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ABBREVIATIONS:

AFIP – Agency for Financial, information and intermediary services

APIF – Agency for intermediation, information and finance

B&H – Bosnia and Herzegovina

BD – Brčko Distrikt

BHAS – Agency for Statistics of Bosnia and Herzegovina

CARDS - Community Assistants for Reconstruction, Development and Stabilization

CBBH - The Central Bank of Bosnia and Herzegovina

CN – Combined Nomenclature

COICOP - Classification of Individual Consumption by Purpose

CPI – Consumer Price Index

DV – DZ– Calculation of gross value added and output for individual sector of agriculture activities for municipality

DV – POLJ– Annual calculation of output and value added for private sector of agriculture without legal entities – agriculture households for municipality

ESA 95 – European System of National Accounts

EU – European Union

EU NACE Rev 1.1 – Classification of Economic Activities in the European Community

EUROSTAT – Statistical Office of the European Communities

FB&H – Federation of Bosnia and Herzegovina

FIP - Agency for Financial, information and intermediary services

FISIM – Financial intermediation services indirectly measured

FOS – Federal Office for Statistics

GDP - Gross Domestic Product

GFCE - Government final consumption expenditure

GNDI – Gross National Disposable Income

GNI – Gross National Income

GVA - Gross Value Added

HBS – Household Budget Survey

HFCE - Household final consumption expenditure

HS – Harmonized System

IAS – International Accounting Standard

IC – intermediate Consumption

IFRS – International Financial Reporting Standard

IMF – International Monetary Fund

IPI – Industrial Production Index

IPSAS – International Public Sector Accounting Standards

ITA – Indirect Taxation Authority

NOE – Non-observed economy

NPISH – Non-profit institutions serving households

OECD – Organization for Economic cooperation and development

PIM – Perpetual Inventory Method

PPI – Producer Price Index

RS – Republika Srpska

RSIS – Institute for Statistics of Republika Srpska

SBR – Statistical business register

SITC – Standard International Trade Classification

SNA 93 – System of National Accounts

SUT – Supply – Use Tables

VAT – Value Added Tax

WCO – World Customs Organization

FOREWORD

The Description of the sources and methods that are used in the compilation of the National accounts statistics of Bosnia and Herzegovina was drafted within the framework of IPA 2007 project, funded by the European Union.

The structure and content of the document follows the "Guidelines for the preparation of the description of the sources and methods used to compile non-financial National accounts", prepared by EUROSTAT.

The Document consists of three parts:

- Part A: Annual National Accounts at current prices;
- Part B: Price and Volume Measures;
- Part C: Quarterly National Accounts.

and each part is organised into chapters.

Part A consists of the following chapters:

Chapter 1 presents the Statistical system of B&H, describing its legal framework as well as organisation and responsibility of relevant institutions in statistical system.

Chapter 2 describes the revisions policy and problems in revising the estimates of national accounts.

Chapters 3, 4 and 5 contain a detailed review of sources and methods in compilation of GDP by production, income and expenditure approach. Due to the fact that GDP by the production and the income approach are compiled by the four statistical institutions, chapter 3 is divided into parts a, b, c and d and chapter 4 into a, b and c.

Chapter 6 describes balancing procedure and validation of the estimates.

Chapter 7 gives us general description and calculation process of all economic activities that fall into the production boundary on the economic territory of B&H. So far, exhaustiveness has been estimated only for GDP by the production approach.

Chapter 8 describes sources and methods, underlying the transition from GDP to GNI.

Chapter 9 presents future plans for improvements of national accounts aggregates and further implementation of international methodologies and recommendations.

Part B consists of the following chapters:

Chapters 10, 11, 12, 13 and 14 describe main data sources and calculation procedures in compilation of the GDP by the production and by the expenditure approach at the constant prices (at the prices of the previous year).

Part C

Since B&H still does not compile quarterly national accounts, Part C outlines a future plan for introduction of the quarterly accounts.

The figures and tables in the documentation refer to 2007 for GDP by production and by income approach. For GDP by expenditure approach, figures and tables refer to benchmark year 2004.

We highly appreciate the assistance provided by EUROSTAT throughout the preparation of this document.

