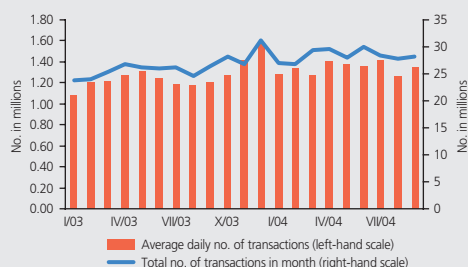


**CHART V.1**  
Number of transactions processed by CERTIS in 2003 and 2004



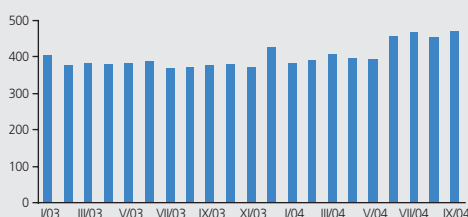
Source: CNB

**TABLE V.1**  
CERTIS interbank payment system

Period	Turnover (CZK billions)	Average daily turnover (CZK billions)	Average daily no. of transactions (millions)	No. of daily transactions (millions)	Average daily no. of transactions (millions)	GDP/ Average daily turnover
2002	100 343.10	430.7	262.3	1.12	5.6	
2003	96 938.20	384.7	316.7	1.26	6.5	
2004 Q1-3	81 218.81	425.2	256.2	1.34		

Source: CNB

**CHART V.2**  
Average daily turnover in CERTIS in 2003 and 2004  
(CZK billions)



Source: CNB

## 5 THE FINANCIAL INFRASTRUCTURE <sup>35</sup>

Financial stability has also been fostered in the last several years by developments in the financial infrastructure area. The importance of the financial infrastructure stems from the very function of the financial system, namely financial intermediation and the making of payments. Financial system participants use financial institutions to settle their payments, and these institutions are interconnected in various ways. Problems experienced by one institution can thus spread quickly to others via the payment system (contagion risk). At the same time, payment and settlement systems can be viewed as the first components of the financial system to signal emerging problems and so are important as regards testing the propagation of shocks generated by the financial system. For these reasons, the security and efficiency of the payment system and financial infrastructure as a whole is one of the key factors ensuring financial stability.

### 5.1 THE INTERBANK PAYMENT SYSTEM AND SHORT-TERM BOND SYSTEM

The Czech National Bank operates two systems that play a key role in financial intermediation: an interbank payment system called CERTIS (Czech Express Real Time Interbank Gross Settlement System) and a short-term bond system (SKD) for the registration and settlement of short-term securities transactions.

#### 5.1.1 Transaction Volumes

One indicator of the importance of CERTIS and SKD is the volume of payments settled through them.

In 2003, CERTIS processed 304 million transactions totalling CZK 96,928 billion. This equates to 1.26 million transactions a day on average. The average daily value of the transactions was CZK 384.7 billion, with average turnovers in the individual months ranging between CZK 370 billion and CZK 430 billion. Transactions of up to CZK 1 million accounted for 99.6% of all transactions. On the other hand, about 108,000 transactions greater than CZK 100 million (around EUR 3 million) accounted for 87.5% of the daily turnover. The largest number of transactions in one day was 3.5 million. In the first quarter of 2004, CERTIS processed 83.2 million transactions totalling CZK 25,296 billion, an average of 1.3 million transactions a day.

These figures show the extent of payment clearing activity at CNB Clearing. In just 6.5 working days a turnover of some CZK 2.5 trillion was achieved, which is roughly equal to annual nominal GDP or the total assets of licensed banks.

In 2003, SKD handled transactions totalling CZK 39,040 billion. The average daily figure was CZK 155.5 billion. This means that the turnover in around 16 working days corresponded to annual nominal GDP or roughly the total assets of licensed banks. In the first half of 2004, SKD processed 8,300 transactions totalling CZK 18,992 billion.

The transaction volumes in SKD and CERTIS are affected each day by CNB repos amounting to around CZK 100 billion.

<sup>35</sup> This section is devoted to the CERTIS and SKD systems administered by the Czech National Bank. An overall account of the components of the financial infrastructure is given in Annex 2: *Overview and Main Characteristics of the Components of the Financial Infrastructure*.

### 5.1.2 Risk Management

A strong emphasis on identifying, managing and eliminating the risks in these systems – especially credit risk and liquidity risk – to a large extent rules out the danger of these systems serving as a channel for the propagation of financial difficulties between institutions or markets.

