

Lorenzo Bini Smaghi: Risk management in central banking

Speech by Mr Lorenzo Bini Smaghi, Member of the Executive Board of the European Central Bank, at the International Risk Management Conference 2011, Free University of Amsterdam, Amsterdam, 15 June 2011.

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Introduction¹

It is a pleasure for me to speak at this International Risk Management Conference 2011, and particularly to contribute to this workshop on financial stability. In my remarks today, I would like to elaborate on two interrelated issues, namely financial stability and the risk management function in central banking.

I plan to structure my talk in two parts. First, I will discuss the role of central banks as liquidity providers and lenders of last resort, seeking to preserve financial stability as a necessary, albeit insufficient, condition for achieving their primary objective of price stability. This role will in turn explain why central banks, including of course the Eurosystem and the ECB, have expanded their balance sheets during the crisis. Second, I will elaborate on risk management in central banks, explaining how this differs from risk management practices in private financial firms. In doing so, I will also talk about the risk management framework of the ECB and the Eurosystem and how this contributes to the ECB's policy goals, among other things, by ensuring the institution's financial protection.

My objective is to provide a better understanding of the specificities of central banking activities in the supply of liquidity to the financial sector. I will also clarify why certain comments that have been made recently about central banks – in particular the ECB – becoming “bad banks”, as a result of their actions during the financial crisis, are fundamentally flawed.

1. Central bank as lender of last resort

The financial crisis has reminded us how, after a negative liquidity shock, financial firms may be forced to liquidate assets that they hold in stock in order to preserve a cash buffer. This naturally puts downward pressure on the market value of those assets. And when asset values decrease, other financial firms which hold that type of asset in their portfolios may be forced to sell as well to protect their balance sheet and in particular their desired capital ratio. Downward spirals can therefore ensue, which may seriously imperil the financial stability of the entire system.

If risks become systemic, investors collectively try to escape them by scrambling for an “outside asset”. When situations arise in which all counterparties appear to be at great risk, the only safe store of value are assets that do not represent a claim on anybody in the market. Liquidity – which is a claim on a central bank – becomes the only asset – outside asset – in demand in these circumstances. Investors hoard liquidity and shed all other financial claims that are vulnerable to credit risk. Such heightened preference for liquidity in a context of diminished confidence in other market participants has consequences not only for the value and liquidity profile of the assets held by private institutions, but also for their funding policies. The liquidity and credit crunch disallow the rollover of liabilities, and

¹ I wish to thank Marco Catenaro, Fernando Monar and Massimo Rostagno for their contributions to the speech. I remain solely responsible for the opinions contained herein.

therefore investors are pushed to liquidate assets in the market, further contributing to the downward spiral.

It is crucial to realise that even a partial collapse of the financial system would jeopardise the ultimate goal of central banks, i.e. price stability, as prices adjust to a falling real economy. Furthermore, financial instability can negatively impact on monetary policy transmission.

For those reasons, under such circumstances central banks have to provide liquidity to the markets, intermediating in the money market with the aim of stabilising the financial sector and avoiding a meltdown. In other words, they have to play the role of “lenders of last resort”.

Playing such a role of course has implications for the size and risk profile of central banks' balance sheets. At times of severe financial stress, central banks have to assume more risk in order to fulfil their mandate of price stability. These are risks that no private player is willing or able to take on. By doing so, a central bank achieves three things: it ensures the adequate transmission of monetary policy impulses; it helps to preserve the liquidity of financial markets; and it ultimately helps to restore a private market for those assets and thus creates the conditions which are necessary for it to unwind those positions.

In other words, the central bank is the only financial institution which – by temporarily taking on more risk than it would do in normal conditions – can manage and keep systemic risk in check.