PART A ANNUAL NATIONAL ACCOUNTS AT CURRENT PRICES

CHAPTER 1

THE STATISTICAL SYSTEM AND THE ARCHITECTURE OF NATIONAL ACCOUNTS

1.1 Institutional framework

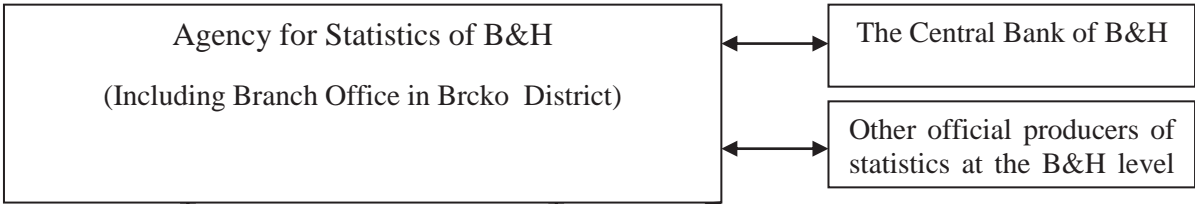
1.1.1 Statistical System of Bosnia and Herzegovina – Organisation of National Accounts

The statistical system of Bosnia and Herzegovina (B&H) encompasses Agency for Statistics of Bosnia and Herzegovina (BHAS), the Central Bank of Bosnia and Herzegovina (CBBH) and other official producers of statistics at the level of Bosnia and Herzegovina; Federal Office of Statistics of Federation of Bosnia and Herzegovina (FOS) and Institute for Statistics of Republika Srpska (RZS) at the entity level, and other official producers of statistics in Federation of Bosnia and Herzegovina and Republika Srpska. At the level of Brcko District, Brcko Branch is organised as a part of the Agency for Statistics of Bosnia and Herzegovina, and together with other producers of statistics in Brcko District, it is a part of the statistical system of FB&H.

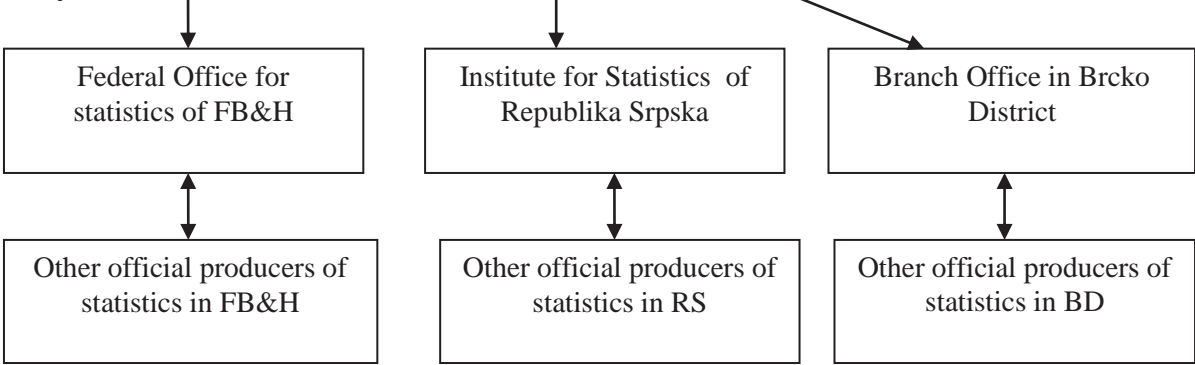
According to the provisions of the Law on Statistics of B&H, statistical institutions which directly participate in the production of statistics of Bosnia and Herzegovina are: the Agency for Statistics of Bosnia and Herzegovina, Federal Office of Statistics of Federation of Bosnia and Herzegovina, Institute for Statistics of Republika Srpska and Agency for Statistics of Bosnia and Herzegovina – Brcko Branch (organisational unit of the Agency for Statistics of Bosnia and Herzegovina since 2005).

Statistical system of Bosnia and Herzegovina

B&H level



Entity level



1.1.1.1 Agency for Statistics of B&H

Agency for Statistics of Bosnia and Herzegovina, according to the Law on Statistics of Bosnia and Herzegovina, is a state institution competent to process, disseminate and endorse statistics of Bosnia and Herzegovina, perform international representation and co-operation with organisations and other bodies and fulfil the international obligations of Bosnia and Herzegovina in the field of statistics.

The Agency for Statistics of Bosnia and Herzegovina produces and disseminates statistics of Bosnia and Herzegovina determined by the Statistical Programme of Bosnia and Herzegovina, which is prepared for four yearly rolling period with the relevant details broken down on a yearly basis. Currently in implementation is the Statistical Programme for period 2008 to 2012. The Entities have own Statistical Programme but their Programmes have to include the all activities planned in the Statistical programme of Bosnia and Herzegovina. A detailed overview of the proposed statistical activities for each budget year is elaborated in a Work Plan, following consultations with the entity statistical institutes.

In collecting and processing statistics of B&H, the entity institutes should apply the standards and practice issued by the Agency and transmits the data in accordance with the Agency's requirements. The mentioned standards and practice have to be compliant to the international practice and standards.

When it is necessary for compilation of statistics at the level of Bosnia and Herzegovina, the Agency may require the entity institutes to provide data at the level of individual statistical units, which may include confidential data according to the existing laws.

