

Introductory notes

1.1 This book contains a definitive compilation of national accounts for 2000, a semi-definitive compilation for 2001 and a preliminary annual data for 2002. The data for the three years have been adjusted to reflect effects of a major revision of GDP and components thereof. The major revision for the previous years and the associated deflation are supposed to be completed as late as April 2004. This is why this book does not present any rather long time series. All the data given here are in terms of current prices, and they are also available on floppy disk, CD-ROM and CZSO website.

Contents of the book

1.2 The book consists of six parts – main economic aggregates, integrated economic accounts, institutional sectors accounts, and of production account, generation of income account, non-financial assets balances, and supply and use tables for 2000, which are broken down by industry.

1.3 Tables M (macroeconomic tables) provide a survey of main macroeconomic aggregates for total economy and non-residents. For the most part they are extracts of the most significant items of accounts of institutional sectors and industries. They also give a framework overview of sector, kind-of-activity and type-of-goods structure of these aggregates. Tables on the number of workers (M 20a) and on the newly created value added per worker (M 20b), broken down by aggregated industry, appear in this book for the first time.

1.4 Tables A 1 to A 15 (integrated economic accounts) record a full sequence of accounts (current and accumulation accounts and balance sheets) for national economy in total, all institutional sectors and non-residents. They balance all flows and all assets and liabilities, showing also macroeconomic aggregates in total and by sector directly.

1.5 Tables A 16 to A 60 (subsector accounts) give a full sequence of accounts for institutional sectors of which the accounts of non-financial corporations, financial institutions and general government are broken further into subsectors. The structure of this presentation is the same as the one of integrated economic accounts.

1.6 Tables B 1 to B 11 show a kind-of-activity structure of all items in production and generation of income accounts for total national economy or given sectors/subsectors, while Tables B 12 to B 16 reveal a combined (sub)sector – kind-of-activity structure of the individual items of the two accounts.

1.7 Tables BF, BN and BZ show a kind-of-activity structure of the stocks and changes in the stocks of non-financial assets in the form of integrated balances or of a rather detailed breakdown of some acquisition of non-financial assets account items.

1.8 Tables DU (supply and use tables) include a type-of-goods and kind-of-activity structure of sources of goods and services and uses of the sources. They give a detailed survey of the process of production and transactions in commodities within the whole economy. They especially show flows of goods and services both imported to and produced in the national economy, commodity structure of inputs to and outputs from different kinds of activities, and a commodity structure of individual final use components.

1.9 All the data broken down by kind of activity and commodity, which are listed in the supply and use tables, are aggregated. They are available to the user in the book form and on floppy disk, the latter also containing supply and use tables broken down by two-digit CZ-NACE and CZ-CPA in addition to the contents of the book form.

Brief comments on the compilation of national accounts

The major revision for 2000

1.10 The Czech national accounts are compiled in accordance to the international standard "European System of National Accounts (ESA 1995)". Own standard procedures and methods have been developed in harmony with this methodology and with reference to complementary regulations of EU authorities to take over data from statistical surveys and administrative sources, adjust these data to comply with the methodology of national accounts, and make estimates to ensure exhaustiveness of the whole economy. However, to harmonize the contents of economic indicators within the EU is a permanent task of all the Member States, as the national accounts data are used to decide on paying about 90% contributions to the EU budget and evaluate the fulfilment of the Maastricht criteria.

1.11 The process of harmonizing the issue of national accounts with EU legislation, which took the form of projects and consultation over the past seven years, produced results that were partially taken into account, including GDP calculations, in the previous compilations. However, the most significant changes in terms of volume were reflected only when the entire time series was revised. This was the approach to solve the dilemma of ensuring international comparability on the one hand without disturbing time comparability on the other hand. The impact of the adjustments already made were eliminated from the growth rate conversions as the time went by, but the time series of all the macroeconomic aggregates at current prices were gradually disturbed so that their application by the user was most limited if he/she was not familiar with methodological changes.

1.12 The major revision included the following in particular: (1) moving to the expenditure approach to calculate imputed rental, (2) applying the time shift approach to eliminate taxes that will never be paid, (3) estimating the output of units that avoid registering on purpose, (4) making more accurate estimates of intentional data distortion, (5) making more accurate estimates of wages in kind, (6) estimating tips, (7) making estimates for units not included in the business register due to late updates, (8) making more accurate the calculation of insurance services, (9) estimating the stock and consumption of fixed capital at replacement costs, (10) making more accurate the estimate of gross capital formation (for non-tangible fixed assets, valuables, and destructive military equipment), (11) making more accurate holding gain/loss, and (12) making more accurate consumption by households (upper decil, commodity flow balances, application of administrative sources).