As far as the Eurosystem is concerned, most liquidity-providing operations are conducted in the form of repo transactions, which are completely collateralised. When a counterparty fails, the central bank does not lose all the funds it has lent. A substantial fraction of value can be recovered from the repo-ed assets. What matters most, repo operations are short-term lending, from one week up to, currently, three months. The short-term nature of these interventions means that they can be – and are being – elastically unwound as market conditions improve. In this respect, the ECB framework allows for an “automatic” contraction in its balance sheet: when favourable conditions are restored, banks can once again lend to each other in the money market. It goes of course without saying that not every action to deal with systemic or banking crises needs to be taken by the central bank. Liquidity support by central banks is meant to provide counterparties with bridge funding to cover the transition to calmer market conditions. It is predicated on the assumption that counterparties are and remain solvent institutions. If the latter condition is not met, then fiscal authorities should step in and, if necessary, inject fresh capital. The measures announced for the Irish banking system are a case in point.

In the following I will elaborate in greater detail on the key aspects that enable central banks to take risks in crises. In particular, I will describe some features of risk management in central banks, explaining the main differences with risk management practices in private banks. I will also briefly describe the risk control framework of the ECB, and the Eurosystem in general, which ensures its financial protection while helping to achieve its policy goal.

2. Risk management in a central bank

General remarks

Central banks have preferences and constraints that differ from those of private banks. The objectives of central banks are defined in their statutes, which typically specify the maintenance of price stability as their primary mandate.

For central banking policies to be successful, they need to remain credible by making sure that at least two conditions are met.

First, a central bank should be sufficiently capitalised and run in such a way that it remains financially independent. Financial independence helps to keep external parties from unduly interfering in the conduct of monetary policy.

Second, the long-term profitability of a central bank needs to be ensured, so that the bank's reaction to specific economic circumstances is not influenced by considerations of the short-term financial impact of such policies on its profit and loss accounts.

Consequently, the capital position of a central bank, its profitability and the degree of financial risk protection provided by its risk control framework seem to be crucial elements that contribute to its credibility, hence facilitating monetary policy. This consideration, along with the principles of prudence and transparency that are required for all public institutions entrusted with the management of public funds, calls for the establishment of state-of-the-art risk management frameworks and the highest governance standards.

Risks taken in central banking activities need to be analysed in a holistic manner, considering the interaction of different portfolios and operations. For that purpose, a state-of-the-art comprehensive risk monitoring and reporting framework is required, capable of providing decision-making bodies with appropriate risk management input. As a key element of the risk management function at a central bank, the highest governance standards need to be observed, both in terms of the reporting lines and organisation of the risk management function.

Making a comparison of central banking practices with the risk management and governance standards required for private financial institutions seems obvious. However, it is not always easy to take best practice in private financial institutions as a measure for comparing the risk management frameworks of central banks, since there are a number of very relevant differences that make such comparisons inappropriate. Those differences relate to the structure and components of the financial statements and their corresponding risks, as well as to the objectives and constraints faced in the strategic asset allocation and other risk management decisions. I will elaborate on the most significant aspects of these dissimilarities.

Liabilities and capital position of central banks

To begin with, I will focus on the capital and liability side of the balance sheet, since the most striking idiosyncratic feature of a central bank's balance sheet is the existence of non-maturing liabilities that are not remunerated. I am referring, of course, to banknotes. A central bank is endowed with the monopoly to issue central bank money, which constitutes a sizeable liability. Furthermore, central banks have also a privileged access to other stable funding sources such as the current accounts covering the minimum reserve requirements. Therefore, in times of financial distress central banks do not face the same liquidity challenges as private institutions.

The solvency profile of central banks also differs significantly from that of private financial institutions. The latter need to weight their risks against the financial buffers provided by their explicit capital position. In the case of the Eurosystem, its explicit capital position is determined by consolidated capital and reserves amounting to more than €80 billion, but also by revaluation accounts amounting to more than €300 billion. Although such explicit financial buffers remain a valid and necessary benchmark to assess the leverage and the risk-taking capacity of central banks, their financial strength cannot be fully captured by using capital adequacy metrics such as those applicable to private banks for regulatory purposes, as it has been done in a rather simplistic way by some commentators.

