

The Bank of Russia Payment System (BRPS)

The BRPS is a systemically important payment system that plays a key role in the implementation of monetary and budgetary policy. It also plays a central part in settling payments by financial market participants, including most interbank payments.

In 2011, 1187.6 million payments (1059.0 million payments in 2010) with a value of 916.2 trillion rubles (653.4 trillion rubles in 2010) were made through BRPS. The total value of payments made through the BRPS was equivalent to 16.8 times Russia's GDP in 2011.

The average daily volume of payments processed through the BRPS in 2011 was 4.8 million (4.3 million in 2010) and the average amount per transaction was 771.5 thousand rubles in 2011 (617.0 thousand rubles in 2010).

In 2011 about 99.9% of the total volume and 100% of the total value of payments made through the BRPS were effected electronically (99.9 and 99.9% respectively in 2010).

The BRPS is used for the settlement of both large-value and small-value payments; the BoR places no limit on the value of individual payments.

The BRPS must, by law, process free of charge all payments arising from federal, regional and municipal government budgets, as well as extra-budgetary funds.

The BRPS comprises the following payment systems, which differ by regional coverage, payment value, rules and daily settlement schedules, categories of participants and payment instruments, transaction speed, and technology:

- the systems for intraregional electronic payments (VER) and for interregional electronic payments (MER) (see Section 1.1);
- the Banking Electronic Speedy Payment system (BESP) (see Section 1.2); and
- the payment system using letters of advice (see Section 1.3).

The BRPS regional subsystem comprises the payment systems in each region (or group of regions), where payments are effected on a daily settlement schedule. Taking into account the existence of nine time zones in Russia, the schedules of regional subsystems are set in local time. Operating hours are usually from 9:00 to 18:00 local time. The BESP system (see Section 1.2) operates from 9:00 to 21:00 Moscow time.

The BRPS participants comprise the BoR's branches, credit institutions (or their branches), the Federal Treasury (or its regional offices) and other BoR customers other than credit institutions (ie state bodies and local self-governing bodies, state extra-budgetary funds etc).

To make payments through the BRPS, each customer must have a correspondent account (sub-account) with a regional BoR branch.

To identify BRPS participants, the BoR maintains the Bank Identification Code Directory (Russia's BIC directory), which details the BoR's branches and customers (name, location, payment system used etc). The directory does not include BoR's customers without banking licenses, details of which are recorded in directories kept on a decentralised basis at the regional level.

A separate directory within the BESP system gives details of system participants, including their form of participation and payment limits, if applicable.

Electronic access to the payment system is governed by an electronic document exchange agreement between the BoR and its customers that details the terms and conditions of participation, functional and technical requirements, information security obligations, and business continuity measures.

BRPS is supported on the BoR's own information and telecommunication infrastructure, mainly the collective data processing system (KOI), which comprises easy-access collective data processing centres (KTsOI), the electronic settlement transport system (TSER), which provides the communication channels and a network that supports BoR message transfer formats, and the BoR's customer interaction interface (SVK), comprising the hardware and software that support interaction with the BRPS. In some BRPS regional subsystems, information is processed locally (ie outside the KOI).

Security is assured by methodological, technical, organisational and software measures and protection facilities at all stages of data collection, processing, and storage. These are based on the software and hardware suites of each payment system's information security sub-system.

The BoR has established an information security standard for Russian banking system institutions that is mandatory for the BoR and recommended for all BoR customers participating in the BRPS.

1.1 VER and MER systems

Payments are processed in the VER and MER systems in compliance with applicable legislation, BoR's own regulations, and the terms of the agreements between the BoR and its customers.

VER system

The VER systems support electronic payments in the BRPS regional subsystems.

The technology and procedures for making intraregional electronic payments are established by the BoR's regional branches* and specified in the agreements between the BoR and its customers. Payments in the Moscow Region, which account for a large share of the total value of payments effected through the BRPS,

* Except intraregional electronic payments in Moscow and the Moscow Region.

are regulated by special BoR documentation. Payments are settled on a gross basis, using an offsetting mechanism, in runs that take place several times a day, and in real time between the runs.

