7. CURRENCY AND BALANCE OF PAYMENTS

The data presented in this chapter were taken from the Czech National Bank. All tables where the titles of reports are given are exhaustive investigations. Otherwise, qualified estimates and calculations are used.

Notes on tables

*Table **7**-1.* ***Monetary survey***

Monetary survey is a concise balance sheet of monetary financial institutions (MFIs) providing the users with basic overview of the MFIs' sector position vis-á-vis other resident and non-resident sectors.

The data originate from the money and banking statistics statements supplemented by CNB's calculations while deriving the consolidated balance sheet of the MFIs and compiling the monetary aggregates and counterparts. The methodology is at large harmonized with international standards (ESA95, IMF Monetary and Financial Statistics Manual, Regulations and Guidelines of the ECB, etc.).

As of January 2004 the whole MFI sector is covered by the data, i.e. in addition to CNB, banks and branches of foreign banks operating in CR also the money market funds and credit unions are covered. MMF and credit unions were not reporting institutions, they were classified as part of the other financial intermediaries sector and they were considered to be clients of the banks prior to 2004. Grossing-up procedure is applied for the credit unions whose share on the total aggregated balance sheet of MFIs is negligible.

Since January 2002 is the Monetary Survey compiled from harmonized monetary statistics data. The fundamental statistical principals, definitions of the sectors, classification of the instruments, method of growth rates calculation, etc. are harmonized with European standards.

Break-down of the items in the Monetary Survey:

Net foreign assets *– balance of financial claims and liabilities of the MFI sector vis-á-vis nonresidents*

Net domestic assets *– balance of financial claims and less liquid liabilities of the MFI sector vis-á-vis other resident sectors. Corresponds to the difference between liquid liabilities and net foreign assets. It consists of domestic credit and other net items.*

> ***Domestic credit*** *– represents the sources issued by the MFIs into the economy. It comprises net credit to government (including debt securities) and loans to other clients (excluding debt securities).*
>
> ***Other items net*** *– balance of all other assets and liabilities of the MFIs not included elsewhere. Capital and reserves, securities held and issued and other items are parts of this item.*

__Money aggregate M1 (money)__ – the narrowest monetary aggregate, the sum of highly liquid liabilities of the MFI sector vis-á-vis resident clients. It is defined as the sum of currency in circulation (i.e. money in circulation excluding cash in the tills of MFIs) and overnight deposits placed by clients with the MFIs (i.e. non-term and term deposits up to 1 day maturity from residents other than MFIs and the government).

__Money aggregate M2 (money supply)__ – broader monetary aggregate. It consists of the highly liquid liabilities of the MFIs comprised in M1 and other liquid financial liabilities of MFIs vis-á-vis resident clients.

__Quasi-money__ – the difference between money aggregates M2 and M1. Into this item all the other deposits with maturity over 1 day, i.e. deposits with agreed maturity, redeemable at notice, repos, placed by resident clients with the institutions of the MFI sector are classified.

Break-down of the sectors in the Monetary Survey (based on ESA95 classification of institutional sectors and subsectors):

__Monetary financial institutions (MFI)__ – comprises CNB*, i.e. S.121 central bank, and* OMFIs*, i.e. S.122 other monetary financial institutions, meaning other banks, money market funds and credit unions.*

__Government__ – S.13 – consists of the central government, i.e. S.1311 central government, and other government, i.e. S.1313 local government and S.1314 social security funds

__Businesses__ – comprises sector S.11 non-financial corporations and other financial institutions except MFIs, i.e. S.123 other financial intermediaries, S.124 financial auxiliaries and S.125 insurance corporations and pension funds.