1.13 The most significant adjustments in terms of volume are the estimate for units not covered in the business register due to late updates and the estimate of stocks and consumption of fixed capital at replacement costs.

Estimate for units not covered in the BR (additional update)

1.14 Updating business registers timely is a most important problem of all national statistics in general. The standard procedure in the EU countries includes a permanent access of statisticians to administrative databases listing payers of income tax, VAT and social and health insurance contributions. This principle did not apply in the Czech Republic and is now being introduced with rather large legislative problems. The autumn of 2002 saw for the first time an update of the business register for the years 2000 and 2001 with data from the register of income tax payers. Compared to the original estimates by the CZSO, really active units increased in number by 82 thousands, with their kind-of-activity and size structures changing significantly at the same time.

1.15 Owing to the fact that the business register is used as the sample frame of sample surveys and for grossing up to the universe, new estimates were run for natural persons and small legal persons, and these resulted in a decrease of value added for the former and an increase in value added for the latter. Output and intermediate consumption are 1.7% and 1.6% up on the original estimates for 2000, respectively, raising the hitherto-published GDP by 1.7%.

Estimate of imputed rent by the expenditure approach

1.16 Due to the low percentage of dwellings let for real market rental, the estimate of imputed rent made by means of the stratification method was replaced by the estimate obtained by the expenditure approach that is recommended for countries whose dwelling markets are not very developed. The expenditure approach also ensures better comparability with countries with developed dwelling markets.

1.17 Imputed output obtained by the expenditure approach is a sum of intermediate consumption, depreciation, real estate tax, and net operating surplus. The net operating surplus is the trickiest item to estimate by this approach. According to recommendations of a project mounted by Eurostat, all the candidate countries should calculate the net operating surplus as 2.5% of the net replacement value of dwellings and of the market value of build-up land.

1.18 The current gross replacement value of residential houses was estimated by quantitative method. The habitable floor area of the houses as established by the population and housing census and broken down by quality and type of dwellings was multiplied by current investment costs for new construction of houses of respective quality. This produced the gross replacement value of residential houses. The depreciation was then derived from this value and the average life of the houses – 86 years (calculated as a weighted arithmetic mean of numbers and expert-guessed lives of individual qualitative categories of the houses). The estimate of net replacement value is then based on the gross replacement value, age structure of the dwelling stock, and average life.

1.19 The market value of land built up with residential houses was estimated using data from the Real Estate Register of the CR and the Ministry of Finance of the CR, and from prices and coefficients listed in the valuation decree.

1.20 The application of the expenditure approach to the calculation of imputed rent raised the total value of dwelling services by 20% and the previously released GDP by 1.9%, making more real the comparison of the level of dwelling services in the CR with the EU Member State.

Estimate of fixed capital consumption for roads, bridges and tunnels

1.21 The revised international standards SNA 1993 and ESA 1995 classify the use of roads (highways, national roads, municipal roads), bridges and tunnels to the production sphere. Owners of these assets provide non-market services. By convention these services are measured by depreciation and other current costs spent to maintain the serviceability of these assets. Hence, individual countries gradually include these assets in the balance sheets of national accounts and calculate the depreciation to add it to GDP sources and uses.

1.22 The gross replacement value was estimated, as in the case of the dwelling stock, by quantitative method. Costs that would be spent on new construction of these assets were applied to the length/area of these roads, bridges and tunnels broken down by quality. Separate estimates were made for lives of the road body, carriageway and covering layer. Average life was then estimated (at 50 years) for all categories of roads in proportion to the

costs of constructing these three components. The estimated depreciation of these assets accounts for 2.4% of GDP.

Estimate of the consumption of other fixed capital used by general government and non-profit institutions for providing non-market services

1.23 The gross replacement value of transport equipment, machinery and intangible fixed capital was estimated by the perpetual inventory method (PIM) for individual industries of the national economy in total. The resulting values were then allocated to respective institutional sectors in proportion to the book acquisition values of these assets. Long time series of investments and lives established empirically were the initial data employed. The resulting data for the whole national economy were then verified by an alternative method based on a similar conversion of individual commodity groups according the actual state at the end of 2000.