In other VER systems, payments are executed by batch processing on a gross basis in close to real-time mode or in runs that take place several times a day. Schedules for intraregional electronic payments are set by the BoR's regional branches in local time, taking into account the BESP system schedule. The VER systems settle payments of the following payment documents: payment orders, payment claims and collection orders.

A total of 898.7 million payments with a value of 600.6 trillion rubles were effected through the VER systems in 2011 (819.3 million payments with a value of 445.0 trillion rubles in 2010). They accounted for 75.7% of the total volume and 65.6% of the total value of payments effected through the BRPS (77.4% and 68.0% respectively in 2010).

MER system

The MER system allows electronic payments to be transferred between the VER systems of different BRPS regional subsystems bilaterally and on a decentralised basis. The MER system settles payments using only one kind of payment document, a payment order. The schedule, rules and procedures of the MER system are established by BoR regulations.

In the MER system, payments are carried out on a gross basis with intraday finality, except for settlements between regions located in remote time zones, which have finality no later than the next day (T+1).

A total of 287.6 million payments with a total value of 92.4 trillion rubles were effected through the MER system in 2011 (238.5 million payments with a value of 81.3 trillion rubles in 2010). They accounted for 24.2% of the total number and 10.1% of the total value of payments conducted through the BRPS in 2011 (22.5 and 12.4% accordingly in 2010).

1.1.1 Participation

To participate in the VER and MER systems, BoR branches are required to meet the necessary technical and security standards. Participating credit institutions (or their branches) and BoR customers are required to have a bank account with such BoR branches.

As of January 2012, 3,590 participants were registered with the VER systems, this total comprising 542 BoR branches 990 credit institutions and 2,058 branches of credit institutions. The MER system had 3,594 participants, of which 543 were BoR branches, 990 were credit institutions and 2,061 were branches of credit institutions.

1.1.2 Types of transactions

Payments of the following type are conducted intraregionally and interregionally: payments of credit institutions (or branches) and their customers; BoR's customers including the Federal Treasury, non-bank organisations (branches); financial market infrastructures and the BoR's own payments.

A range of liquidity sources can be used for settlement, namely (i) available funds in correspondent accounts (sub-accounts) of credit institutions (or their branches); (ii) funds received during the business day; and (iii) the BoR's standing intraday and overnight credit facilities.

1.1.3 System operational and settlement procedures

VER system

In the VER systems, settlements are processed according to a set schedule in close to real time during the day or runs that take place several times a day, depending on the particular regional subsystem. To initiate a payment a payer sends an electronic payment message (EPM) to the KTsOI or, if there is no electronic access, sends a paper-based payment document to the relevant BoR branch. The EPM is checked to ensure that the payment document can be fulfilled. EPMs that fail this check are withdrawn from processing and returned to the sender with a message explaining why the payment has been rejected.

When settlement is made, a check is made that sufficient funds are on account to settle the payment document (including funds available from secured intraday and overnight credits). In the Moscow Region, this check also takes into account any offsetting payments. When all verifications have been received and settlement has taken place, the payer (or the BoR branch if the customer payer has no electronic access) is notified electronically that its account has been debited while the payee (or BoR branch) is notified that its account has been credited.

An approved payment document that has not been settled because of insufficient funds is placed in the intraday queue and the payer is notified of its status. At the end of the business day the deferred payment documents are cancelled and the payer is notified.

Customers without electronic access to the BoR branch receive a printed copy of the settled payment document and a customer account statement.

MER system

The MER system that allows electronic payments to be transferred between the VER systems of different regions processes payments in three steps. First, the payment is executed in the VER system that services the payer by debiting the payer's account; second, the payment is sent to the VER system that services the payee and, third, the payee's account is credited.

In each regional subsystem, a specified BoR branch (the MER principal participant) checks and registers interregional electronic payments and returns

incorrect payments. Message exchange is supported by servers at the MER Transport Centre in Moscow.

1.1.4 Risk management

Credit risk

All payments in the VER and MER systems are settled in BoR money, mitigating credit risk on settlement assets for system participants.