Although the Law on Statistics of B&H, and later an Agreement on the implementation of harmonised methodologies and standards in producing statistics of Bosnia and Herzegovina, signed between Ministry of Finance of B&H, entity ministries of finance, the Agency for Statistics of B&H and entity statistical institutes, lay down the role and competences of the Agency for Statistics of B&H, the provisions of the mentioned legislation have not yet been applied in an adequate manner and, as a consequence, it is impossible for the Agency for Statistics of B&H to implement the tasks determined by the law and ensure further development of the National Accounts in Bosnia and Herzegovina.

The Director of the Agency manages the work of the Agency and he is accountable to the Council of Ministers of Bosnia and Herzegovina for his work.

National Accounts within the Agency for Statistics of B&H are organised as a separate Department that is a part of the Sector of Economic Statistics. The total number of employees is four.

1.1.1.2 Federal Office of Statistics of FB&H

Federal Office of Statistics is an administrative body responsible for statistics of Federation of Bosnia and Herzegovina. Federal Office of Statistics of FB&H organises and conducts statistical surveys in which Federation of Bosnia and Herzegovina is interested in, in accordance with the Work Plan and Programme of carrying out statistical surveys interesting to Federation of Bosnia and Herzegovina and according to the principle of impartiality, objectivity and professional independence. Federal Office of Statistics of FB&H has 10 cantonal organisational units for statistics. They collect required data from legal entities who are registered on the canton territory and defined as reporting units.

Federal Office of Statistics of FB&H has responsibility to collect process and transmit to the Agency for Statistics of Bosnia and Herzegovina the statistical data deemed by the Agency for Statistics as needed for production of statistics of B&H, within the time specified by the Statistical Programme i.e. the Work Plan.

In collecting and processing statistical data, Federal office of statistics will submit data to the Agency in compliance with the international methodologies and standards and in line with the guidelines issued by the Agency.

National Accounts within Federal office of statistics of FB&H are organised as a Department for the Statistics of National Accounts within the Sector of National Accounts and Prices, with seven employees.

1.1.1.3 Republika Srpska Institute of Statistics

Republika Srpska Institute of Statistics is a republic administrative organisation responsible for implementing statistical activities, independent in producing statistics within the scope of its activities with the main task to produce official statistical data for all categories of users. Statistical surveys are implemented through six regional offices. The regional offices carry out methodological and organisational preparations and conduct statistical activities for the respective region covered by their activities.

Republika Srpska Institute of Statistics is responsible to collect process and transmit to the Agency for Statistics of B&H the statistical data deemed by the Agency for Statistics as needed for production of statistics of Bosnia and Herzegovina, within the time specified by the Statistical Programme of Bosnia and Herzegovina i.e. the Work Plan.

In collecting and processing statistical data, Republika Srpska Institute of Statistics will submit the data to the Agency in compliance with the international methodologies and standards and in line with the guidelines issued by the Agency.

National Accounts within Republika Srpska Institute of Statistics are organised as National Accounts Department of the Sector of National Accounts, Registers and Sampling, with five employees.

1.1.1.4 Agency for Statistics of B&H – Branch Office Brcko District

The production of statistical data for Brcko District, as a separate administrative unit within Bosnia and Herzegovina, was carried out by the independent Bureau of Statistics of Brcko District until 2005. In 2005, the Bureau was reconstituted as the organisational unit of the Agency for Statistics of B&H.

Branch Office Brcko District employs one statistician who works on national accounts.

1.1.1.5 The Central Bank of Bosnia and Herzegovina

According to the Law on the Central Bank of Bosnia and Herzegovina (CBBH), the Central Bank of Bosnia and Herzegovina is responsible for collecting, processing and publishing of monetary sector statistics and balance of payments statistics, including foreign trade data, implementing the international standards of the International Monetary Fund (IMF).

The balance of payments statistics are compiled in accordance with the methodology of the International Monetary Fund (Balance of Payments Manual, Fifth Editions BPM5).

The main data sources are statistical and other government institutions, commercial banks and the CBBH. With the purpose of obtaining more accurate and reliable data, the CBBH conduct quarterly and annual statistical surveys in local companies with foreign investment, insurance, telecom and post organizations, pension funds, embassies and international organizations in B&H.

The data are supplemented with information from international organizations' and institutions' publications as well as statistics institutions of other countries from the region.

CBBH estimates balance of payments items for all missing data in accordance with the recommendations of the IMF.

In January 2007, the Agency for Statistics of B&H signed the Memorandum of Understanding with the Central bank of B&H which lays out the areas of responsibilities and methods of cooperation, aiming to improve development of economic and financial statistics in B&H.

1.2 Gross domestic product – approaches used

The compilation of the National Accounts in Bosnia and Herzegovina is based on methodology recommended by the United Nations the System of National Accounts '93 (SNA) and the European system of Accounts '95 (ESA) since 1996. In the period until 1991, as in all former republics of ex-Yugoslavia, the concept of material production was used, that is calculation of only material production and services related to production.