__Households__ – consists of S.14 households and S.15 non-profit institutions serving households

__Nonresidents__ – S.2

Calculation of growth rates

The growth rate for the reference period is calculated from the volumes of monthly financial transactions and the outstanding amounts at the beginning of each month. Monthly transactions are calculated from differences in outstanding amounts adjusted for reclassifications, other revaluations, exchange rate variations and other changes which do not arise from transactions. This data thus reflects only those changes that arise from accepting financial assets or providing financial liabilities. Reclassifications and other non-transaction corrections are introduced into the transaction statistics to preserve the comparability of the gradual monitoring results, thereby enabling calculation of the indices of expected outstanding balances of the monitored variables and determination of their growth rates.

Method of calculation

1. The month-on-month percentage change a_t^M for month t is calculated as:

$$a_t^M = \left(F_t^M / L_{t-1} \right) \times 100$$

(a)
2. The annual growth rate for month t, i.e. the change for the last 12 months ending with month t, is calculated as the product of the twelve coefficients for each previous month. The calculation of the annual growth rate from the month-on-month growth rates thus enables transaction changes and non-transaction effects in the individual months to be taken into account.

(b)
$$a_t = \left[\prod_{i=0}^{11} \left(1 + F_{t-i}^{M} \big/ L_{t-1-i} \right) - 1 \right] \times 100$$

where

F_t^M *- transactions in month t*

$F_t^M = (L_t - L_{t-1}) - C_t^M - E_t^M - V_t^M$

and

L_t *- outstanding amount at the end of month t*

C_t^M *- reclassifications in month t*

E_t^M *- exchange rate variations in month t*

V_t^M *- valuation changes in month t*

Growth rates for other reference periods are derived from formula (b).

Tables ***7****-2.* ***Monetary base***

The monetary base is compiled using data taken from the CNB balance sheet for analytical purposes.

The monetary base (reserve money) includes currency and reserves held by commercial banks on accounts with the central bank. These items together constitute the use of the monetary base. The monetary base expresses the central bank's relations with other sectors of the economy. The counter-items of the monetary base are therefore the external sector, the government sector, the banking sector and the private sector. These factors affecting the monetary base level are referred to as the sources of the monetary base.

The external sector *represents the balance of short-term and long-term assets and liabilities of the central bank in relation to non-residents in the domestic currency and in foreign currencies. This item also includes the foreign exchange position in relation to residents (domestic banks).*

Government sector *expresses the difference between the assets and liabilities of the central bank towards the government sector.*

Claims on non bank entities *represent the claims of the central bank on different non-bank entities. They include banks without license,* Česká konsolidační agentura, Česká finanční *and other companies.*

Other net assets *include various items, for example the central bank's own resources, tangible and intangible property, claims on commercial banks by virtue of drawing the currency in circulation, other deposits of commercial banks with the central bank, other non-government deposits and non-government securities and participation,* *etc.*

***Volume of sterilisation** expresses the volume of CNB bills in the holding of commercial banks, non-bank entities and Ministry of Finance.*

***Stand-by facilities** include lending and deposit facilities with the O/N maturity, which enable to manage daily reserve position of banks.*

- *Lombard repo (lending facility):a repo operation that serves to give liquidity to commercial banks. On granting the credit, 100% cover by securities, as a rule by Treasury Bills and CNB bills, is applied. Interest on the credit is calculated at the Lombard rate. The minimum volume is not stipulated.*
- *O/N deposit (deposit facility): commercial banks have a possibility to deposit their free funds with the central bank on condition. The deposit involved is not secured, interest on it is calculated at the discount rate. The stipulated minimum volume is CZK 100 million.*

***Other operations** include other operations that the central bank uses in relations to the commercial banks.*

***Short-term liquidity credit** represents the short-term refinancing credit, which was used in the past. This credit is not used presently.*

***Currency** represents the liability of the central bank by virtue of the issued banknotes and coins that are held by banks and the non-bank public.*

