

Some Aspects of the Bulgarian Payment System Development in Time of Crisis

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Abstract. The key objective of the paper is to analyze the Bulgarian payment system development during the global financial crisis. The maintenance of a sound national payment system is an essential precondition for ensuring stability of the banking system and the financial sector especially in times of global instability. With this regard, first, the paper is focused on the key payment systems operating in Bulgaria. Second, an analysis of the Real-time Gross Settlement System (RINGS) is made. With this regard, special attention is drawn on the Bulgarian payment system integration to the TARGET2 system.

Keywords: Payment System, RINGS, TARGET2-BNB.

1. Introduction

The smooth operation of the payment systems in Bulgaria becomes especially important for the financial sector stability in the context of the country's membership into the European Union (EU). The country's accession in the EU on January 1, 2007 imposed more strict requirements for the operation of credit institutions and in particular, for the non-cash payments. The national payment system has faced the challenge to meet all effective international standards, regarding its stability and operability. The maintenance of reliable, secure and stable payment system and infrastructure is crucially important in times of crises, caused by turbulent financial markets or shortage of liquidity. This was especially valid during the period of the global financial crisis. The impact of the global crisis on the EU member-states has been intensified since September 2008 when the volatility of the financial markets has rose significantly.

The paper is organized as follows: Section 2 is focused on the key payment systems in Bulgaria and their operational characteristics. In Section 3 an theoretical and empirical analysis is made of the Real-time Gross Settlement System (RINGS) and the National system component TARGET2-BNB. This analysis reveals the stability of RINGS during the global financial crisis. The paper concludes with summarizing the results from the study.

2. Key payment systems in Bulgaria

The primary objective of the national payment system in Bulgaria is the reduction of the systemic risk. The Bulgarian National Bank (BNB) is responsible for organization, maintenance and development of the national payment system. The BNB exercises payment systems oversight by on-site inspections, off-site measures and distance supervision. Its main objective is to maintain stable, secure and reliable payment systems, clear legislative framework, and full compliance of the national payment system with the Core Principles for Systemically Important Payment Systems (CPSSs) and the recommendations of the Bank for International Settlements (BIS), Basel [1: 17-18].

The Law on payment services and payment systems, which entered into force on November 1, 2009, stipulated that the payment system is *"a system for transferring of funds on the basis of formal and standardized procedures and common rules for processing, clearing and/or settlement of securities"*. This law introduces the requirements of the new Directive 2007/64/EO of the European Parliament and the Council on payment services in the internal market. In addition, new regulations were adopted in the field of payment services and operations, such as the following: Regulation № 3 by July 16, 2009 for the terms and conditions for executing payment operations and for using payment instruments, Regulation № 13 by July 16, 2009 for implementation of international number of bank account and for the bank codes, and Regulation № 16 by July 16, 2009 for licensing of payment institutions and operators of payment systems. All these

regulations entered into force on November 1, 2009. They reflect the amendments in the legislative framework and the existing business practices in the field of payment services.

In Bulgaria currently the following payment systems are operational:

- Real-time Interbank Gross Settlement System (RINGS) – Real-time gross settlement system in Bulgaria. RINGS performs irrevocable and unconditional settlement of all payments in the national currency on the territory of the country. The BNB acts as the settlement agent.
- TARGET2-BNB – National system component of the Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET) – TARGET2. The national component system TARGET2-BNB was launched on February 1, 2010. The ancillary system BISERA7-EUR, operated by BORICA-BANKSERVICE JSC, joined TARGET2 on the same date. It processes SEPA payments and settles the resulting monetary obligations in TARGET2.
- BISERA – System for processing of interbank money transfers and customer payments between bank accounts in Bulgaria. It has two new versions: a) BISERA6 – Bank integrated system for processing of customer payments in Bulgarian Levs (BGN). Settlement agent is the BNB. Money transfers above BGN 100,000 are made by this payment system. b) BISERA7-EUR – Bank integrated system for processing of customer payments in Euro, based on the Rules and Procedures of the Single Euro Payments Area. The settlement of payments in BISERA7-EUR is executed in TARGET2 each working day at 4:00 pm.
- BORICA – System for processing of card payments on the territory of the country. This system is operated by “BORICA-BANKSERVICE” JSC (which is also company servicing of *MasterCard Europe* and organization-processor of *Visa International*). BORICA ensures authorization of payments by bank cards, issued by domestic banks in Bulgaria. It ensures the settlement of interbank card payments by its connection with RINGS. BORICA is national card processor and switch of the card payments between banks with their own authorization centers and card operators Euronet in Hungary, Remote Processing Center (RPC) in Slovakia and Kassis in Macedonia. In addition, the systems ePay.bg and eBG.bg for electronic payments are connected to BORICA. “EPAY” JSC is the operator of ePay.bg.
- SEP Bulgaria – System for electronic mobile payments. This system is operated by “SEP Bulgaria” JSCo. SEP is licensed as a system operator of a payment system for carrying of payments with an electronic payment instrument (EPI) “Mobile payment”.

