

## **Gertrude Tumpel-Gugerell: Payments and monetary and financial stability**

Opening remarks by Ms Gertrude Tumpel-Gugerell, Member of the Executive Board of the European Central Bank, at a joint European Central Bank/Bank of England conference on “Payments and Monetary and Financial Stability”, Frankfurt am Main, 12-13 November 2007.

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Ladies and gentlemen,

It is a pleasure to welcome you to this conference and I am grateful that I can do so also in the name of the Bank of England. The idea of the joint conference was born at one of our regular bilateral meetings and it is wonderful to see the idea come to fruition.

You may wonder why we have put payments first, and monetary and financial stability second. This is not only because payments are at the root of a functioning (or not functioning) financial system; payments also require a thorough understanding of the economics of banking, money, financial markets, industrial organisation, and regulation. The diversity of theoretical and policy issues in this field is also reflected in the conference that I have the pleasure of opening this morning.

### **Historical overview**

Considering the historical evolution of interbank settlement arrangements and central banking functions may help to understand why central banks evolved as the natural candidates for taking the responsibility for financial and monetary stability.<sup>1</sup> Indeed, I would argue that the reason lies in the key role central banks played in payment systems. In a world with many banks, it is inefficient for every agent in the economy to have an account with each and every bank. One solution is for each bank in the economy to have an account with all the other banks and to net obligations bilaterally with them. In a world with many banks, this will tend to result in an inefficiently large number of interbank accounts. A more efficient solution is for a hierarchy of banks to develop, with banks at the bottom of the hierarchy having accounts with correspondent banks in its upper tier, which in turn have accounts with banks at the apex of the hierarchy. These banks at the top of the hierarchy were naturally and literally “central” banks. Indeed, there is plenty of historical evidence that hierarchical structures evolved naturally in a free-banking environment without the need for the state to superimpose and/or guarantee a “settlement institution” at the apex of the hierarchy. One example is in fact the Bank of England.

The status of a central bank at the top of the hierarchy derived also from the fact that it was perceived to be “safe” – that is, an institution with a large capital base, holding high-quality assets. Such a central bank would also need to be concerned about its own soundness. This led the central bank to be careful about to whom it should provide settlement accounts and to monitor these banks. In addition, it also had to weigh carefully the advantages of providing lender-of-last-resort assistance to the banking system to avoid a drop in its revenue stream against the risk of lending to an insolvent institution and making a loss that could decrease its capital base and threaten its reputation as the supplier of the ultimate settlement asset. Similarly, central banks had a natural interest in ensuring the ability of the banking sector as a whole to meet the public’s demand for liquidity. The reason for this is that if it allowed a

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<sup>1</sup> For further details see Stephen Millard and Victoria Saporta (2005): Central banks and payment systems: Past, present, and future. See also Ben Norman, Rachel Shaw and George Speight (2006): The history of interbank settlement arrangements: exploring central banks’ role in payment systems.

solvent commercial bank to fail as a result of a bank run, it would only aggravate the situation and this could ultimately result in a more general run on the banking system and ultimately on itself. As a result, financial stability became a concern for central banks. Moreover, for the central bank as the provider of the ultimate settlement asset, it was also important to maintain monetary stability. In particular, if the central bank printed more and more of its banknotes without a corresponding increase in the demand for them, the notes would fall in value relative to those of other banks. Eventually, central bank money would no longer be seen as “safe” and this would undermine the confidence in and acceptability of the settlement asset.

This brief historical overview demonstrates that the development of the core functions of central banks – monetary and financial stability – has been closely linked to their role in the provision of the ultimate settlement asset in the payment system. It is therefore important for central banks to have a thorough understanding of how these links work. Let me share some thoughts with you in this regard.

### **Payment systems, monetary policy and central bank actions in the recent financial market developments**

Central banks provide liquidity for different purposes.<sup>2</sup> To achieve their primary objective of price stability, monetary authorities supply base money to the economy. By matching the demand for base money with the supply that they control, central banks steer short-term interbank interest rates, which, via the transmission mechanism of monetary policy, have an impact on the price level.

Another objective of central banks is to ensure the smooth functioning of the payment system. Central banks provide intraday liquidity to bridge the timing mismatch between banks’ incoming and outgoing payments during the day. This not only facilitates intraday liquidity management of banks, but also makes payment gridlocks less likely and therefore contributes to financial stability.