***Reserves of banks** include required minimum reserves and excess reserves in the accounts of the central bank:*

- *The required minimum reserves are the funds which banks are obliged to maintain in their accounts maintained with the central bank. The prescribed volume amounts to 2 % primary liabilities of the banks with maturity up to 2 years in Czech and foreign currencies. The required minimum reserves are maintained in one-month cycles. The interest on these reserves is calculated at the valid repo rate.*
- *The excess reserves represent the difference between the prescribed and the real volume of the required minimum reserves.*

*Tables **7**-3. and **7**-5.* ***Client credits in CZK granted by banking institutions: by sector and branch, by purpose***

The data are taken from Report VST (CNB) 1-12 *Monthly statement of loans and receivables on clients* and VST (CNB) 2-12 *Monthly statement of loans and receivables on the Authorities of the Republic and on Local Authorities until 2001, starting from 2002 from Reports* VST (CNB) 1-12 *Monthly statement of loans and receivables on clients . Organisations are classified by industry according to the „Branch Classification of Economic Activities“ and by sector according to ESA 95.*

*Tables **7**-4. and **7**-6.* ***Client credits in foreign currency granted by banking institutions: by sector and branch, by purpose***

The data are taken from Report VST (CNB) 1-12 *Monthly statement of loans and receivables on clients* and VST (CNB) 2-12 *Monthly statement of loans and receivables* *on the Authorities of the Republic and on Local Authorities until 2001, starting from 2002 from Reports* VST (CNB) 1-12 *Monthly statement of loans and receivables on clients . Organisations are classified by industry according to the „Branch Classification of Economic Activities and by sector according to ESA 95.*

*Tables **7**-7. and **7**-8.* ***Client deposits in CZK and foreign currency accepted by banking institutions: by sector and branch***

The data were taken from Report V (CNB) 5-12 *Monthly statement of clients' deposits and loans until 2000, starting from 2001 from Reports* V (CNB) 51-12 *Monthly statement of clients' deposits and loans by sector and* V (CNB) 52-12 *Monthly statement of clients' deposits and loans by industry and starting from 2002 from Reports* VST (CNB) 11-12 *Monthly statement of clients' deposits and loans*. *Organisations are classified by industry according to the Branch Classification of Economic Activities and by sector according to ESA 95.*

*Tables **7**-9. and **7**-10.* ***Client deposits in CZK and foreign currency accepted by banking institutions: by duration***

The data were taken from Report V (CNB) 5-12 *Monthly statement of clients' deposits and loans until 2000, starting from 2001 from Reports* V (CNB) 51-12 *Monthly statement of clients' deposits and loans by sector and* V (CNB) 52-12 *Monthly statement of clients' deposits and loans by industry and starting from 2002 from Reports* VST (CNB) 11-12 *Monthly statement of clients' deposits and loans*. *Short-term deposits include deposits of up to one year inclusive, medium-term deposits from one to four years inclusive, and long-term deposits longer than four years.*

*Tables **7**-11. and **7**-12.* ***Average interest rates on CZK client credits and deposits***

Average rates applied by banks on CZK- denominated deposits from and loans to clients. The rates are calculated as weighted averages where the weights are the volumes in respective deposits and loans categories.

The methodology has been harmonized with the requirements of the Regulation ECB/2001/18 since 2004. Henceforth, the interest rates covered are not the agreed nominal rates but the agreed annualized rates (compound interest).

The amounts of trades are defined as outstanding balances accepted/granted by the bank at the time of reporting broken down by original agreed maturity. Statistics relating new business have been launched. New business includes all new agreements between bank and client in the reference period broken down by original interest rate fixation period i.e. period at the start of the contract during which the value of the interest rate cannot change.

New business is equal to the amounts in the following types of categories: overnight deposits, deposits with agreed maturity and overdrafts.

The source of the data are the bank statements of so called interest rate statistics submitted to the Czech National Bank.