There are no reliable estimates of GDP for the war period 1992 – 1995.

1.2.1 GDP by production approach

Aggregate countrywide estimates of gross domestic product based on the production approach are prepared by the Agency for Statistics of Bosnia and Herzegovina based on the data compiled separately for the two Entities, Federation of Bosnia and Herzegovina and Republika Srpska, and for Brcko District. These estimates are compiled by the respective entities' institutes of statistics and by Bureau of Statistics of Brcko District (the Branch of the BHAS since 2005).

For the need of compilation of gross domestic product in the entities' institutes, Agency for Statistics of B&H calculates components of production account (output, intermediate consumption, gross value added) for institutions of general government and the Central Bank of B&H (which represent about 3% of GDP) and distributes them to the entities by using keys for the distribution of indirect taxes.

Estimates of GDP by production are prepared at detailed level of the European classification of economic activities (NACE rev. 1.1) and disseminated at the section level.

Value added by activity is calculated as the difference between the value of output and intermediate consumption. Value added is compiled at basic prices, therefore net taxes on products and imports are added to the total in order to obtain the estimate of GDP at market prices.

Preparation for data dissemination at the division level is already under way. According to the Work plan data on the division level for 2005, 2006, 2007 and 2008 will be published in December 2009.

GDP estimates by production approach were revised in 2007 with the publication of the series for the period 2003-2006 including an estimate for the non-observed economy (NOE) and dwelling services for owner occupied dwellings. These adjustments for exhaustiveness were carried out following the tabular approach recommended by OECD-EUROSTAT for NOE, and user cost approach for imputed rentals.

A backward revision of the series back to the year 2000 was published in 2008.

Compilation of the GDP by production approach at constant prices (at prices of previous year) started in 2006, referring to the period 2004 – 2006. In 2008, the estimates of GDP by production approach at constant prices (at prices of previous year) were compiled for period 2000 – 2003 and the data series for the period 2000 – 2007 were published.

1.2.2 GDP by expenditure approach

With a view to improve National Accounts statistics of Bosnia and Herzegovina, the Agency for Statistics of B&H started compilation of gross domestic product by expenditure approach in 2006. Annual GDP estimates by expenditure components were compiled on an experimental basis for 2004 and 2005, both at current and constant prices. Those estimates, which were disseminated in 2007, were compiled only at the countrywide level. The estimates of GDP by expenditure approach are now a part of regular compilation programme of annual national accounts estimates.

GDP by expenditure approach is defined as total domestic final consumption corrected by external trade balance with the rest of the world. The Agency for Statistics of B&H publishes the main

components of GDP by expenditure: Household final consumption expenditure (HFCE), Final consumption of non-profit institutions serving households, Final consumption of general government, Gross capital formation (GFCF) and Export and import of goods and services at current and constant prices (at prices of previous year).

Due to the fact that neither Input/Output framework nor Supply/Use tables has been developed yet, the discrepancy between the two approaches of GDP estimates has not been reconciled.

Table 1.1 Discrepancies between GDP by production and expenditure approach, Mio KM

	2004	2005	2006	2007
1	2	3	4	5
GDP by production approach	15 786	16 928	19 121	21 647
GDP by expenditure approach	16 680	18 178	21 151	24 335
Discrepancy %	5.7	7.4	10.6	12.4

1.2.3 GDP by income approach

The estimates of GDP by income approach are in preparation. According to the Work plan experimental estimates for 2007 and 2008 will be published in December 2009.

1.2.4 Cooperation with other institutions

With an aim of improving data sources for the compilation of national accounts, in February 2008 Agency for Statistics of B&H signed Annex of the Protocol of Cooperation with Indirect Taxation Authority, regarding availability of databases of external trade, Value added tax (VAT) -payers as well as individual data from VAT reports. As to the use of individual data from the VAT reports, the agreement with Indirect Taxation Authority has not been reached. Therefore, the Agency for Statistics of B&H still cannot use a very important data source to control quality of coverage and estimates, and for the further development of national accounts.

By using available data on net primary income and net current transfers, the Agency for Statistics of B&H has calculated the estimates of gross national income and gross disposable income starting on 2000. Data series were published in 2006.

1.3 Accounts prepared

The national accounts system consists of a coherent, consistent and integrated set of macroeconomic accounts; balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules. The accounts themselves present in a condensed way a great mass of detailed information, organized according to economic principles and perception, about functioning of economy. Each account is balanced by introducing a balancing item defined residually as the difference between the total resources and uses recorded on the two sides of the accounts. The balancing item from one account is carried forward as the first item in the following account.