1.24 The estimate of the gross replacement value of was based on the quantitative method further elaborated and verified by the PIM. The quantitative method relied on the Real Estate Register data as at the end of 2000, calculated cubic meters of enclosure (built-up space) of about 30 constructions, and corresponding prices of new constructions. The outputs are broken down by kind of activity and sector. The quantitative method outputs were then extended in the time series by the PIM and fixed capital consumption was calculated. Long time series of acquisitions of buildings and structures, broken down by kind of activity and partially by sector, and expert-guessed lives of individual types of the buildings and structures.

1.25 By using alternative methods based on actual ownership at the end of 2000, we managed to eliminate effects of changes in ownership between the institutional sectors and industries. The replacement value and the fixed capital consumption calculated is thus tied with the actual state of ownership at the end of 2000. Compared to acquisition costs, the replacement value of non-residential buildings and structures is 2.7 times higher, of machinery and equipment higher by 22%, and of transport equipment higher by 30%.

1.26 With regard to the impact on GDP, to quantify the influence of the valuation and life of fixed capital used by general government and non-profit institutions for providing non-market services is of importance. Here, other buildings and structures has a key role to play in the total volume of depreciation. Given the fact the calculations used longer lives than enterprise accounts usually do, the fixed capital consumption by general government and non-profit institutions 1.8 times higher than the data taken or estimated from the accounts. This fact raises GDP sources and uses by 0.7%.

1.27 While the other methodological adjustments are not significant in terms of volume, they account for 1.4% as a whole. They are important, too, as they lead to compliance with ESA 95 and other EU legislation. However, it would be a mistake to think that our national accounts will be fully compatible with EU legislation after this major revision. Their full harmonisation is a subject of control activities carried out by one of European bodies (the GDP Committee). It is a long-lasting process and not a matter of one decision or one revision.

1.28 The results or impacts of the major revision can be seen in the following two tables showing the calculation of GDP for 2000 by the production and expenditure approaches.

Table 1: GDP calculated by the production approach: 2000

Item	Semi definitive compilation	Change								Definitive compilation
		Updated register	Imputed rent	CFC of roads, local roads	CFC of other fixed assets	Other	Total			
	CZ million	CZK million	CZK million	CZK million	CZK million	CZK million	CZK million	% of item	% of GDP	CZK million
Output	5 128 267	86 144	37 713	47 597	14 048	14 446	199 948	3.9	x	5 328 215
Intermediate consumption	3 357 823	53 291	-	-	-	-23 350	29 941	0.9	x	3 387 764
Gross value added	1 770 444	32 853	37 713	47 597	14 048	37 796	170 007	9.6	8.6	1 940 451
Taxed on products	239 896	-	-	-	-	-5 733	-5 733	-2.4	-0.3	234 163
Subsidies on products	25 507	-	-	-	-	2 933	2 933	11.5	0.1	28 440
Gross domestic product	1 984 833	32 853	37 713	47 597	14 048	29 130	161 341	8.1	8.1	2 146 174

Table 2: GDP calculated by the expenditure method: 2000

Item	Semi definitive compilation	Change								Definitive compilation
		Updated register	Imputed rent	CFC of roads, local roads	CFC of other fixed assets	Other	Total			
	CZ million	CZ million	CZ million	CZ million	CZ million	CZ million	CZ million	% of item	% of GDP	CZ million
Household consumption expenditure	1 059 564	-	37 713	-	-	6 577	44 290	4.2	2.2	1 103 854
Government consumption expenditure	388 307	-	-	47 597	14 048	18 636	80 281	20.7	4.0	468 588
NPISH consumption expenditure	14 540	-	-	-	-	-1 055	-1 055	-7.3	-0.1	13 485
Gross fixed capital formation	561 519	9 960	-	-	-	16 672	26 632	4.7	1.3	588 151
Changes in inventories	26 678	3 925	-	-	-	7 401	11 326	42.5	0.6	38 004
Acquisitions less disposals of valuables	490	19	-	-	-	-152	-133	-27.1	0.0	357
Exports of goods and services	1 385 905	-	-	-	-	-	-	0.0	0.0	1 385 905
Imports of goods and services (-)	1 452 170	-	-	-	-	-	-	0.0	0.0	1 452 170
Gross domestic product	1 984 833	13 904	37 713	47 597	14 048	48 079	161 341	8.1	8.1	2 146 174

Semi-definitive compilation for 2001

1.29 The semi-definitive compilation of the national accounts for the year 2003 is comparable methodologically with the revised definitive compilation for the year 2000. It is produced in a standard way and relies on about 70 different statistical survey and administrative data sources. These data sources do not cover the economic activities as defined by international standards. Besides, the measured data do not always correspond to the methodological principles laid down on these standards.