To reduce credit risk for the BoR and credit institutions, BoR regulations stipulate that settlement through the VER and MER systems is on a gross basis. BoR regulations, which apply to all credit institutions and financial market infrastructures, define irrevocability and payment finality as follows: a payment carried out through the VER and MER systems is considered irrevocable as soon as the customer payer's account is debited in the BoR branch and it is considered final after the customer payee's account is credited in the corresponding BoR branch.

As there is no "zero-hour" rule in Russian legislation, the bankruptcy of a settlement participant does not affect a payment's irrevocability and finality.

Other measures that address credit risk include the following:

- daily monitoring of credit institutions to ensure that reserve requirements are fulfilled, debts to the BoR are discharged, no correspondent accounts with the BoR are blocked for legal reasons;
- prudential requirements for the financial stability of credit institutions;
- refinancing limits and limits on collateral intraday and overnight credits.

Liquidity risk

BoR regulations stipulate that customer payments can be effected only within a customer's liquidity limit and that the customer should be notified of its balance as soon as its account is credited.

BoR regulations also govern the collateral mechanism whereby the BoR provides intraday or overnight loans. The BoR can also provide liquidity by means of intraday repo transactions.

Credit institutions may raise additional liquidity (secured intraday and overnight credits) against collateral of BoR eligible securities, as well as eligible non-market assets, such as bills of exchange, claims under credit contracts etc.

Operational risk

The BRPS and the VER and MER systems software infrastructures are based mainly on the collective BoR data processing system. Operational risk management is implemented through measures that include:

- duplication of data processing centres, data processing systems and databases;
- backup of technically important facilities and communication channels;
- fault-tolerant equipment and servers;
- centralised management of software and communication systems;
- use of diagnosis and audit facilities;
- regular training of staff involved in operations; and
- application of business continuity principles at all levels;

If operations are disrupted, all parties involved are informed immediately and appropriate measures are taken. If necessary, a backup data processing centre is put into operation.

1.1.5 Pricing policy

While the BoR aims to recover its costs for the BRPS settlement service, the fees charged depend on a variety of factors: the type of payment (ie which payment system is used to settle a payment), the payment method (ie electronic or paper-based), and the time that payment documents are transferred.

The fee structure incentivizes settlement participants to access the BRPS electronically and to submit payment instructions early in the day. Hence, in the VER and MER systems the lowest fees apply to customers using electronic access (from seven to 16 rubles per payment* while higher fees (from 17 to 22 rubles per payment) apply to customers using paper-based payment instruments.

A. Funds transfer services¹			
Description of processed payments			
Payment method	Transmission channel	Transmission time	Fees
I. Intra-regional payments			
1. Payment using electronic technology			
1) Electronic payment (using full-format electronic payment document)	Via communication channel	First time period	7.00
		Second time period	10.00
		Third time period	13.00
		Overtime	20.00
	On magnetic carriers ³		16.00
	Paper-based		20.00
2) Other payments using electronic technology (using abridged-format electronic documents)	Via communication channel	First time period	8.00
		Second time period	11.00
		Third time period	14.00
		Overtime	21.00
	On magnetic carriers		17.00
	Paper-based		21.00

* Depending on the time the payment document arrives at the BRPS.

2. Payments using telegraph technology ²	17.00		
3. Payments using postal technology	19.00		
II. Interregional payments			
1. Payment using electronic technology			
Payment method	Transmission channel	Transmission time	Fees
1) Electronic payments (using full-format electronic payment document)	Via communication channel	First time period	8.00
		Second time period	12.00
		Third time period	16.00
		Overtime	24.00
	On magnetic carriers		17.00
	Paper-based		21.00
2. Payments using telegraph technology ²			19.00
3. Payments using postal technology			22.00
Information services			
Fee per completed liquidity or account balance request			13.00
Fee per completed inquiry to the BESP system archive of electronic messages			9,00
Fee per duplicate of an electronic information message, sent by the BoR in accordance with the BESP system rules			9,00
Fee per clients' inquiry/reply sent by the BoR			9,00
Paper copy of an electronic document service			
Fee per paper print-out of an electronic payment message			6.00
Fee per paper print-out of an electronic payment document			6.00
¹ In rubles; fees per payment. ² Fees per transfer using telegraph technology does not include Bank of Russia's expenses for services provided by the Ministry of Information Technologies and Communications enterprises of the Russian Federation. ³ CDs, flash drives etc.			