Implementation of the System according to the SNA/ESA methodology in Bosnia and Herzegovina is in the initial phase. Currently, production account is compiled only, following the activities of production of goods and services, as it is defined within system. Its balancing item is gross value added, and is defined as the value of output less value of intermediate consumption.

The compilation of production account for Bosnia and Herzegovina is performed in all statistical institutions of B&H at the same time. Entities' institutes for statistics and Brcko Branch compile the production account for all residential institutional units in their respective territories, apart from the general government institutional units and the Central Bank of B&H, for which the production account

is compiled by the Agency for Statistics of B&H. The components of the production account are allocated to entities' production accounts by using keys for the distribution of indirect taxes.

Table 1.2 Compilation of production account in B&H, 2007, Mio KM

	Output	Intermediate consumption	Gross value added	Net taxes less subsidies	Gross domestic product
1	2	3	4	5	6
FB&H	24 666	13 664	11 002	2 741	13 743
RS	12118	6 086	6 032	1325	7 357
BD	743	359	384	163	547
B&H	37527	20 109	17 417	4229	21647

1.4 Classification system

1.4.1 Classification used for the production approach

1.4.1.1 Statistical classification of economic activities in the European community (NACE)

Since 2007, all the institutional units have been classified according to their main economic activity using the NACE, rev 1.1 Classification. In the previous period NACE Rev.1 was in use. Due to the fact that there was not a big difference between two previously mentioned classifications, and the data are published at the section level, it can be said that consistent series of GDP by production have been available since 2000. Until 2000, the Unique Classification of Activities (JKD) of the former Yugoslavia was used.

1.4.1.2 Classification of Products by Activity (CPA)

The Classification of Products by Activity (CPA) 2002 was used for classification of products consumed by household, as part of estimates of final consumption expenditure.

1.4.1.3 The Nomenclature of Industrial Products (PRODCOM)

The Nomenclature of Industrial Products (PRODCOM) 1994 was introduced in 2004. PRODCOM was used for collecting data on regular industrial production in Bosnia and Herzegovina. Data on industrial production in 2005 were collected using new Nomenclature of Industrial Products of Bosnia and Herzegovina (NIP B&H 2005).

1.4.2 Classification used for the expenditure approach

1.4.2.1 Classification of Individual Consumption by Purpose (COICOP)

The estimate of household final consumption has been done in accordance with the Classification of individual Consumption by Purpose (COICOP).

1.4.2.2 Harmonized system (HS)

The Harmonized Commodity Description and Coding System (HS) of tariff nomenclature is an internationally standardized system of names and numbers for classifying traded products developed and maintained by the World Customs Organization (WCO).

The HS is a six-digit nomenclature. The first four digits are referred to as the heading. The first six digits are known as a subheading.

Bosnia and Herzegovina accepted the HS nomenclature in 1998. At the same time, the harmonisation of the 6th and 7th digits with the nomenclature with the European Union was accepted, while the 9th and 10th digits are used for the purpose of further breakdown for specific needs of B&H.

1.4.2.3 Combined Nomenclature (CN)

The Combined Nomenclature is the goods classification used within the EU for the purposes of foreign trade statistics. Combined Nomenclature is coded by eight digit system and is fully in line with the Harmonized System (HS) at the level of six digits.

1.4.2.4 Standard International Trade Classification (SITC)

The SITC is the international trade classification published by the United Nations. The third revised version of the SITC came into force at the same time as the HS was introduced. The third revised version of the SITC uses the constituent elements of the HS as building blocks. SITC Rev.3 has a five-level hierarchical structure with purely numerical coding. It is used for dissemination of external trade statistics data.

1.4.2.5 Balance of payment classification

For classification Balance of payment data the special Balance of payment classification have been used.

CHAPTER 2

THE REVISION POLICY AND THE TIMETABLE FOR REVISING AND FINALISING THE ESTIMATES

There is no common revision policy established in Bosnia and Herzegovina. Routine (annual) revisions are conducted by the entities' institutes independently and without written justifications to data users on reasons for revision. Major revisions of national accounts data were carried out uniformly in all statistical institutes only after the completion of the projects which brought up significant changes in the data (introducing the calculation by constant prices, project of estimation of non-observed economy activities and the calculation of imputed rental). First big revision of gross domestic product was published in 2006 and referred to the data series of 2000 to 2005. That revision also covered estimates of the value of imputed rental of owner occupied dwellings. By second big revision carried out in 2007, the estimates of non-observed economy for the period 2003 – 2006 were included in the official estimates of GDP. In 2008, non-observed economy was included in the data series from 2000 to 2007.