#### *Credit and liquidity risk management*

In the case of CERTIS, credit risk vis-à-vis individual system participants is eliminated by a guarantee of irrevocability of items accepted by CNB Clearing and by finality of payments. The principle of gross settlement, on which CERTIS works, eliminates the domino effect risk that is inherent to netting systems.

Through SKD the central bank provides CERTIS participants with intraday “technical” credit to boost their liquidity during the day. All intraday credit extended to commercial banks by the CNB is collateralised, so credit risk is eliminated to the maximum possible extent.

#### *Operational risk management*

CERTIS is highly stable and reliable. Since it went live on 1 January 1997, not a single fault affecting or blocking the system’s operation has been recorded. All transactions processed are backed up on a mirror disk at a remote back-up location. The back-up system is tested at least once a year as well as every time a major change is made to the system (i.e. it is used for a time as the primary system and the system at the CNB is conversely used as the back-up). The best test of the system’s operation in extreme situations was the catastrophic flooding in the Czech Republic in 2002. The optical cable linking CERTIS with its back-up location runs through a tunnel of the Prague metro system, but there was no disturbance to the running of the system nor any prevention of full backing-up at any time the metro was flooded.

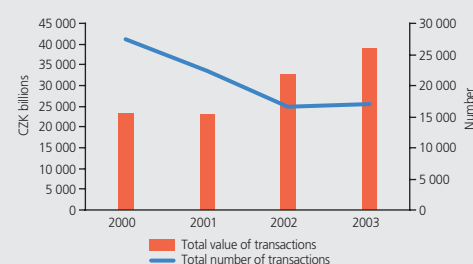
In 2003, SKD was assessed against the ECB’s standards for settlement systems (*Standards for the use of EU securities settlement systems in ESCB credit operations*). The objective of this ECB assessment was to ensure that the market infrastructure in accession countries is adequate for joining the EMU. The standards create the framework for mitigating risks related to the settlement of credit operations and the safekeeping of collateral during these operations. As all Eurosystem credit operations (including intraday credit for payment system purposes) have to be collateralised, securities settlement systems in accession countries will, even before joining EMU, have to be compliant with the standards when their central banks connect to TARGET. SKD was evaluated as fully compliant in most respects. From the technical perspective, the system is highly secure, uses electronic authentication of participants and has the option of digital signature and encryption of transmitted data.

## 5.2 LEGISLATIVE DEVELOPMENTS

Over the past two years considerable progress has been made in enhancing the legislative framework in the financial infrastructure area. The fruits of the labours to harmonise the Czech payment legislation with EU law include Act No. 124/2002 Coll., on Transfers of Funds, Electronic Payment Instruments and Payment Systems (the Payment System Act), which took effect on 1 January 2003, and Act No. 256/2004 Coll., on Capital Market Undertakings, effective

CHART V.3

Volume and number of transactions processed in SKD



Source: CNB

TABLE V.2

SKD short-term bond system

Period	Total value of transactions (CZK billions)	Total number of transactions	Total value of securities issued (CZK billions)	Total volume of intraday credit (CZK billions)
2002	32 418	16 615	2 132	
2003	39 040	17 029	1 850	2 493
2004 Q1	10 378	4 221	815	314

Source: CNB

from 1 May 2004. By the adoption of these laws and CNB decrees<sup>36</sup> on the execution of payments, standard EU rules have been implemented into the Czech legal order and the responsibilities and procedures of individual system participants have been defined more precisely.

The Payment System Act implements the following directives into Czech law: Directive 97/5/EC of the European Parliament and of the Council of 27 January 1997 on cross-border credit transfers, Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems, and Directive 2000/46/EC covering basic aspects of electronic money and electronic payments. The Act lays down conditions for the establishment of other payment systems in the Czech Republic, which would be licensed by the Czech National Bank (to date no private entity has taken advantage of this option).

At the EU's recommendation, the CNB issued a decree concerning electronic money instruments following the adoption of the Payment System Act.<sup>37</sup> This decree lays down a number of internationally accepted consumer protection standards.

Particular attention was devoted to out-of-court settlement of disputes relating to payments and payment services. Act No. 229/2002 Coll., on the Financial Arbiter, which took effect on 1 January 2003, implemented the requirements of Directive 97/5/EC into the Czech legal order. The Financial Arbiter, who is elected by the lower house of the Czech parliament, is required to be an independent person with considerable experience and an excellent reputation in the payment system field. The Arbiter's office receives financial support from the Czech National Bank.