Payment systems clearly matter for monetary policy. Monetary policy implementation today means steering short-term interest rates. If you are the treasurer of a bank and plan for the end-of-day settlement of your accounts, uncertainty about whether expected incoming payments will actually be received is obviously a major issue. It does not make an immediate difference if expected incoming payments are at risk for payment system reasons, or because the payments may not have been initiated. In both cases, the treasurer will need to look for alternative funding, and if there are no internal buffers, will turn to the interbank market for overnight funds. There, the treasurer will be ready to pay a premium and will thus bid up rates. If uncertainty about incoming payments generally increases and affects all banks, be it for payment system or other reasons, banks will all tend to enter the interbank market on the buy side and will bid up the overnight rate accordingly. This is a monetary policy issue and will imply the need for the central bank to inject excess reserves into the system to bring interest rates down again. While payment system disruption may hence potentially have an impact on monetary policy, central banks have found ways of safeguarding price stability, while at the same time ensuring the smooth functioning of the payment system. This is achieved by drawing a clear line between providing intraday liquidity for payment system purposes and providing credit for monetary policy implementation.

Let me therefore turn briefly to these two types of liquidity provision by central banks. Central banks need to define the conditions under which they provide these two types of liquidity. In particular, they need to decide on the fee/interest they wish to charge and on the level and type of collateral they consider appropriate. Allow me to discuss briefly both features.

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<sup>2</sup> For further details see Charles M. Kahn (2006): Why pay? An introduction to payment economics.

Central banks typically provide intraday liquidity on more generous terms than overnight credit. Why? To answer this question, consider the following alternatives: imagine that central banks would only ask for interest when credit spans a weekend, then we would have intra-week credit. Or, more extremely, imagine that interest would be charged only for credit spanning the year-end. Or why don't central banks require banks to settle every hour, such that every end of hour would be what today is an end of day, with credit bridging every end of hour being charged at the monetary policy interest rate.

I think that the reason why central banks choose a full day as the demarcation line reflects in particular three considerations.

First, economic projects have rarely, if ever, a lifetime of less than a day, so there is no need to impose positive interest rates at the appropriate policy level intraday from a transmission mechanism perspective. However, there may be projects with a lifetime of days or certainly months and weeks, such that lowering the frequency of settlement points to, say, annually would clearly create an artificial and harmful annual economic cycle and affect price stability.

Second, increasing the frequency of points in time when banks need to settle, say to hourly, would increase liquidity management costs of banks considerably. Because this is not needed from a monetary policy perspective, this would mean a waste of economic resources.

Finally, central banks probably want to control the ability of banks over time to settle their accounts, and also banks are probably more comfortable to see that other banks settle their accounts with the central bank on a regular basis, as proof of their soundness.

To sum up, the daily cut-off separating free central bank credit and credit against a monetary policy-related interest rate is a reasonable convention, reflecting monetary policy transmission mechanism issues, convenience of banks' liquidity management, and credit risk management considerations. It allows central banks to safeguard price stability, while at the same time ensuring the smooth functioning of the payment system.

Turning to collateralisation, it is important to note that in the past, central banks often set ceilings for intraday and overnight credit to banks. In contrast, today, many central banks, including the Eurosystem, tend to provide unlimited access to both types of credit, but with the need to provide eligible collateral. This reflects first that unlimited liquidity facilities provide banks with a buffer against liquidity shocks and thereby contribute to financial stability. Second, it however also reflects the need for sound credit risk management by the central bank, which argues against unsecured lending, in particular at overnight and longer maturities.

This framework – of unlimited access to intraday and overnight central bank credit against eligible collateral – implies that collateral availability becomes the ultimate liquidity issue for banks. As long as banks have sufficient eligible collateral for overnight or intraday credit, they have a buffer against liquidity shocks. Once a liquidity shock exceeds the eligible collateral, a major liquidity issue arises, and the bank may fail to fulfil its payment obligations, with all the serious consequences that this has for the bank itself and, via knock-on effects, potentially for the entire financial system.

This is what makes collateral availability so important today as a contribution by central banks to financial stability – again, both intraday, i.e. for payment purposes, and for overnight credit.

Let me now turn briefly to the recent financial market developments, which involved, as you know, partially a shortage of credit, but eventually also a significant drying-up of liquidity. It was not a failure of the payment system, as all payment systems worked smoothly. Nevertheless, let me say a few words here.