Table 2.1 GDP revisions, 2005 and 2007, Mio KM

	2000	2001	2002	2003	2004	2005	2006	2007
1	2	3	4	5	6	7	8	9
GDP by production approach	9 611	10 480	11 651	12 303	13 497			
First revision in 2005	10 713	11 599	12 829	13 443	14 678	15 791		
Change, nominal level (%)	11.5	10.6	10.1	9.3	8.75	-	-	-
Second revision in 2007	11 689	12 565	13 821	14 505	15 786	16 928	19 121	21 647
Change, nominal level (%)	9.1	8.3	7.7	7.9	7.5	7.2	-	-

As it can be seen from the table overview, comparable data series have been available since 2000.

CHAPTER 3

THE PRODUCTION APPROACH

a) FEDERAL OFFICE FOR STATISTICS (FOS)

3.0 GDP according to the production approach

Gross Domestic Product (GDP) by production approach is the sum of Gross Value Added (GVA) at basic prices for activities plus taxes less subsidies on products. GVA at basic prices is equal output at basic prices less intermediate consumption at purchasers' prices. Financial intermediation services indirectly measured (FISIM) are calculated at total economy level. Table 3.1 shows main components of GDP by production approach for 2007.

Table 3.1 GDP by production approach, 2007, 000 KM

	Value	% of GDP
Output at basic prices	24 618 143	177.6
Minus: Intermediate consumption at purchasers' prices	13 624 999	98.3
Gross value added at basic prices	10 993 144	79.3
Plus: Taxes on products	2 967 752	21.4
Minus: Subsidies on products	99 893	0.7
Gross domestic product (at market prices)	13 861 003	100.0

As data sources for GDP calculation at the FB&H level, Federal Office of Statistics (FOS) uses own statistical surveys and, to some extent, administrative data. GDP by production approach with following components: output, intermediate consumption (IC) and gross value added (GVA) by divisions of NACE Rev. 1.1 is shown in Table 3.2.

Table 3.2 Output, IC and GVA by activities and institutional sectors, 2007

Activity	Output	Intermediate consumption	Gross value added	Structure of gross value added
				%
000 KM				
A Agriculture, hunting, forestry	1 556 829	793 406	763 423	6.7
01 Agriculture, hunting and related service activities	1 357 429	712 120	645 309	5.6
02 Forestry, logging and related service activities	199 400	81 286	118 114	1.0
B 05 FOShing	8 744	6 757	1 987	0.02
C Mining and quarrying	571 169	264 724	306 445	2.7
10 Mining of coal and lignite	384 710	145 841	238 869	2.1
13 Mining of metal ores	19 275	10 825	8 450	0.1
14 Other mining and quarrying	167 184	108 058	59 126	0.5
D Manufacturing	6 638 984	4 906 367	1 732 617	15.1
15 Mfr. of food production and beverages	1 140 113	807 629	332 483	2.9
16 Mfr. of tobacco products	106 970	59 222	47 747	0.4
17 Mfr. of textiles	71 531	33 087	38 445	0.3
18 Mfr. of wearing apparel, dressing and dyeing of fur	132 102	66 691	65 411	0.6
19 Tanning and dressing of leather	130 856	84 278	46 579	0.4
20 Mfr. of wood and products of wood and cork, except furniture	392 680	285 323	107 357	0.9
21 Mfr. of pulp, paper and paper products	62 354	52 317	10 037	0.1
22 Publishing, printing and reproduction of recorded	189 467	117 646	71 820	0.6
23 Mfr. of coke, refined petroleum products and nuclear fuel	234 957	208 581	26 377	0.2
24 Mfr. of chemicals and chemical products	284 208	202 062	82 146	0.7

Table 3.2 Output, IC and GVA by activities and institutional sectors, 2007 (continued)