All above-mentioned payment systems, excluding RINGS, are ancillary systems. In the European Economic Area (EEA) an ancillary system is managed by an entity established in the EEA, which is subject of supervision undertaken by a responsible authority. It exercises its supervisory obligations regarding infrastructures, offering payment services in Euro. An ancillary system ensures exchange and/or clearing of financial instruments, while the settlement of the resulting cash payments is provided by TARGET2 according the Guidelines of the European Central Bank (ECB). The Single Euro Payments Area (SEPA) includes the EU member states, Iceland, Liechtenstein, Monaco, Norway and Switzerland. The main objectives of SEPA relate to establishing harmonized pan-European schemes for payment instruments (credit transfers, direct debits, card payments), mobile and electronic payments, and electronic invoicing by addressing the technical, legal and trade barriers arising from different payment practices in individual countries. In SEPA the individuals and the corporations are able to make cashless payments throughout the Euro area from a single payment account anywhere in the euro area using a single set of payment instruments as easily, efficiently and safely as they can make them today at the national level [6:5].

The BNB exercises oversight over the payment institutions, operators of payment systems and their participants, as well as on the operators of securities settlement systems. This oversight is executed by the “Payment Systems Oversight” Division at the “Banking Policy” Directorate of the BNB. This division exercises control over the operations of the payment systems, status of the payment system participants, etc. [2]. When exercising its supervisory functions, the BNB maintain close cooperation with the relevant supervisory authorities of the EU member-states, with the ECB and the national central banks (NCBs).

3. Real-time Gross Settlement System (RINGS)

RINGS is a systemically important payment system according to the Regulation № 3 of the BNB. The BNB sets up, organizes, regulates, controls, operates, administers, supports, develops and oversees the real-time gross settlement system RINGS. The BNB owns RINGS and determines the rules for participation in the system. The BNB is the settlement agent.

In RINGS are executed the following payments: a) all payments for which the original initiator and the ultimate recipient have settlement accounts with the BNB; b) payments initiated by payment systems or securities settlement systems whose settlement agent is the BNB; c) bank customers' payments equal or exceeding BGN 100,000. Payments at the order of commercial banks' customers are also executed in RINGS subject to no amount limit restrictions. The participants in RINGS are the BNB, any bank licensed by the BNB to carry out banking activities, any branch of a bank from a third country that has been licensed by the BNB under the Law on Credit Institutions, and any branch of a bank from an EU member-state that operates in Bulgaria under the Law on Credit Institutions. The funds denominated in BGN are transferred by the settlement accounts of the RINGS participants. The settlement is final, individual and executed in real time.

RINGS processes only orders for credit transfers and settlement requests, as each of them has a certain referent number. The credit transfers are executed by payment orders made by the initiative of the payer [3]. In this form of payment, the payer orders a payment to his/her servicing bank in order to transfer money funds from his/her account to the beneficiary's account. After receiving the payment order by the bank, the payer cannot remove the payment. On the basis of this payment order, the bank transfer the amount, declared in the payment order to the beneficiary's account. No limits for the value of executed payments exist in RINGS. Payments among bank customers, payments, initiated by payment systems and securities settlement systems, which settlement agent is the BNB, and bank customers' payments equal or exceeding BGN 100,000, are executed obligatorily in RINGS. Moreover, in RINGS are executed payments initiated by the participants in the Electronic System for Registering and Servicing the Trade with Government Securities. RINGS executes the payments immediately in case that sufficient funds are available at the settlement accounts of the participants. That's why the participants are obliged to maintain available funds at their settlement accounts.