Table ***7****-13.* ***Prague interbank offered rates (years averages)***

PRIBOR *- (Prague Interbank Offered Rates) are reference interest rates on the interbank deposit market calculated on the basis of quotations of selected banks (hereinafter „reference banks“). The interest rates are fixed by the CNB daily at 11:00 a.m. Quotation means publication of an orientation price at which banks are willing to sell deposits in a standard volume to a standard counterpart.*

The CNB defines the maturities for which PRIBOR rates are set, the algorithm for their calculation, the reference bank structure, the standard counterparts, the standard volumes and the method of publishing quotations.

PRIBOR rates are set for the following maturities: overnight, 1 and 2 weeks, and 1, 2, 3, 6, 9 and 12 months and are calculated from the reference banks' quotations on the interbank deposit market in the following manner:

- *if more than 5 reference banks quote an interest rate for a certain maturity, the highest quotation (or one of the highest quotations) and the lowest quotation (or one of the lowest quotations) are then eliminated and the PRIBOR is calculated from the remaining quotations as the arithmetic mean rounded to two decimal places;*
- *if 4 or 5 reference banks quote an interest rate for a certain maturity, the PRIBOR is calculated from all quotations as an arithmetic mean rounded to two decimal places;*
- *if less than 4 reference banks quote an interest rate for a certain maturity, the PRIBOR is not set.*

PRIBOR rates are published daily by the CNB in Hospodářské noviny *and through the Reuters, Telerate and Bloomberg agencies. The number and structure of the reference banks are given in the notes appended to each table of historical PRIBOR rates.*

Table ***7****-14.* ***Repo rate, discount rate, Lombard rate***

The main monetary policy instrument takes the form of ***repo*** *tenders. The CNB accepts surplus liquidity from banks and in return transfers eligible securities to them as collateral. The two parties agree to reverse the transaction at a future point in time, when the CNB as borrower repays the principal of the loan plus interest and the creditor bank returns the collateral to the CNB. The basic duration of these operations is 14 days, although repos with shorter maturities are executed from time to time depending on the forecasts of banking sector liquidity. Owing to the systemic liquidity surplus in the Czech banking sector, repo tenders are currently used exclusively for absorbing liquidity.*

The CNB conducts variable rate tenders, which means that the declared repo rate serves as the maximum limit rate at which banks' bids can be satisfied in the tender. The bids are ranked using the American auction procedure, i.e. those with the lowest interest rate are satisfied as having priority and those with successively higher rates are accepted until the total predicted liquidity surplus for the day is exhausted. If the volume ordered by the banks exceeds the predicted surplus, the CNB either completely refuses the bids at the highest rate or reduces them pro rata. Repo tenders are usually announced every business day at around 9:30 a.m. Banks may submit their *orders - i.e. the amounts of money and the interest rates at which they want to enter into transactions with the CNB - within a prescribed time. The minimum acceptable volume is CZK 300 million. Bids exceeding the minimum must be expressed as multiples of CZK 100 million.*

The ***discount rate*** *is a basic CNB rate. Up to 30 September 1997, the CNB provided acceptance credits to banks at this rate. Since 1998, when these credits were abolished, the discount rate has been used for deposit facilities. These are non-collateralised overnight deposits with the CNB that any Czech bank may place before the end of the business day. The minimum amount is CZK 300 million.*

The ***Lombard rate*** *is the rate at which the CNB grants Lombard credit. A Lombard credit is granted against a pledge of selected securities included in the „List of securities accepted by the CNB as collateral for Lombard credit".*

Table ***7****-15.* ***Banking sector network***

The data are taken from Report E (CNB) 5-04*, „Statement on the organisational structure and qualifying holdings of the bank". Financial institutions are divided into groups according to the ratio of paid-up domestic and foreign capital.*

Table ***7****-16.* ***Balance of payments***

The balance of payments records in a systematic manner economic transactions with other countries (i.e. between residents and non-residents) during a certain period. The basic structure of the balance of payments, using the IMF Balance of Payments Manual (5th edition, 1993), consists of the current, capital and financial accounts and the change in reserves. The balance of payments has been published in this structure since 1997; previous years have been adjusted to fit this structure.