The Capital Market Undertakings Act introduced more measures to strengthen SSS (securities settlement system) risk management. It implements into the Czech legal order the principle of irrevocability of SSS orders and also provides for the existence of a central depository responsible for settling securities transactions (this central depository has yet to be established; the Prague Securities Centre currently maintains the securities register). The Czech Ministry of Finance is working with the Czech Securities Commission and the Prague Stock Exchange to establish this central depository.

#### Box

##### The Capital Market Undertakings Act

Act No. 256/2004 Coll., on Capital Market Undertakings, which took effect on 1 May 2004, can be regarded as an important step towards further bolstering the stability of the financial infrastructure.

The Act newly regulates the securities settlement system, as well as the over-the-counter market organiser, the register of securities and the central depository, which in the future will replace the Prague Securities Centre and will settle transactions in investment instruments.

<sup>36</sup> Decree No. 548/2002 Coll., stipulating the terms and conditions for the principles of settlement in payment systems and the essential elements of an application for a licence to operate a payment system. Decree No. 62/2004 Coll., stipulating the manner of execution of payments between banks and settlement on accounts at banks, and the technical procedures to be used by banks for corrective settlement.

<sup>37</sup> Decree No. 547/2002 Coll., stipulating the essential elements of an application for prior consent to issue electronic money instruments.

Two areas covered by the Act are particularly important as regards assessing the stability of the financial infrastructure – settlement finality and the establishment of the central depository.

#### *Settlement finality*

The Act fully implements Directive 98/26/EC into the Czech legal order (Directive of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems). The Directive lays down rules for the safety and soundness of payment and securities settlement systems, especially in the event of the bankruptcy of a system participant.

The key provisions in this regard are Article 82(3) and Article 86 of the Act, which define the term “settlement order” and provide for the principle of finality (irrevocability) of a settlement order. This principle may not be limited even in the event of the bankruptcy of an SSS participant. Likewise, an adjudication of bankruptcy on an SSS participant’s assets is not permitted to have any effect on the use of the assets provided by that participant to another participant of that system connected with the collateralisation of his liabilities arising from transactions in investment instruments, or on collateral security provided to the Czech National Bank, the central banks of EU Member States or the European Central Bank.

The Act provides that the securities settlement system operated by the CNB under a special legal rule, namely Article 31(2) of Act No. 6/1993 Coll., on the Czech National Bank, (the SKD) is also a securities settlement system within the meaning of Directive 98/26/EC, since irrevocability of settlement orders is guaranteed in this settlement system too.

Also linked to the provisions of the Capital Market Undertakings Act is an amendment to the Bankruptcy and Composition Act, which, with effect from 1 May 2004, requires courts to inform the Czech Securities Commission of adjudications of bankruptcy on SSS participants.

#### *Central depository*

Under the Securities Act (Act No. 591/1992 Coll., as amended) the Prague Securities Centre currently maintains a statutory register of dematerialised and immobilised securities pursuant to the transitional provisions of the Capital Market Undertakings Act (Article 202).

The Capital Market Undertakings Act newly provides for a central depository, which is supposed to take over the running of the register from the Securities Centre. Under the proposed arrangement, the central depository differs from the Securities Centre in two respects:

- the central depository has a considerably wider scope of activities, as, in addition to the register currently maintained by the Securities Centre, it may keep a register of collective bonds or collective certificated securities (in a separate register), it will settle securities transactions and it may also keep a register of investment instruments registered in a “separate register of investment instruments” (see Article 100(2) and Article 93(1)). The central depository may also carry on other activities set forth in the Capital Market Undertakings Act,
- customer access to the central depository is to be narrowed. The central depository is based on the membership principle, as is the norm with central depositories in other countries. Owners of securities will not communicate with the central depository directly, as has been the case to date with the Securities Centre, but via members of the central depository.

The Act stipulates that a separate register of investment instruments shall also be a register of securities maintained by the Czech National Bank under a separate legal regulation governing the activities of the CNB (i.e. under Article 31(2) of Act No. 6/1993 Coll., on the Czech National Bank).

The establishment of a central depository along the lines of those in countries with well-developed capital markets is an important step in the transformation of the Czech capital market. It is clear that the securities register maintained by the Securities Centre forms the foundation on which the central depository will be created.