The system serves three priority levels for execution of payments: 1) „Normal” priority, determined by the participants in RINGS for their payment orders. All payment orders which have no any other priority, are executed with „Normal” priority. 2) „Fast priority” – payment orders with such priority are executed before the payment orders with „Normal” priority. All payments by a participant in RINGS to the BNB are executed with this priority. 3) „System” priority, determined for payments, initiated by the BNB on court procedures, official claims, payments of the Reserve Guarantee Fund, etc. The payment orders initiated by system operators are also executed by this priority. All payments with „System” priority are executed first, followed by the payments with „Fast” and “Normal” priorities.

In case of insufficient funds at the payer's settlement account, the payment is queued by following the accounting principle First-In First-Out (FIFO) within the determined priority. Each participant can change the priority of his/her initiated payments in the queue. When executing payments in the queue, RINGS follows the FIFO principle within each payment priority. At the end of the system day, all queued payments with “Normal” and “Fast” priority are rejected by RINGS. The Reserve Guarantee Fund is established as a Collateral Pool in order to ensure the settlement of payments initiated by system operators to the Real Time Gross Settlement system RINGS. The BNB makes the arrangements for the establishment of the Collateral Pool, raised with funds contributed from participant banks' settlement accounts. The participation in the Collateral Pool is mandatory for each bank. The Pool is activated prior to the end of the system operating day in case of shortage of funds in the settlement account of one or more banks, to which a debit advice is addressed.

RINGS works on specific system day schedule [4], each working day from 8:00 am to 5:30 pm. At 8:00 am are accepted the payments of SEBRA, which is a System for electronic budgetary payments. After that during the system day RINGS accepts and processes requests for government securities gross settlement. Twice a day is the approval by RINGS of a settlement request by SEP – at 9:00 am and 2:30 pm. Three times a day is the approval of a settlement request from BISERA – at 10:00 am, 1:30 pm and 4:00 pm. Twice a day is the approval of a settlement request from BORICA – at 9:30 am and 2:00 pm. Only once a day is the

approval of a settlement request from Central Depository. The Central Depository is the only organization in Bulgaria (established in August 1997) providing settlement of corporate securities in book-entry form. The initial cut-off of RINGS is at 4:00 pm, and if needed during the time lag 4:00 pm – 5:00 pm the Reserve Guarantee Fund is activated. The final cut-off of the system is at 5:30 pm. The process for executing payment orders, initiated by the participants in RINGS, is undertaken by FIN Copy service of SWIFT. RINGS gives the opportunity to all system participants and the BNB to monitor in real time the payment process, the liquidity and the payment flows by consumer working station or by messages based on SWIFT. This information covers the total liquidity in the system, the stance of each settlement account, of each executed, queued or rejected payment, the total value and volume of the queued payments, the type and status of the payment, etc.

During the last years, RINGS was distinguished as the major component of the national payment system. For instance, in 2007 the system processed over 81 % of the value of the executed payments in the country. In 2008 and 2009 this indicator was higher than 87 %. In general, the optimal level of this indicator for the real-time gross settlement systems is around 80 %. Regarding the total volume of non-cash payments proceeded by all payment systems in Bulgaria, the share of RINGS is 0.59 % in 2007, 0.7 % in 2008 and 0.6 % in 2009. In 2009 the system processed 993,375 payments totaling BGN 698,663 million. Compared with 2008, the daily average number fell by 9.2 % and daily average value declined by 11.8 %. This downward trend was remained in 2010. Over the year 2010 RINGS processed 994,254 payments worth BGN 591,993 million. The daily average number of payments rose by 0.5 % on 2009, while the daily average value went down by 14.9 %, reflecting the decrease in average daily values in interbank payments. The daily average value of customer payments rose by 1.7 %. In 2009 34 % of payments were processed by noon and in 2010 – 47.9 %. In 2009 73 % of payments were processed by 2:30 pm and in 2010 – 86.3 %. As regards the system traffic, in 2009 86 % of RINGS payments were effected by 2:30 pm and 78.5 % in 2010.

Table 1: RINGS statistical data for the period 2008-2011

Year	Volume of processed payments				Value of processed payments (in BGN)			
	Total Volume	Total volume of customer payments only	Average daily volume	Maximum daily volume	Total value	Total value of customer payments only	Average daily value	Maximum daily value
2008	1 094 097	1 004 616	4 324	11 150	792 357 015 172	170 023 621 065	3 131 845 909	5 112 541 605
2009	993 375	909 898	3 926	9 972	698 662 953 186	142 269 789 650	2 761 513 648	4 956 050 947
2010	994 254	905 020	3 945	7 120	591 993 424 538	144 167 640 132	2 349 180 256	3 883 631 675
2011	1 056 376	958 970	4 192	7 805	682 027 367 443	159 652 494 347	2 706 616 537	4 464 953 820

Source: BNB.