Particularly, the privilege to issue legal tender gives central banks an additional financial buffer in the form of seigniorage income. The concept of seigniorage income refers to the return generated by the assets that are funded with non-remunerated liabilities, that is, with banknotes. The seigniorage income expected for the future constitutes an implicit financial

buffer that needs to be considered when assessing the economic capital of a central bank. In this regard, the net present value of such future income can be seen as a sort of “franchise capital”, as it reflects the value of the “franchise” to issue legal tender.

Having discussed the different components of the liability side of a central bank, and particularly its capital position, I’d like to consider the use made by central banks of such capital and look at the asset side of the balance sheet.

Assets and risk management framework of central banks

Capital allocation in central banking, understood as the risk budgeting and strategic asset allocation decisions that arise from the capital position and objectives of the bank, also differs substantially in methods and scope from that conducted at private financial institutions. On the one hand, regulatory capital requirements are not a constraint for central banks. On the other hand, the risk-return trade-off is not the only relevant function to evaluate the capital allocation decisions of a central bank, since its objective should be to maximise social welfare by achieving its policy goals.

Against this background, the risk profile of a central bank displays characteristics that are significantly different from those of private banks. From a dynamic perspective, central banks tend to take more risks in crisis situations, whereas private firms reduce their exposures. From a static perspective, central banks tend to take far less equity risk, duration risk and credit risk than private firms, while taking a much higher currency risk exposure. In addition, strategic decisions in central banks typically are shaped to reduce operational, legal and reputational risks to a minimum, not only to avoid the possible financial impact of those risks, but more importantly, to maintain credibility.

I will now turn to the main determinants of the risk profile, on the asset side, of a central bank’s balance sheet, by describing the Eurosystem case, and, in particular, that of the ECB. I’ll consider the applicable risk mitigation measures as well.

I will start by describing a central bank’s exposure to exchange rate (or FX) risk. The extent to which central banks hold FX risk in their balance sheets differs substantially from the typically much lower FX exposures of private firms. FX risk is, in normal times, the core determinant of the risk profile of a central bank such as the ECB. Hence, from a risk management perspective, the size of the foreign reserves held, the currency distribution and the degree to which such positions may be hedged are some of the more important choices a central bank has to make. But in fact, these choices are not risk management choices. In the case of the ECB, foreign reserves are mainly held for intervention purposes, and therefore the corresponding FX risk is not hedged. The reason for taking on that apparent risk is simple: a central bank may need to intervene in the markets by selling foreign currency if a sudden appreciation of those currencies impairs price stability or financial stability directly or indirectly. In a sense, the need to intervene represents a contingent policy liability, and by taking such an FX risk we are effectively hedging or matching such contingent liability.

The exposure to gold price movements is also significantly higher in central banks than in private banks. For example, holdings of gold in the Eurosystem amount to approximately €350 billion, accounting for almost 20% of the total assets. The holdings are on this scale not only for historical reasons, but also for risk management reasons, as gold is considered to be a safe haven. In times of financial distress, gold indeed helps central banks to maintain a solid financial position.

Another striking difference of central bank exposures compared with those of private institutions is to be found in their investment portfolios. Those of central banks are typically managed with a very high degree of prudence. Risks are kept to levels that ensure the financial buffers of the institution remain free to meet policy needs, while at the same time attempting to achieve sufficient income to cover operating expenses and to ensure long-term profitability. The regular fixed-income portfolios of the ECB, as an example, are managed

against internally derived benchmark portfolios which serve as a yardstick for performance and risk measurement. Our benchmarks reflect our quite conservative stance with regard to the interest rate, credit and liquidity risks, and are derived on the basis of the specific objectives for each portfolio. The management of the actual portfolios against those benchmarks is constrained by a number of typical risk control measures, such as relative value-at-risk limits and caps imposed on credit and liquidity risk exposures. All in all, we could describe the investment framework of our regular fixed-income portfolios as conservative. This of course does not come as a surprise.

In normal times, we try to retain in our balance sheet ample leeway in terms of risk-taking capacity. This allows us to expand our balance sheet and take more risks in situations where other market participants are deleveraging and reducing their risks. Our additional risk-taking sometimes arises from our regular operations, but in other cases it occurs through non-conventional measures such as outright purchase programmes. I will discuss some risk management aspects of our outright purchase programmes before briefly covering some of the measures associated with our ordinary monetary policy operations.