Fees for VER and MER services increase towards the end of the business day with the aim of smoothing out settlement traffic over the course of the day, accelerating funds turnover and improving liquidity management for credit institutions. Higher fees (from 20 to 24 rubles per payment) are charged for the electronic payment documents received from customers closer to the end of the business day.

1.1.6 Major current and future projects

The VER and MER systems will be used as a basis for a planned non-urgent payment service.

1.2 BESP system

The BESP system is a national real-time gross settlement system operated centrally on the federal level. The BESP system is interlinked with the BRPS's regional subsystems through electronic messaging. The BESP system started operations at the end of 2007.

1.2.1 Institutional structure

The BESP system is governed by BoR regulations and instructions that set operational rules, payment procedures, system participation and the maintenance of the participants' directory. The BoR has also defined guidelines for operation and oversight.

The BoR has established a special monitoring and control centre to manage the BESP. Its day-to-day responsibilities include control of the BESP operations schedule, participation management and control of the intraday payments queue, which also entails, in case of gridlock, cancellation (within one business day) of payment limits set by the participants and the offsetting of queued payments by multilateral optimisation.

1.2.2 Participation

BESP participants include BoR branches that provide settlement services to the BoR's customers, other BoR divisions that make payments, credit institutions and their branches, and the Federal Treasury and its regional offices.

BESP participants are categorised as special, direct and associated participants.

Special participants (SP) are BoR branches with the authority to effect payments through the BESP system. BoR customers may be direct or associated participants of the BESP system.

Direct participants (DP) have direct access, allowing them to conduct payments both for themselves and on behalf of customers in real time in accordance with the single countrywide settlement schedule. Such participants have access to the full range of BESP services. To qualify as DPs, credit institutions must meet stringent security and technical requirements.

Associated participants (AP) have indirect access to the BESP system through the BRPS regional subsystems and the range of services they can use is restricted. To qualify as an AP, a credit institution must be in account with an SP and have an electronic messaging link to the BoR.

As of January 2012, the BESP system had 3,248 registered participants, of which 279 were SPs, 557 were DPs and 2,412 were APs. BESP participants included 2887 credit institutions (or their branches).

BESP services to participants

The BESP system provides settlement for the payments to other BESP system participants that are initiated by direct and associated participants both on their own behalf and on behalf of customers. Settlement of payments from DPs is carried out according to the BESP system schedule (ie from 9:00 to 21:00 Moscow time), while payments of the APs are carried out according to the schedules of the regional subsystems.

APs are kept informed about their payments settled through the BESP system and about their bank account balances.

DPs have access to a range of additional services, including management of payments (setting priorities and limits on payments, adding/removing payments to/from the payment queues). They also have access to information on liquidity available at the DP's branches for BESP operations; balances on correspondent

sub-accounts and real-time data on settlements of DP payments effected through the BESP system, excluded or cancelled payments etc.

Participation in the BESP system does not preclude BoR customers from effecting payments through the VER and MER systems.

1.2.3 Types of transactions

Payments in the BESP system are effected between BESP participants only. The BESP system is designed to settle participants' payments in real time and on a gross basis, including financial market and monetary policy transactions, budget and interbank payments.

More than 626.1 thousands payments with a total value of 222.8 trillion rubles were effected through the BESP system in 2011. There are no restrictions on the minimum value of a payment to be processed through the BESP system. However, payments of more than 1 million rubles accounted for 91.8% of the total volume and almost 100% of the total value of payments in the BESP system. The average payment amounted to 3.6 billion rubles.

Payments effected through the BESP system accounted for 24.3% of the total value of payments through the BRPS in 2011 (19.5% respectively in 2010).

Participants decide on grounds of speed and cost whether to route a payment through the BESP.

1.2.4 System operation and settlement procedures

The BESP system is supported within the BoR's data processing infrastructure, electronic settlement transport system (TSER) and customer interface (SVK).