1.30 Most of the data sources are based on enterprise accounting principles that deal with a number of phenomena differently than requested by the national accounting methodology. The data are thus adjusted to comply with this methodology. The most important adjustments include the estimates of (i) holding gains/losses for inventories, (ii) leased property acquisition, (iii) financial leasing payments, (iv) "under-limit" gross fixed capital formation,

(v) extent and classification of inward processing work, (vi) replacement costs of fixed capital consumption and stocks, and (vii) wages in kind.

1.31 Besides the adjustments carried out due to the differences between the national and enterprise accounting there is another type of methodological adjustments that are made for the reason of certain ESA 95 convention. The most significant influence on gross domestic product is exercised by the estimates of (i) imputed rent for owner-occupiers, (ii) financial intermediation services indirectly measured, (iii) insurance services, and (iv) forestry output due to natural growth of timber.

1.32 Another type of adjustments is focused on covering the national economy in the national accounts as much as possible. Maintaining the limit of production activity defined by SAN 93 calls for making a variety of estimates of activities that are not or even cannot be measured by the statistician because they are intentionally withheld by the respondent. As recommended by Eurostat, these adjustments were grouped as follows: (N1) producers deliberately not registering - underground economy, (N2) producers deliberately not registering - illegal economy, (N3) producers not required to register, (N4) legal persons not surveyed, (N5) registered entrepreneurs not surveyed, (N6) persons deliberately misreporting, and (N7) other statistical differences. The adjustments for exhaustiveness also include final adjustments whose purpose was to get balance between resources and uses.

1.33 The influence of these adjustments on the estimated GDP depends on the approach used. The GDP derived by the production approach is based on 88.3% of directly measured data; the methodological adjustments account for 6.1 and those made for exhaustiveness for 5.5% (see Table 3).

Table 3: GDP calculated by the production approach: 2001

	Surveyed			Adjustment			Undercoverage			Total
	CZ million	% of item	% of GDP	CZ million	% of item	% of GDP	CZ million	% of item	% of GDP	CZ million
Output	5 309 932	92.0	x	332 958	5.8	x	129 351	2.2	x	5 772 241
Intermediate consumption, including Adjustment for FISIM	3 468 336	94.5	x	200 016	5.5	x	644		x	3 668 996
Value added	1 841 596	87.6	79.3	132 942	6.3	5.7	128 707	6.1	5.5	2 103 245
Taxes on products, net	210 096	95.6	9.0	9 750	4.4	0.4	-	-	x	219 846
Gross domestic product	2 051 692	88.3	88.3	142 692	6.1	6.1	128 707	5.5	5.5	2 323 091

1.34 The GDP derived by the expenditure approach relies on 87.5% of data measured directly. However, large differences exist in the individual components of GDP uses (see Table 4). Methodological adjustments and exhaustiveness adjustments account for 8.8% and 3.4%.

Table 4: GDP calculated by the expenditure method: 2001

	Surveyed			Adjustment			Undercoverage			Total CZ million
	CZ million	% of item	% of GDP	CZ million	% of item	% of GDP	CZ million	% of item	% of GDP	
Household consumption expenditure	1 026 696	87.4	44.2	99 240	8.4	4.3	49 031	4.2	2.1	1 174 967
Government consumption expenditure	444 701	87.5	19.1	63 646	12.5	2.7	-	x	x	508 347
NPISH consumption expenditure	12 325	98.0	0.5	251	2.0	0.0	-	x	x	12 576
Gross fixed capital formation	586 782	91.8	25.3	26 249	4.1	1.1	26 014	4.1	1.1	639 045
Acquisitions less disposals of inventories and valuables	31 624	67.5	1.4	15 232	32.5	0.7	-	x	x	46 856
External balance of goods and services	-62 731	106.9	-2.7	-	x	x	4 031	-6.9	0.2	-58 700
Gross domestic product	2 039 397	87.8	87.8	204 618	8.8	8.8	79 076	3.4	3.4	2 323 091

Preliminary estimate of gross domestic product for 2002

1.35 The estimate of GDP made for 2002 was comparable in terms of methodology with the revised definitive compilation for the year 2000 and the semi-definitive compilation of national accounts for the year 2001.