The security purchase programmes initiated by the Eurosystem as a reaction to the financial crisis, that is the Covered Bond Purchase Programme (CBPP) and the Securities Markets Programme (the SMP), have had the clear objective of smoothing out the transmission mechanism of monetary policy. The most powerful risk management arguments for accepting the risks entailed by the programmes were that the markets were overpricing the risks associated with the related assets, and that the Eurosystem's action could contribute to mitigating market concerns. Not being a liquidity-constrained institution, we can act as a buy-side counterparty in markets where sell-offs are taking place, and our investment in those markets can be held to maturity, so that only default risk could impact our profit and loss accounts.

I will now turn to our ordinary market operations, that is, our lending operations. The risk control framework applied to the Eurosystem's credit operations is designed according to four basic principles: protection, consistency, simplicity and transparency. Protection can be seen as the main objective of the risk control framework, while consistency, simplicity and transparency are needed for the framework to work in an efficient, accountable and predictable manner.

In the context of the implementation of the Eurosystem's credit operations, financial protection is ensured by relying on three lines of defence that can be complemented by discretionary action.

The first line of defence relates to the fact that, in repo operations, as long as our counterparty meets its obligations, we don't incur any kind of risk related to the collateral. Assets held as collateral only constitute a guarantee, not a direct exposure. Accordingly, related price decreases could only induce Eurosystem losses if those decreases took place after the default of the counterparty. Therefore, by only accepting financially sound counterparties in our credit operations we greatly limit the risks. Financial soundness is a precondition imposed by the Eurosystem on its counterparties to participate in monetary policy operations.

The second line of defence in our credit operations is the eligibility requirements we impose for the collateral. Eurosystem credit operations need to be guaranteed by adequate collateral, complying with minimum credit quality thresholds and other legal criteria and operational requirements. The minimum credit quality requirement in general corresponds to a BBB- rating, although in some cases the rules applied may differ. Regarding ABSs, an asset class that many analysts have blamed for being at the core of the financial crisis, the

Eurosystem actually requires a minimum AAA rating at issuance.² All in all, the eligibility criteria help to protect the Eurosystem, while ensuring that sufficient collateral remains available to our counterparties under any kind of economic scenario, so that monetary policy can be implemented.

The third line of defence relates to other elements of the collateral risk control framework. Margin call policies and risk control measures such as valuation haircuts are applied to mitigate credit, market and liquidation risks related to the collateral assets that need to be sold to cover the exposure of defaulted counterparties.

Another key component of the financial protection of the Eurosystem when performing credit operations is the valuation of collateral assets. In this regard, the Eurosystem is making considerable efforts to maintain state-of-the-art valuation techniques for those assets for which a reliable market price may not be available.

I would like to emphasise that our collateral eligibility and risk control framework is continually reviewed, and the lessons learned from the crisis are obviously being incorporated into it. That being said, it is also relevant to point out that our framework is designed to be applied consistently in both good and bad times. Our creditworthiness allows us to maintain conservative risk control measures, such as haircuts, above market standards in normal times. Counterparties are willing to accept such haircuts because they know we are not going to default on our obligations. In fact, in times of extreme uncertainty and heightened risk aversion, the conditions in private repo markets deteriorate quickly and our operations become more attractive. By not adjusting our risk control framework in a pro-cyclical manner, and therefore by maintaining or even enlarging the collateral available to our counterparties facing greater financial distress, we achieve two policy goals. On the one hand, we facilitate the implementation of a monetary policy stance consistent with the crisis environment. On the other hand, we contribute to restoring the value of certain assets by attributing them a liquidity status that the market would not have permitted.

The Eurosystem risk position: common misunderstandings

Let me address *en passant* two issues that have received attention from some analysts recently.