The ***current account*** *records flows of goods (exports and imports) and services (credits and debits in transport services, travel and other commercial and non-commercial services), income on capital, investment and labour (interest, dividends, reinvested earnings, wages) and compensating items for real financial resources granted or obtained without counter-value (current transfers such as gifts, alimony, pension, foreign aid, contributions, etc.).*

The ***capital account*** *comprises capital transfers relating to migration, debt forgiveness and ownership rights to fixed assets (investment grants), and transfers of non-produced non-financial tangible assets (e.g. purchase or sale of land by embassies) and intangible assets (patents, licences, copyrights, etc.).*

The ***financial account*** *includes transactions connected with the creation, dissolution and change of ownership of financial assets and liabilities of the government, banks, the corporate sector and other entities vis-á-vis other countries. It provides information on financial (capital) flows, broken down into direct investment (equity and other capital), portfolio investment (equity and debt securities), financial derivatives (bank operations) and other investment broken down by time (long-term and short-term) and by main sector (CNB, commercial banks, government and other sectors), which includes supplier and bank credits, loans, deposits, subscriptions to international non-monetary organisations, etc.*

International reserves *constitute foreign assets held by the central bank which* *may be easily mobilised as a source of direct financing of a payments imbalance and of indirect regulation of the size of such an imbalance through interventions on the foreign exchange market.*

Errors and omissions *are a correction item between the resulting balance on the current, capital and financial accounts on the one hand and the change in reserves on the other; they represent the balance of unidentified flows in the current, capital and financial accounts.*

The sources used for compiling the balance of payments include the external trade statistics (CZSO), reporting data from banks and non-banks, other supplementary information provided by the banking, corporate and service sectors, and the CNB's own calculations based on data supplied by the central authorities and other institutions.

Table ***7****-17. and* ***7****-18.* ***Foreign direct investment in the Czech Republic (territorial and branch breakdown)***

The data on foreign direct investment are based on reports from non-banks in compliance with the reporting obligation pursuant to the Foreign Exchange Act. Other sources of information include the reports from banks, Ministry of Finance reports on foreign payments, information from the stock exchange, the commercial bulletin and the press.

The reported data show the inflow of foreign direct investment in the given year in equity capital, including reinvested earnings, and credit relations with direct investors.

In compliance with the IMF definition, a foreign direct investment is a share taken by a foreign investor in a Czech enterprise representing 10% or more of the equity capital or voting rights, conditional on the investor having a lasting interest in the enterprise and participation in its management.

Table ***7****-19.* ***International investment position***

The international investment position provides a survey of the overall composition of the financial assets and liabilities (convertible and non-convertible currencies) of the Government, the banking sector (the CNB and commercial banks), the corporate sector and other non-banks vis-á-vis foreign countries (non-residents) as of a certain date.

By structure, the investment position corresponds to the financial account of the balance of payments; for assets and liabilities, it is broken down into direct investment (equity and other capital), portfolio investment (equity and debt securities), financial derivatives and other long-term and short-term investment by basic sector. The CNB's reserves are listed separately on the asset side. Reserve gold is valued up to 31 December 1999 at USD 42.22 per Troy ounce (as is gold in the possession of commercial banks) and from 2000 onwards at market price.

The difference between total assets and liabilities (the net investment position) represents the net relationship vis-á-vis foreign countries (creditor or debtor position). In addition to transactions undertaken in previous periods and recorded in the balance of payments, the stock of assets and liabilities recorded as of a certain date in the investment position reflects exchange-rate and other (e.g. price) influences.

The sources used for compiling the investment position include bank and non-bank *reporting data and other supplementary information from the banking and corporate sectors and from the central authorities.*

*Table **7**-20.* ***External debt of the Czech Republic***

External debt constitutes the stock of financial liabilities (with fix maturity date) of the Government, the banking sector (the CNB and commercial banks), the corporate sector and other non-banks vis-á-vis foreign countries (non-residents); i.e. the value of amounts drawn (by contractual agreement) and as of a certain date unrepaid (owed). It does not include equity investment, i.e. direct investments (equity capital) and portfolio investments (equity securities).