Activity	Output	Intermediate consumption	Gross value added	Structure of gross value added
				%
000 KM				
25 Mfr. of rubber and plastic products	231 370	169 601	61 769	0.5
26 Mfr. of other non-metallic mineral products	489 127	317 404	171 723	1.5
27 Mfr. of basic metals	1 288 444	1 098 161	190 284	1.7
28 Mfr. of fabricated metal prod., except machinery and equipment	693 316	491 063	202 252	1.8
29 Mfr. of machinery and equipment n.e.c.	202 721	146 080	56 641	0.5
30 Mfr. of office machinery and computers	42 846	24 782	18 065	0.2
31 Mfr. of electrical machinery and apparatus n.e.c.	148 274	115 133	33 140	0.3
33 Mfr. of medical, precision and optical inst.	22 563	11 283	11 279	0.1
34 Mfr. of motor vehicles, trailers and semi-trailers	382 911	341 005	41 906	0.4
35 Mfr. of other transport equipment	13 253	6 435	6 818	0.1
36 Mfr. of furniture, manufacturing n.e.c.	285 393	197 711	87 683	0.8
37 Recycling	84 489	63 664	20 825	0.2
E Electricity, gas and water supply	1 382 980	934 578	448 403	3.9
40 Electricity, gas, steam and hot water supply	1 236 657	881 113	355 544	3.1
41 Collection, purification and distribution of water	146 323	53 465	92 859	0.8
F 45 Construction	2 073 248	1 439 387	633 860	5.5
G Wholesale and retail trade	3 124 997	1 402 361	1 722 636	15.0
50 Sale, maintenance and repair of motor vehicles	401 255	160 671	240 584	2.1
51 Wholesale trade and commission trade	1 826 398	931 529	894 869	7.8
52 Retail trade, except of motor vehicles; repair	897 344	310 161	587 183	5.1
H 55 Hotels and restaurants	679 272	345 698	333 574	2.9
I Transport, storage and communication	1 837 204	815 613	1 021 591	8.9
60 Land transport	789 921	453 931	335 991	2.9
62 Air transport	21 696	16 749	4 947	0.04
63 Supporting and auxiliary transport activities;	167 561	88 771	78 789	0.7
64 Post and telecommunications	858 026	256 162	601 864	5.3
J Financial intermediation	905 645	307 600	598 044	5.2
65 Financial intermed., exc. insur. and pension funding	781 604	240 425	541 179	4.7
66 Insurance and pension funding	85 881	52 473	33 408	0.3
67 Activities auxiliary to financial intermediation	38 160	14 702	23 457	0.2
K Real estate, renting and business	2 090 193	888 565	1 201 629	10.5
70 Real estate activities	926 038	171 108	754 930	6.6
71 Renting of machinery and equipment	30 396	15 661	14 735	0.1
72 Computer and related activities	101 873	49 143	52 731	0.5
73 Research and development	210 355	172 482	37 873	0.3
74 Other business activities	821 531	480 171	341 360	3.0
L 75 Public administration and defence	1 546 443	366 664	1 179 778	10.3
M 80 Education	799 866	152 192	647 675	5.6
N 85 Health and social work	819 827	249 468	570 359	5.0
O Other community, social and personal services	582 742	271 126	311 616	2.7
90 Sewage and refuse disposal and similar activities	75 487	24 999	50 487	0.4
91 Activities of membership organizations n.e.c.	34 510	17 178	17 332	0.2
92 Recreational, cultural and sporting activities	335 763	163 317	127 447	1.5
93 Other service activities	136 982	65 632	71 350	0.6
Total by sections	24 618 143	13 144 506	11 473 637	100.0
S.11 Non-financial corporations	16 525 821	10 381 418	6 144 403	53.6
S.12 Financial corporations	860 725	294 256	566 468	4.9
S.13 General government	3 307 284	858 674	2 448 610	21.3
S.14 Households	3 878 570	1 596 613	2 281 958	19.9
S.15 Non-profit institutions serving households	45 743	13 545	32 198	0.3

Dates for publishing first and final data are established by Plan of activity, and based on these, the Calendar of data publishing is determined. According to the Plan in FOS, the date for publishing the first results of GDP by the production approach is July the 15th, and for final data November the 25th

3.1 The reference framework

3.1.1 The Register

Through the CARDS Twinning Project, Component 2 – Business Register, the activities on the establishment of Business Register were conducted and a framework for its fulfilling was created. Business Register is still not useful for national accounts needs, in FOS, but it is expected that it will be fully functional in near future.

The Standard Classification of activities harmonized with NACE was adopted in 1995. Nowadays, the Classification of activities harmonized with NACE Rev. 1.1 is used. The Law on Tax Authority of FB&H, passed in 2002, and regulations on assigning Identification (ID) code and registration of all taxpayers in FB&H stipulate that FB&H Tax Authority and FOS jointly register all business entities. It means that all legal entities and entrepreneurs have to be recorded in the Administrative Register.

All business entities are recorded in the Register, on the base of completed application form which is defined by rules and work permission, issued by a registration body (court registration certificate for enterprises, a permission from responsible ministry, municipality or other registration bodies), and in line with the legislation for setting up administration bodies or certain institutions. With unique ID number, Tax authority issues Tax registration certificate, and FOS issues Notification on classification of each business entity by activities.

At its disposal, FOS has Administrative Register, which is formed on the basis of data from application forms and consists mainly of identification variables for each business entity. The basic identification variables in this Register are the following:

- ID number which is unique in tax and statistical Register;
- Main activity;
- The name of business entity;
- Territory (canton, municipality, settlement, street, number and telephone);
- Type of organisation and type of ownership;
- The source of capital;
- Data on transformation, etc.

This Register is primarily used for statistical purposes, i.e. for conducting statistical surveys. In National Accounts department, administrative Register with all variables is a base for establishing statistical surveys database. According to the rules, taxpayers should report each data change to the Tax Authority. In practice, taxpayers do not observe the rules strictly, and that is why the register is not updated, especially concerning the change of address data, termination of business, and change of activity and similar.