In fact, the payments equal or exceeding BGN 100,000 as well as the payments proceeded by RINGS were affected by the global financial crisis. However, they remain relatively stable, which indicates that the economic agents executing such payments were affected in a lower extent by the crisis comparing to the other consumers of payment services. The value of customer payments remained stable during the period, but the value of non-customer payments have demonstrated strong decline since October 2008. This reveals that the smaller bank customers were affected in a lesser extent from the global financial crisis.

The growing RINGS' share of the value and number of the processed payments in the country demonstrates that the public confidence in the system is enhanced, and the payment risks are diminished [4: 36]. Processing most payments by value through RINGS cuts risks in the payment system. During the period 2008-2009 the number of participants remained unchanged at 30. In 2010-2011, 31 banks participated in RINGS. The system has reliable and efficient instruments for management of risks and emergency situations. It has also adequate procedures for ensuring its safety, which allow the smooth operation of the payment process to be maintained even in the times of crises. During the reviewed period no payments were rejected by the close of a RINGS' system day due to insufficient funds, indicating good liquidity management by banks. There was no call for radical BNB intervention to provide participants with liquidity. There was no

recourse to the Reserve Collateral Pool to guarantee settlement of payment and securities system operators' orders.

Since February 1, 2010, the BNB and the national banking authority have been successfully integrated to the Real-time gross settlement system for payments in Euro – TARGET2. All necessary activities in legislative, technical and business aspect, regarding the establishment of the National system component TARGET2-BNB, have been successfully fulfilled. The National system component TARGET2-BNB operated according the Rules for operation of the system [6: 40]. Participants in this component are the BNB, 16 banks, and the ancillary system BISERA7-EUR, operated by “BORICA-BANKSERVICE” JSC.

The national system component TARGET2-BNB executes settlement of transfers in Euro resulting from transactions in transnational netting systems for large-value payments in Euro, settlement of transfers resulting from transactions in systems for small-value payments in Euro, which are systemically important, and all other payment orders in Euro submitted to TARGET2 participants. According to the objectives of TARGET2, the payment orders are classified as: a) Orders for credit transfers; b) Orders for direct debits; c) Orders for transfers of liquidity. The BNB as a central bank operates the component TARGET2-BNB, administers the National service desk of TARGET2 and is responsible for the business relationships with its participants and coordination with the ECB and the participating NCBs.

In conclusion, the national payment system has demonstrated significant progress since the introduction of RINGS in 2003. During the last years, RINGS was distinguished as the major component of the national payment system. It functioned smoothly and settled an increasing number and value of payments. However, the global financial crisis affected the system leading to lower total volume and value of processed payments in 2008 and 2009. In 2010 this downward trend was reversed. The system has reliable and efficient instruments for risk management and provision of security. Moreover, the credit institutions demonstrate good liquidity management and high profitability. The integration of BNB to the Trans-European system TARGET2 through the national system component TARGET2-BNB is an important step in further improving the payment infrastructure and reducing the systemic risk in the economy.

4. References

- [1] BNB. *Strategy for the Development of the Bulgarian National Bank. 2004-2009*. Bulgarian National Bank, Sofia, 2004.
- [2] BNB. *Instruction № 3-39006 for establishment of the structure, format and terms for submitting reports by the system operators and the payment system participants*. Bulgarian National Bank, Sofia, 2006.
- [3] BNB. *Instruction № 03-2009: Creation of payment documents*. Bulgarian National Bank, Sofia, 2009.
- [4] BNB, *Rules and Procedures for Operation of the Real-time Gross Settlement System RINGS*. Bulgarian National Bank, Sofia, June 2011.
- [5] BNB. *Year Report 2008*. Bulgarian National Bank, Sofia, 2009.
- [6] BNB. *Year Report 2009*. Bulgarian National Bank, Sofia, 2010.
- [7] ECB. *Single Euro Payments Area Sixth Progress Report*. European Central Bank, Frankfurt am Main, November 2008.
- [8] ECB. *TARGET Annual Report 2008*. European Central Bank, Frankfurt am Main, 2009.