First, some commentators have stated that, since the ECB's balance sheet is expanding and is allegedly taking on large risks, the ECB may be turning into a "bad bank".³ This argument is based on a clear misunderstanding of the type of operations conducted by the Eurosystem and of the risk control measures applied to those operations. The description of the risk control measures and of the specificities of the capital position of the ECB that I just provided should help dispel such misunderstanding. The data have actually confirmed that the Eurosystem's financial results have proved resilient to the global financial crisis, and its total capital position has even increased.⁴ The numbers I have provided in terms of overall capital and reserves of the Eurosystem should help a better understanding of the situation.

Second, some analysts have tried to show that the Eurosystem had taken on too much risk, at the detriment of the ECB major shareholder, by looking at the net balances of individual

² A minimum AAA rating at issuance by two rating agencies is required. Over the life of the instrument, it should retain a second-best rating of at least A-.

³ See, for instance, the interview to T. Mayer in FAZ, 14 June 2011, "Die EZB droht zur Bad Bank zu werden"; M. Persson, 8 June 2011, "Europe's bad bank," The Wall Street Journal.

⁴ From 5 September 2008 to 3 June 2011, Capital and reserves have increased by 13.2% (from €71.7 to €81.2 billion) and revaluation accounts have increased by 100% (from €152.3 to €305.9 billion). Total Eurosystem assets have increased by 31.8% (from €1441 billion to €1899 billion) over the same period.

national central banks in the Eurosystem – the so-called TARGET2 balances.⁵ Not only is the analysis wrong, as it has been shown by others,⁶ but the conclusions in terms of burden sharing are exactly the opposite. In fact, the risk sharing system inherent in the Eurosystem monetary policy operations, which is generally based on the share of GDP and population, is particularly favourable for those countries whose banking system has a comparatively large net creditor position with respect to the rest of the euro area.

I will not elaborate too much on this issue. I will only mention that items related to TARGET2 in the balance sheets of national central banks across the Eurosystem are a natural consequence of the de-centralised provision of credit to banks in the euro area. TARGET2 balances of central banks enable booking cross-border payments and are as such automatic reflections of short-term cross-border base money movements. It is thus misleading to present those balances as a sort of “stealth bail-out” from some national central banks to particular euro area countries.

The size of TARGET2 net balances of an individual central bank is not a one-to-one counterpart of the cumulated current account imbalance of the respective country. Several other factors, such as the degree of integration of the euro area money market and capital market flows play an even larger role. Furthermore, positive net TARGET2 balances represent claims against the Eurosystem as a whole, not bilateral claims against other national central banks. Finally, the claim that Eurosystem operations entail base money flowing out of creditor countries to refinance euro area periphery banking systems is unsubstantiated. The supply of credit in the euro area, like almost everywhere in the world, is determined by the decisions of commercial banks and there is no reason to assume that domestic banks creditor countries are subject to any base money constraint, given their permanent access to Eurosystem operations, especially when these are conducted through fixed-rate full-allotment tenders.

Conclusion

During the financial crisis central banks have intervened swiftly to protect financial stability, which is a key precondition to achieve price stability. While this function has now been widely recognised, some concerns have been voiced that central banks have taken on too many risks in their balance sheets.

The point that I wanted to make today is that taking on more risk in times of distress is inherent in the financial stability function of central banks. The central bank is the only patient investors who can intervene at times of crisis as a counterpart to distressed short term investors with a view to ensuring market liquidity and restoring confidence. However, this can happen only if the financial independence of the central bank is safeguarded, otherwise the credibility of its monetary policy aimed at ensuring price stability may be jeopardised. This is why central banks manage their risks, albeit not necessarily in the same way as private financial institutions because of the fundamental differences which exist between the two.

Hopefully these differences are now better understood, and misperceptions about the role of central banks corrected.

Thank you for your attention.

⁵ See, for instance, H.-W. Sinn, 1 June 2011, “The ECB stealth bailout”, VOX.

⁶ See, for instance, Buiters, W., E. Rahbari and J. Michels, 9 June 2011, “TARGETing the wrong villain: TARGET2 and intra-Eurosystem imbalances in credit flows”, Citigroup Global Economics View; K. Whelan, 7 June 2011, “Professor Sinn Misses the Target.”