Payments in the BESP system are effected using payment orders in the form of electronic payment messages, which are also used to exchange information (inquiries, confirmations etc).

DPs and APs can make payments using the liquidity on their bank accounts at BoR branches. Thus, participants do not need to open additional correspondent (bank) accounts. However, since DPs may effect payments in the BESP system as well as in the BRPS' regional systems, they are able to redistribute liquidity across accounts during the business day.

A payment from one DP to another DP is settled instantaneously in the BESP system. The DP payer sends an EPM to the KTsoI of the BESP system, which checks whether the EPM is authentic, if all details are correct and if the payment order can be fulfilled. Once these checks are completed, the DP payer's account is debited immediately and the DP payee's account is simultaneously credited. If the checks for authenticity or correctness fail, the EPM is dropped from the processing. If, on the other hand, there are insufficient funds on the DP payer's account, the DP's payment is queued until sufficient funds are received to automatically carry out the settlement. The DP payer is then notified that the settlement has been completed.

An AP may only access the BESP system indirectly, through the BRPS regional system.

A payment by one AP to another AP is settled in three steps:

(i) an EPM is sent and checked (including a check to verify whether sufficient funds are on the AP payer's account) in the BRPS regional subsystem. It is then sent to the BESP system processing and settlement centre;

(ii) the settlement operation is carried out in the processing and settlement centre and a confirmation is sent to the BRPS regional subsystem to debit the AP payer's account. At the same time, an EPM is sent to the BRPS regional subsystem to credit the AP payee's account; and (iii) the AP payer's account is debited and the AP payee's account is credited in the correspondent BRPS regional subsystems.

A DP's payment to an AP, as well as an AP's payment to a DP, is settled in two stages and represents a combination of the BESP system settlement procedures described above (DP to DP and AP to AP).

1.2.5 Risk management

Credit risk

Real-time settlement is the principal means for credit risk mitigation in the BESP system. To manage other credit risk aspects, the BESP system uses procedures similar to the ones described above for the VER and MER systems.

To mitigate credit risk for the BoR and credit institutions that are BESP participants, the BoR's regulations define irrevocability and finality for all payments effected through the BESP system as follows: a payment is considered irrevocable as soon as the payer's account is debited. A payment is final as soon as the payee's account is credited. Subsequently, the corresponding electronic information messages are simultaneously sent to the payer and payee. Settlement is effected individually for each payment in real time during the business day.

To further reduce credit risks, BESP participants may also set bilateral and multilateral limits on payments to other system participants.

Liquidity risk

If funds are insufficient, the BoR can provide intraday liquidity to BESP participants. Credit institutions can draw on collateralised intraday and overnight credits within their overdraft limit. Moreover, DPs can use BoR-provided software applications to manage queued payments, receive status information on incoming or outgoing payments and offset payments within the queue. APs can manage payment queues and receive information on the status of a payment only within their regional subsystems.

The BESP system can identify and resolve gridlock situations and manage DP payment queues, thereby contributing to real-time risk management.

A DP (credit institution' head office) can receive information about the liquidity of its DP branches so that it can manage its liquidity efficiently during the business day.

Operational risk

The approach to managing operational risk within the BESP system is similar to that applied to the VER and MER systems. System functions, including the IT system, are continuously monitored and payment activity is analysed daily with a view to ensuring smooth operation.

Data security is assured by a combination of technical and organisational measures. If operations are disrupted, all parties involved are informed immediately and appropriate measures are taken. If necessary, a backup data processing centre is put into operation.

BoR regulations and instructions outline BoR responsibilities in the event of a system disruption, together with specified responses and contingency plans.

Real-time and historical data are stored in two separate centres, ensuring that data files can be restored in the event of any malfunction.

3.1.2.6 Pricing policy

BESP system fees are set according to the type of participation (DP or AP) and thus on the level of service. They also depend on the payment's priority (express or regular). Payments through the BESP system attract higher fees than those of other payment systems. APs are charged 20 rubles per regular payment. DPs are charged 25 rubles for a regular payment and 30 rubles for an express payment.* Certain information services also attract a fee (of 9-13 rubles per executed electronic inquiry and six rubles per paper copy of an EPM).

