

An Analysis on Relations between Large-value Payments using BOK-Wire and the Financial Market

Most financial institutions participating in the Korean financial market open a current deposit account with the Bank of Korea and use BOK-Wire, a real-time gross settlement system, to clear financial transactions executed by themselves and their clients. Therefore, a detailed breakdown of large-value payments among financial institutions using BOK-Wire should provide significant information about the relations between the Korean large-value payment system and the financial markets.

This paper carries out an empirical analysis of the relations between large-value payments and the financial market using daily settlement data from BOK-Wire, the large-value payment system in Korea. Taking into account uncertainties in the financial market, the scope of the analysis is limited to the linkages running between large-value payments and the payment liquidity of financial institutions and those between the call rate, a financial market price variable, and changes in the scale of large-value payments.

The results of the analysis may be summarized as follows. First, an estimation on the scale of payment liquidity needed in the Korean financial market using the large-value payment data shows that actual usable payment liquidity remains insufficient in consideration of the fact that payment queuing is permitted. However, the level of usable payment liquidity differs significantly for each individual institution and each group of financial institutions.

Next, an empirical analysis on the relationship between the scale of large-value transfers among financial institutions and changes in the short-term market interest rate shows no significant influence is exerted by the scale of large-value payments on the overnight call rate. This seems to be because, unlike the U.S. or Canada, countries where the scale of large-value payments shows a clear relationship with the short-term market interest rate, Korea makes use of reserve requirement deposits on a massive scale. This enables them to some extent, to act as a buffer, against changes in the scale of large-value payments.

The above analysis provides the following implications for the safe and efficient operation of the Korean large-value payment system.

First, although there is no significant relationship between large-value payments and the short-term market interest rate in Korea, the scale of large-value payments reflects market conditions including the volatility of the financial market. Hence, if the scale of large-value payments goes up or down sharply, special attention needs to be given to the influence of such fluctuations on the financial market.

Second, when the financial policy authorities forecast payment liquidity required in the Korean financial market, the scale of payment liquidity needed in the Korean large-value payment system, including the maximum value estimated in this paper, needs to be used as a reference.

Third, the payment liquidity of the financial market does not seem problematic at the level of the overall system, but great differences may be observed at the individual institution level. Consequently, for the pursuit of financial stability, indices related to the supply and demand of payment liquidity for

individual institutions need to be regularly compiled and utilized for supervision and monitoring.

Fourth, a simulation analysis on the level of payment liquidity saving under the hybrid payment system that is to be established shortly by the Bank of Korea shows that the overall required payment liquidity of financial institutions will be reduced. Such changes are likely to influence several variables in the financial market. Hence, careful attention should be given to the changes.

Fifth, research on the establishment of the micro-foundation for relations between the large-value payment system and the financial system is consistently carried out in major countries to help the seamless working of the large-value payment system in the financial market. Taking into consideration the rapid changes in the environment of large-value payments, including the implementation of a new monetary policy and the construction of New BOK-Wire, research into such areas needs to be strengthened in Korea.