The recent developments were triggered by a perception of higher credit risk originating from a perceived deterioration of the credit quality of assets held both by banks and by special

investment vehicles, with which banks were associated either through liquidity commitments or reputation issues. The situation deteriorated when liquidity buffers of banks were put under stress by the need to meet their liquidity commitments and to take on their balance sheet assets which had become illiquid. Then, banks also became unwilling to provide unsecured lending to other banks, in particular at longer maturities, because of uncertainty whether they would themselves obtain liquidity if needed. Once this stage was reached, the deterioration of liquidity conditions became self-reinforcing, and turned out to be painfully durable, as can be seen for instance from the still exceptional three-month EURIBOR spread relative to three-month repo rates.

What could central banks do about this? First, they provided extra liquidity through open market operations. This not only contributed to bringing down short-term interbank rates to target levels again, fulfilling monetary policy implementation purposes, but may also have contributed to supporting the willingness of banks to lend.

Second, accepting that availability of central bank eligible collateral is the ultimate line of defence against illiquidity for banks, many central banks widened the set of eligible collateral. For instance, the central banks of Canada and Australia took such actions, and also the US Fed clarified that it would accept certain instruments in its discount window.

The Eurosystem was not forced to take such measures, since its collateral framework already foresees the acceptance of a very wide set of collateral. The Eurosystem framework specifies that this very wide range of collateral is accepted for all types of Eurosystem credit operations: intraday operations and monetary policy-related operations, the latter including both access to standing facilities and open market operations. The wide and unified set of collateral supports both the smoothness and systemic stability of intraday and overnight liquidity management of banks.

## **Payment systems and financial stability**

The global financial system has been going through a phase of major structural change, which may have several implications for payment systems and financial stability.<sup>3</sup>

First, we have witnessed the creation of new financial instruments and products to address market and credit risk, and in principle to enhance liquidity of financial assets. At the same time, the size of the financial sector in relation to the real economy has significantly grown. This suggests that the stability of the financial system has become more important for the real economy. Moreover, there has been a growing symbiosis between markets and intermediaries. While intermediaries and markets have often been seen as alternative forms of arranging financial relationships, they are increasingly complementary. Indeed, intermediaries such as banks have become increasingly reliant on markets as a source of income and for their risk management, through their hedging operations. Markets in turn have become increasingly dependent on intermediaries for the provision of market-making services and of funding liquidity. This structural change may have some implications for payment systems and market infrastructures, especially in periods of financial distress. One important implication is that more than ever before, the smooth functioning of the financial system is dependent on the assumption that the option to trade can be exercised even under stressed market conditions. This is a natural consequence of the development of markets and instruments which are actively traded or that are held in the expectation that, should the need arise, they could be traded. Moreover, the new financial environment appears to be more reliant on the immediate availability of funding liquidity. Funding liquidity is critical for the orderly execution of trades and it can become scarce at times of distress, precisely when

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<sup>3</sup> For further details see Claudio E.V. Borio (2007): Change and constancy in the financial system: implications for financial distress and policy.

it is most needed, as market participants cut credit lines and/or raise margin requirements to protect themselves against counterparty risks. In conclusion, the stability of the financial system is also dependent on the assumption of ample market liquidity and, most critically, of the smooth functioning of the payment systems and market infrastructures.

Second, the complexity of the financial system has greatly increased. This complexity applies not only to individual financial instruments, but also to the financial system as a whole. Its various segments have become more closely interconnected and the linkages across them more opaque. A new configuration of players in the financial system has led to a blurring of distinctions between different types of intermediaries, to greater consolidation, and to a rapid growth of new financial players and services. Payment, clearing and settlement systems naturally evolve in response to such financial market developments. As the number of new financial products is growing and existing markets are rapidly expanding, the infrastructure needs to be in the position to handle such developments. A good example is the evolution of clearing and settlement arrangements for OTC derivatives. It took a while for the infrastructure to adjust to the tremendous growth in OTC derivatives. Eventually, with support from central banks, the most pressing shortcomings began being addressed. Today, there is a far higher degree of automation, new technical processes have been introduced, and innovative services are available. The infrastructure for the OTC derivatives markets will undoubtedly continue to evolve. Whatever path the evolution takes, as the market infrastructure moves further in the direction of centralised processing of trades and post-trade events, several issues will assume greater importance. First, providers of essential post-trade services for OTC derivatives should provide open access to their services and should aim to achieve convenient and efficient connectivity with other systems. Moreover, central banks and supervisors will need to consider whether certain existing standards for securities settlement systems, central counterparties or systemically important payment systems should be applied to providers of clearing and settlement services for OTC derivatives.