A scaled discount system based on payment volumes has been introduced to encourage settlement through the BESP and to conform with international practice.

Electronic payments carried out through the BESP system			
Payment method	Transmission channel	Kind of payment	Fees
Electronic payment of settlement participant	Via communication channel	Express payment by direct settlement participant	30.00
		Regular payment by direct settlement participant	25.00
		Regular payment by associate settlement participant	20.00
Information services			
Fee per completed liquidity or account balance request			13.00
Fee per completed inquiry to the BESP system archive of electronic messages			9,00
Fee per duplicate of an electronic information message, sent by the BoR in accordance with the BESP system rules			9,00
Fee per clients' inquiry/reply sent by the BoR			9,00
Paper copy of an electronic document service			

* Only DPs can initiate express payments

Fee per paper print-out of an electronic payment message	6.00
Fee per paper print-out of an electronic payment document	6.00
Discount rates¹	
Number of payments	Discount rate,%
301-500	4
501-1 000	5
More than 1 000	6

¹ Used from the beginning of reporting quarter.

1.2.7 Major current and future projects

The BESP system will be further developed to improve its capabilities as a settlement system for large-value and urgent payments, and for financial market transactions on a delivery versus payment basis. The system will also be used as an instrument for monetary policy operations. Therefore, as of August 2010, all eligible credit institutions (branches) that were not already BESP participants were given AP status.

BESP participants will in future also be able to access the BESP system via SWIFT.

1.3 Payment system using letters of advice

Payments using postal and telegraphic letters of advice are initiated on paper and settled in the BRPS. Paper-based payments are used where BoR are not equipped to make electronic payments or the paper-based payment instrument is not machine-readable at the BoR branch.

Payments by letters of advice require just over three days to complete on average, given the labour-intensive process for intraregional and interregional settlement. Settlement time for postal letters of advice depends mainly on the payment documents delivery service involved.

The share of paper-based payments in the total volume and value of BRPS payments is small. Some 0.7 million paper-based payments with a total value of 340.3 billion rubles were made in 2011 (0.9 million payments with total value of 721.0 billion rubles in 2010). They accounted for 0.1% of the total volume and of the total value of payments effected through the BRPS.

1.3.1 Participation

BRPS participants using letters of advice are the BoR branches and divisions listed in the national BIC Directory.

Users of letters of advice within the payment system include credit institutions (or their branches) and other non-bank BoR customers.

1.3.2 Types of transactions

Payments using letters of advice can be effected across BoR customers' accounts for any type of payment instrument.

1.3.3 System operation and settlement procedures

The payment system using letters of advice is decentralised. Paper-based payments are effected during the business day of BoR branches at the respective local times.

Information support for the payment system using letters of advice is provided by the BoR's collective data processing system and local computer systems.

When it receives paper-based payment documents, a BoR branch checks their format and security and also confirms that the payer has sufficient funds on account. After these checks are completed, the payer's account is debited and the payment documents are sent to the payee's BoR branch with instructions to credit the payee's account.

Most payment documents relating to postal letters of advice are transported between BoR branches by state services such as the postal service and BoR branch staff.

Payment documents relating to telegraphic letters of advice are transmitted by telegraph using BoR teletype facilities or on paper to the Russian Ministry of Communications and Mass Media divisions for subsequent transmission to BoR branches by telegraph.

1.3.4 Risk management

As payments using letters of advice are effected on a gross basis across the same bank (correspondent) customer accounts as electronic settlements, the risk management procedures are similar. Control processes include visual verification at the BoR branch, to mitigate the risks involved in the physical transfer of documents between branches.

1.3.5 Pricing policy

Fees for payments using letters of advice depend on the location of the BoR customers involved in the transfer. The fee for an intraregional transfer is 13.4 rubles per payment by telegraph and 14.3 rubles by post; the price of an interregional transfer is 14.3 rubles by telegraph and 16.8 rubles by post.

1.3.6 Major current and future projects

Paper-based payments will increasingly be relegated to backup status given the growing prevalence of electronic payment technology.