

## **Dimitar Bogov: Modern payment systems' impact on monetary policy and financial stability**

Welcome speech by Mr Dimitar Bogov, Governor of the National Bank of the Republic of Macedonia, at the 16th International Conference of Clearing Institutions in Central and Eastern Europe (ICCI), Skopje, 12 October 2011.

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Mr. Chairman, Dear Participants and Guests,

It is an honour and pleasure to give a welcome speech to such a distinguished audience. I thank Klirinski Interbankarski Sistemi Skopje (KIBS) for this opportunity. My topic will be the link of payment systems with the two main central-bank tasks of monetary policy and financial stability.

While money needs to circulate freely through the economy, without imposing excessive burdens, other economic agents also need to be confident that commercial banks will honour their sight liabilities by converting them into banknotes, i.e. central-bank money, at their demand. The central bank allows commercial banks to transfer among them funds held in accounts with the central bank. The development of a payment system is thus part of the development of a central bank and out of this operational capacity grew the cooperation with the commercial banking system when setting-up the facilities it operates and overseeing the facilities other participants operate.

This pivotal role of the central bank, unmatched by any other participant, does make us humbly aware of the strong link between payment systems and monetary policy on one hand, and payment systems and financial stability on the other. Let me devote the central part of this welcome speech to these different, yet interrelated links.

Monetary policy impulses are transmitted from those financial institutions that have a direct relationship with the central bank to other institutions and households. The central bank typically conducts its monetary policy only with designated financial institutions, mostly commercial banks rather than with other economic agents. As a result other economic agents rely on the designated financial institutions that have a direct relationship with the central bank. The functioning of the transmission relies on the smooth functioning of payment infrastructures enabling transactions of these institutions with the central bank, as well as amongst themselves at the interbank market.

If the operation of payment systems is underdeveloped, these designated financial institutions choose to keep a relatively large buffer of central-bank money to help them manage their liquidity, which in turn leads to weaker than intended monetary-policy impulses from the central bank. But in general, after the payment systems in the economy have reached a certain threshold, the influence of the payment systems on monetary policy needs to be assessed not by efficiency alone, but by reference to the velocity of money, defined as the average frequency with which a unit of money is spent in a specific time, under the assumption of a given money supply.

Velocity of money circulation is endogenously determined by the economic agents' decisions regarding liquidity holding, lending, borrowing, investing, consumption and labour. Yet an increase in the efficiency of payment systems increases the velocity of money circulation exogenously. From a monetary policy point of view it becomes important to estimate the quantitative and qualitative impact of this exogenous change.

An increase in the efficiency of payment systems results in an increase in the use of accounts relative to the use of banknotes and coins. Less time is required for each piece of money or securities to lie unused in an account between two successive payments, leading to a shorter time period between inflow and outflow, i.e. to a higher velocity of money in

circulation. The new situation is reflected in a higher turnover in markets, provided that economic agents are able to use the electronic forms of payment, are able to monitor their cash flow and are confident that the increased efficiency does not compromise security in terms of fraud.

The task of the central bank is to facilitate a more efficient management of liquid funds. An efficient management of liquid resources enables economic agents to use cashless payment systems not only as a signal for their willingness to pay, but also to pay for the exact amount they owe. Cash payments, in contrast, make economic agents incur costs in the form of interest foregone and increased security risks

However, the increase in the velocity of money circulation is not linear. As technological advances in payment systems are seldom used at their maximum capacity, the increase in their efficiency is a gradual, rather than spasmodic process. In order to better estimate the impact of technology-driven change on the velocity of money in circulation and thereby on monetary policy, central banks thus need to use data from a variety of sources

In sum, payment systems are an essential precondition for the implementation of operational monetary policy and their degree of sophistication has a direct impact on the velocity of money circulation, thereby influencing monetary policy itself

Turning to financial stability, there is a strong link between efficient payment systems and financial stability. Financial stability implies that the financial system is robust to systemic risk, i.e. the risk that problems in one financial institution lead to problems in other previously sound institutions. Financial stability allows the financial system to withstand shocks without giving way to cumulative processes which impair, first, the processing of payments in the economy, and second, the allocation of savings to investment opportunities. A robust and resilient market infrastructure is essential for financial stability

