fundamental laws” to discover, but they are more about modelling and understanding the outcome of interactions between humans in human-made systems. That is, probably, one of the biggest challenges risk managers need to face.

4. Challenges ahead for central banks as risk managers

Last but not least, I would like to quickly refer to the challenges ahead for central banks.

I’m not going to refer to the challenges faced by those central banks which are also banking supervisors or regulators, which are relevant enough to be deserve a full conference on their own, but I will focus on the crisis and risk management function in central banks.

The job of central banks is akin to that of risk managers, in the sense that they have to deal with crisis situations and manage risks to the economy using a limited toolbox. The role of the ECB in the management of the different stages of the crisis has been and continues to be very prominent, also through our participation in institutions such as the recently created European Systemic Risk Board. Obviously, such crisis management role requires having a deep understanding of risks, particularly systemic risks, to the financial system and the economy in general.

Of course, the materialisation of risks may potentially have implications for the central bank’s own financial position. In this regard, central banks around the globe also act as risk takers in the conduct of monetary policy operations and investment operations.

Central banks, as other public investors, are distinct from most market participants in that they have been entrusted with the management of public funds. As a consequence, central banks are typically perceived to be very conservative investors. While this perception may be right with regards to the risk appetite of the central bank as an investor, this is not so clear when it comes to its role as policy-maker. Central banks need to take some risks. For instance, they must hold amounts of assets denominated in foreign currency on a scale that private financial institutions would consider to be very large from a risk-return perspective.

Further to this, at times of crisis central banks tend to follow, due to their responsibility as policy-makers, the so-called “inertia principle” that recommends not to take risk management actions that could worsen the pro-cyclical behaviour of the financial markets. Obviously, such principle applies to monetary-policy operations, where central banks have typically increased their level of risk taking during the crisis, but also to some extent to their investment activities.

With the markets being shut-down for almost all financial institutions and the economy being strangled by lack of financing, the central banking community had to resort to a number of unconventional measures to support the continued provision of credit to the economy and to sustain the implementation of the monetary policy in an environment where its transmission could be endangered.

In the language of risk managers, “unconventional measures” means larger exposures. Asset purchases, long-term operations, full-allotment tender procedures, relaxation of the collateral framework… All these measures have something in common: they raise the bar for risk management in central banking precisely in those times in which our brains are wired to shout “run”. But of course, we must exercise a disciplined and calmed responsibility and accept our role in crisis situations.

Indeed, central banks are likely to be more exposed to risks in the event of a crisis. At the same time, they need to remain financially sound to ensure their independence and credibility in the conduct of monetary policy. This is particularly important at times of crisis, when inflationary expectations risk becoming unanchored.

This is why it is crucial for central banks to continuously re-think their risk management framework to stand ready, even in the “good times”, to switch to the “crisis mode”, and also to ensure that the decisions taken in the midst of a crisis will not jeopardise their ability to pursue their institutional objectives in the future.

5. Concluding remarks

To conclude, it is crucial for a central bank to fulfil the highest governance standards in organizing its risk management function and applying state-of-the-art tools, in order to ensure that the right decisions are taken in the design of the risk control framework and the implementation of monetary policy and investment operations. By doing so we may also be encouraging other market participants to follow. Therefore, our responsibility is twofold.

As you see, the challenges we face may be slightly different from those faced by private institutions. But the lessons learned from the crisis, and the actions to be taken in the near future may not be so different.

We are all on the same boat, learning how to sail towards a safe port.

Thank you for your attention.