The sources used for compiling the external debt figures include bank and non-bank reporting data and other supplementary information from the banking and corporate sectors and from the central authorities.

*Table **7**-21.* ***Foreign exchange reserves***

International reserves consist of short-term (liquid) foreign assets held by the Czech National Bank and denominated in convertible currencies (deposits with foreign banks, credits extended, the stock of securities, foreign exchange and gold, special drawing rights and reserve position in the IMF) that may be used to finance and regulate a balance of payments imbalance.

The source used for calculating the reserves is the CNB report on the external position in foreign currency and in CZK (monthly periodicity).

*Table **7**-22.* ***Nominal and real CZK effective exchange rate index***

The nominal effective exchange rate of the koruna (NEER) expressed by an index shows the appreciation (index above 100) or depreciation (index below 100) of a national currency towards the basket of selected currencies for a given period against the base period (year 2000). For calculation the most widespread method was used of weighted geometric average of nominal exchange rates, considering the weights of total exports and imports of the Czech Republic's largest trading partners. Twenty-three countries accounting for approximately 90% of the Czech Republic's foreign trade were selected.

Apart from the eurozone countries represented by one weight and the EUR exchange rate these countries are Slovakia, Russia, Poland, United Kingdom, USA, Japan, Hungary, Switzerland, Sweden, Denmark and China.

The weights were calculated in two alternatives:

Alternative I - used by International Monetary Fund - comprises the entire trade turnover of the Czech Republic;

Alternative II - used by the European Central Bank - comprises only four commodity groups (SITC groups 5-8) of the Czech Republic's foreign trade.

Data source: CNB exchange rate chart, monthly statistics of the IMF, CZSO publications on foreign trade in 2000.

The real effective exchange rate of the koruna (REER) is one of the indicators of the international competitiveness of a country and is generally understood to mean *various levels of relative prices or costs expressed in a certain currency. In this respect, REER values above 100 signify a downward trend in the country's competitiveness relative to the base period, whereas an REER below 100 means rising competitiveness of the country relative to the base period.*

Among the various methods used to compute the REER, the weighted geometric average of the ratio of the nominal exchange rate index to the price differential is the most widely used, with the weights given by the shares of the nation's largest trading partners in trade turnover.

The real effective exchange rate of the koruna comprises the consumer prices and industrial producer prices of 23 countries. The eurozone countries are identified as a single area for the calculations. The structure of the countries and their weights are identical to those used to calculate the nominal effective exchange rate of the koruna. In the first alternative, the weights relate to the overall trade turnover, whereas in the second alternative the weights relate only to the turnover in SITC groups 5-8.

Data sources: Czech price indices from the CZSO, foreign price indices of selected countries from IMF statistics, nominal exchange rate indices from CNB calculations.

Formula for calculating the real effective exchange rate:

$$\mathrm{REER} = 100\prod_{i=1}^{n}\left(\frac{S_{it}^{*}}{P_{it}^{*}}\right)^{w_i^{*}}$$

where S_i^* - *basic index for the domestic currency vs the currency of the i-th trading partner in period t*

P_i^* - *ratio of the basic price index of the i-th trading partner in period t to the Czech basic price index in period t; the base year is the same as the base year used for calculating* S_i^*

w_i^* - *normalised weights of the currency of the i-th trading partner*

Table ***7****-23.* ***Exchange rates of major currencies***

The average annual exchange rates of convertible currencies against the koruna are calculated from the daily quoted values given in the exchange rate chart issued by the CNB

All the data for 2005 are comparable with those for previous years. More detailed surveys and current data on monetary statistics and balance of payments statistics can be found on the CNB website at:

- www.cnb.cz