Including new players in stress-testing the system is challenging and requires cooperation and timely transparency. Many of these new players are non-banks. It is therefore important to look at the role of non-banks in payment and settlement systems. Payment, clearing and settlement services have traditionally been offered by banks and non-banks alike. The co-existence of banks and non-banks raises some important regulatory questions. In fact, while there is a trend towards common regulatory standards, banks would typically argue that they are subject to prudential supervision and that there is no need for further regulation. In contrast, non-banks would argue that common regulatory standards should apply to all relevant service providers in order to ensure a competitive level playing-field. In the end, the question is whether the approach to regulation should be based on functions or institutions.

Finally, the globalisation of finance has resulted in the expansion of cross-border financial linkages. An implication of globalisation is that financial distress is more likely to have far-reaching cross-border effects. This is a natural consequence of the tighter cross-border linkages that have formed. Such effects are almost guaranteed if distress were to involve one of the global players that operate across so many countries and underpin the smooth performance of so many markets. In fact, over 30 years ago, even the failure of a small bank active in FX transactions was sufficient to have significant cross-border ramifications – so significant as to act as a catalyst for the establishment of the Basel Committee on Banking Supervision. The knock-on effects of distress at one of the current large global players would presumably be much bigger.

## **Conclusions**

Let me briefly conclude, ladies and gentlemen. Central banking and payment systems are inextricably linked. Central banks all around the world are involved in payment systems and market infrastructures in many different ways owing to their roles and responsibilities in

relation to monetary policy and financial stability. Indeed, payment systems disruptions would not only affect financial stability, but may potentially also have an impact on monetary policy implementation. Central banks have found ways of safeguarding price stability, while at the same time ensuring the smooth functioning of the payment system, by drawing a clear line between providing intraday liquidity for payment system purposes and providing credit for monetary policy implementation. Moreover, the sufficient availability of collateral is important today as a contribution of central banks to financial stability.

The roles of central banks in the field of payment systems are changing in a number of ways as a result of progressing globalisation, increasing complexity, and the emergence of new players and services:

- The approach of central banks to analysing financial stability is changing. A comprehensive view of the key sources of risk and vulnerabilities facing the payment systems and market infrastructures cannot be formed without taking due account of developments at the global level, such as the emergence of cross-border payment systems and offshore centres. Issues and questions relating to the location of payment systems and market infrastructures are also gaining in importance for central banks.
- Central banks have started interacting and cooperating with new interlocutors and partners outside the banking area. Many new players and providers in the field of payment, clearing and settlement services are indeed non-banks with which central banks traditionally had little – if any – direct interaction.
- Central banks are increasingly concerned with the division of responsibilities and the allocation of risks between infrastructure providers and their clients. The responsibility for the safety of a payment, clearing or settlement system rests largely with the system operator. However, to the extent that participants in the system can take action to reduce risks that may have a bearing on the system as a whole, they should be given incentives to do so. For example, the margining systems of central counterparties should give incentives to participants to trade prudently.
- Central banks are increasingly involved in cross-border cooperation and information exchange with other central banks and authorities contributing to financial stability in order to obtain a comprehensive picture of risks and vulnerabilities and to identify appropriate and effective mitigating policy actions.
- Central banks have been intensifying their efforts to produce consistent regulatory and oversight standards on a cross-border basis. The Core Principles for Systemically Important Payment Systems and the CPSS-IOSCO Recommendations for Securities Settlement Systems and Central Counterparties have been important steps in this direction. Against this background, some further work needs to be done on the harmonisation of the oversight framework for securities clearing and settlement in the European Union. The continuous absence of such a harmonised oversight framework generates a number of undesirable effects. However, after the recent ECOFIN decision, I am very optimistic that we will soon see the finalisation and adoption of the ESCB-CESR recommendations for securities clearing and settlement.
- The relevance of collateral for liquidity issues has been clearly recognised by central banks. During the past ten years, central banks have – especially in the context of the Committee on Payment and Settlement Systems and other Basel committees – focused jointly their attention on the use of collateral in financial transactions,

including the cross-border use of collateral.<sup>4</sup> Cooperation in this respect is very useful and, especially for emergency situations, I would think that central banks –by enabling the cross-border use of collateral – could make a positive contribution to financial stability.

Ladies and gentlemen, let me now close my introductory remarks by once again welcoming you all and by thanking all of those who have been involved in preparing this conference, in particular Daniela Russo and Mark Manning.

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<sup>4</sup> CPSS report on “Cross-Border Collateral Arrangements”, Bank for International Settlements, Basel, January 2006.