The provision of credit to commercial banks led the central bank to establish a function to control the creditworthiness of the borrowers. This function eventually developed into "banking supervision". A commercial bank can be the source of financial instability if it faces technical difficulties or if it fails to repay funding. This funding can come either from the regular operations of the central bank or from other depositors. Such an occurrence can affect other economic agents. They may face illiquidity and even insolvency, affecting market interest rates, in turn leading to changes in trading activities and a disruption in market confidence

Payment systems are an essential component in preventing such occurrences and a technical mechanism for the central bank to step in order to challenge contagion or potential contagion. The interest of central banks in financial stability was largely triggered by the Herstatt incident of June 26, 1974. German banks processed Deutsche Mark payments to Herstatt bank in exchange for US Dollars, to be delivered through Herstatt correspondent account in New York. Regulators, deciding to close the bank for lack of solvency immediately, failed to appreciate the time-zone difference between Frankfurt and New York, leaving transactions half-completed. German banks did not receive their US Dollar payments. Although the Herstatt incident did not lead to a financial-stability crisis, it made central banks aware of the risk and they started developing a continuous linked settlement platform, whereby commercial banks manage settlement of foreign exchange amongst themselves on a payment versus payment basis.

Cooperation in this area led central banks to share experiences covering other areas of payment systems and financial stability. Well-functioning markets depend on the willingness to develop adequate solutions to ensure smooth functioning of payment systems. Ironically, part of the problem stems from the very fact that technological advances speed up the payment systems and make them more reliable. This in turn enables banks to economise on liquid balances.

A financial-stability crisis can start when a financial institution is unable to repay funding to the lender at the repayment date, whilst the lender needs the liquidity at that repayment date. Fear of such occurrences happening simultaneously was an important element in the proliferation of the US subprime lending crisis to a global one. Central banks, recognisant of the impediments to markets' functioning and the threat to the existence of solvent economic actors, utilise payment systems to grant liquidity not only to the market as a whole, but to individual institutions as well. Because of the re-emerging crisis, central banks can still use unconventional or non-standard monetary policy operations or target individual banks for assistance. The latter is however under-utilised by banks, because they avoid incurring a penalty over the market rate, fearing it may stigmatise them in the interbank markets. Talk of "emergency liquidity assistance" or "acting as a lender of last resort" is at present fading into the background because the commercial banks' liquidity scare is largely, though not exclusively, a symptom of the sovereign debt crisis.

Nevertheless, risk stems from commercial banks typically holding positions across many participants (the central bank, other banks, brokerages, non-bank businesses and households) and across different payment systems. These positions lead to interdependencies among the real-time gross settlement systems, mainly operated by central banks, and designated-time net settlement systems, mainly operated by commercial banks jointly. The successful operations of both Macedonian Interbank Payment System (MIPS), the RTGS system of which the central bank is both the owner and operator and Klirinski Interbankarski Sistemi Skopje (KIBS), of which the central bank is the settlement agent, have contributed to a high level of confidence throughout the years and have a positive effect on the stability of the banking and financial system and the economy as a whole.

To conclude, commercial banks transferring among them funds held in accounts with central banks have facilitated the proper functioning of the banking and financial systems and mitigated disruptions and instability globally. This historical development has been accompanied with a slow, but steady movement towards a higher velocity of money circulation.

Settling payments in accounts at the central bank still provides the link with the two main tasks of monetary policy and financial stability. While steering monetary conditions the central bank cooperates with commercial banks and thereby reduces transaction costs. This reality is a layered architecture in which central bank money is the ultimate settlement asset in the economy. The positive network externality is best described by referring to the risk reduction, service assurance and competitive neutrality the central bank provides. Using money held in accounts at the central bank to effect payment is generally regarded as risk free, service is assured even in extraordinary times of global and domestic crises, while using the central bank as a hub ensures that payment systems' participants are not forced to rely on actual or potential competitors for payment. These arguments that were compelling at the dawn of central banking are most likely to ensure that modern payment systems continue to have a determined impact upon monetary policy and a positive influence upon the stability of the financial system as whole.

Thank you for your attention.