1.36 Corrected data of quarterly estimates of business sectors and data from the accounts of general government subsectors compiled in a standard manner already were used for the estimate. Applying the new procedures we also estimated imputed rent and financial intermediation services indirectly measured. Fixed capital consumption in the sectors of general government and non-profit institutions was estimated by model calculations.

Comparability of the 1993 - 2002 time series

1.37 Work is now being done on the revision of all items of national accounts of the whole time series for the years 1993 to 1999. The results of the process of harmonisation with EU legislation in the domain of national accounting, which was implemented through projects and consultations in the past years, were partially reflected in the national accounts and involved a number of rather lesser adjustments. However, the most significant volume changes were only incorporated in the framework of the major revision of the whole time series. The impact of the adjustments made already were eliminated from the corrections of growth rates, but the time series of all macroeconomic indicators at current prices were gradually disturbed so that their usability for the user not familiar with the methodological changes is limited to a great extent.

1.38 All of the adjustments (or comparability) to the existing series can be grouped to make the following three time changes:

- a) **1993 - 1995:** data were revised to be governed by the methodologies for 1995 and 1996;
- b) **1996 - 1997:** comparability with 1995 disturbed due to the abolishment the establishment method of measurement in 1997 (the data for 1996 are in both concepts);
- c) **1998 - 1999:** comparability with 1997 disturbed due to the incorporation of a number of small adjustments or corrections, including the outputs from the first wave of Eurostat projects: making more accurate the estimates of output for own final use and of dwelling services for housing associations; using the expenditure approach to estimate output of central bank; revision of the classification of taxes and subsidies, recording of

accrual-based taxes; making more accurate the calculation of FISIM; making more accurate the estimates of fixed assets acquired on financial leasing, of financial leasing payments, and of forestry output; recording of forest fruit collection and of reconstruction of dwellings and houses of households; estimate of gross fixed capital formation including under-the-limit GFC; estimate of consumption by foreign workers.

1.39 The adjustments or corrections mentioned above were already commented on in the publications on national accounts for previous years and there is no need to repeat them here. The completion of the major revision or the methodological harmonisation of the whole 1993-2002 time series is planned for April 2004. The results will be made available to the user in a special publication to be brought out in July 2004.

Supply and use tables for 2000

1.40 In principle, supply and use tables constitute a commodity breakdown of production account and goods and services account. They are compiled to comply with the three-digit CZ-CPA (goods) and three-digit CZ-NACE (economic activity). The tables published in the book form use CZ-CPA divisions and CZ-NACE divisions, or aggregations thereof, for breakdown, while those released in the electronic form are free of the aggregations.

1.41 The supply table DU 1 records the output of individual industries (CZ-NACE economic activities) by commodity division (CZ-CPA). Provided in the table are also an import vector and total resources of individual commodity divisions (in the total column). The table is compiled at basic prices, i. e. free of taxes and subsidies on products, and trade and transport margins. The summary line corresponds to the output data recorded for the whole economy in production account.

1.42 The supply and use table DU 2 shows uses of goods and services by commodity and type of use – i.e. as intermediate consumption (in individual economic activities) and as final use components (final consumption expenditure by households, general government and non-profit institutions; gross fixed capital formation; change in inventories; and exports). The use covers both domestic and imported outputs. The table lines record the structure (way) of the use of a given commodity division, the columns show the commodity structure of intermediate consumption in economic activities (industries). All the use items are in terms of purchaser prices – i. e. prices paid by the consumer. The summary line of the intermediate consumption matrix corresponds to the intermediate consumption data recorded for the whole economy in production account. The total columns of final use correspond to the individual items of goods and services account. The table also presents data on gross value added by economic activity. The components of gross value added correspond to data for the whole economy on generation of income account.

For the sake of clarity, the use valued at purchaser prices and presented in this table is supplemented with total columns of the supply table (output at basic prices and exports). Identical valuation of supply table resources (at basic prices) and the use (at purchaser prices) is achieved with the help of the columns listing wholesale, retail and transport margins and the columns including taxes and subsidies on products.

1.43 The use of exports table DU 3 records all uses of imported output, namely for intermediate consumption and final use components valued at c. i. f. prices.

1.44 The use table DU 4 includes the use of goods and services valued at basic prices. Subtracted from the purchaser price use tables (see DU 2) are only matrices of trade and transport margins and of taxes and subsidies on products. The summary vectors are then added to the line of trade and transport services concerned. Summary lines for matrices of taxes and subsidies on products are shown separately.