3.1.2 Data sources

Resident producers (market and non-market) are covered by the estimate of GDP and its components classified by the NACE Rev. 1.1 in the administrative register established by the Tax Authority and FOS.

FOS collects essential data for GDP calculation in the following way:

- Business entities that complete annual financial statements following the Chart of accounts for enterprises (financial statements are regulated by the FB&H Ministry of Finance) and submit them to the responsible agencies AFIP Sarajevo (Agency for financial, information and intermediary services) and FIP Mostar (Agency for financial, information and intermediary services) are required to fulfil a special statistical form “*Statistical Annex of Annual Financial*

statements". 'Statistical Annex' is designed in FOS and contains all necessary data for the statistics of national accounts. Legal entities that are not significant market producers (less than 50% of revenues generated in the market), e.g. health institutions fill in the "Statistical Annex," too. This form is a part of annual financial statements collected by AFIP and FIP. FOS takes over 'Statistical Annex' statements from AFIP and FIP and performs data checking, entering and processing. Such arrangement of providing data is a consequence of the fact that FOS is not able to use data directly from regular annual financial statements as an administrative source since Balance sheet and the Profit and loss account do not contain necessary data;

- Data for banks and insurance companies are collected by a statistical questionnaire which FOS designs and distributes to the reporting units, and later collects and performs data checking, entering and processing;
- Data for budgetary users and non-budgetary funds are taken from regular annual financial statements also collected by AFIP and FIP (Profit and loss account, Balance sheet and Additional data on employees and salaries). FOS takes over these statements from AFIP and FIP, and then conducts data checking, entering and processing (data entry of these annual statements are not made by AFIP and FIP);
- For associations and non-profit institutions, annual financial statements are available;
- Data for unincorporated enterprises (entrepreneurs who perform their own activities) are collected from statistical surveys by using 'DV-DZ' form. Reporting units are Tax Authority offices in municipalities, which fill in questionnaires on the basis of administrative data (tax form for assessment of liability for taxation of each entrepreneur). Data in aggregated form at the municipality level by NACE activities are filled in a 'DV-DZ' questionnaire, and not for an entrepreneur individually;
- Data for individual agriculture households are collected from statistical questionnaire 'DV-POLJ'. Reporting unit is municipality, and detailed data on quantities and values of produced and consumed products are collected at municipality level, not at the level of individual agriculture household. Data source for filling in this questionnaire is agriculture statistics;
- Taxes on products and services and import data (indirect taxes) are taken over from FB&H Ministry of Finance which prepares and publishes tables "Overview of total generated and allocated public revenues";
- Data on the subsidies on products are collected and used from budgetary (federal and cantonal ministries) statistics.

Data by the type of entities based on the data sources used are shown in Table 3.3.

Table 3.3 GVA according to the type of entities and data sources, 2007

	Output	Intermediate consumption	Gross value added	
	000 KM		(%)	
Total	24 618 143	13 144 506	11 473 637	100.0
1. Enterprises	16 575 281	10 399 768	6 175 512	53.8
2. Government	3 290 979	850 133	2 440 847	21.3
3. Unincorporated units	1 771 442	835 198	936 245	8.2
4. Individual agriculture producers	1 261 860	635 346	626 514	5.5
5. Banks	690 765	207 421	483 343	4.2
6. Insurance company	85 881	52 473	33 408	0.3
7. Non-profit institutions	7 862	2 849	5 013	0.04
8. Associations	88 805	35 249	53 556	0.5
9. Imputed rent	845 268	126 069	719 199	6.3

GDP components are calculated by the territory and main activity (NACE Rev. 1.1) of institutional unit (organizational principle), not according to homogeneous units (establishment).

Distinction of institutional units by market and non-market producers is based on type of reports filled in by business entities and the way of generating revenue. The main approach is an amount of revenue generated (business entities that generate above 50% of revenue in the market, are market producers).

Output is estimated according to two main approaches, depending on the fact whether the producers are market or non-market:

- Production approach – for profit oriented producers, where output is calculated as a market value of produced goods and services for the particular accounting period;
- Cost approach – for general government institutional units sector and other non-profit institutions, where output is calculated as a sum of intermediate consumption and gross value added. For these institutional units the operating surplus is equal to zero.

Concept of estimation of output and intermediate consumption is a production boundary as defined in paragraphs 3.07, 3.08, 3.69 and 3.70 of ESA/95. For production generated by voluntary activities, data are not available, so this part is not included in production boundary.

3.2 Valuation

In line with the existing accounting rules in FB&H, legal entities in their annual financial and statistical statements apply the principle of accrual accounting and record data on an accrual basis, i.e. when actual transactions and other occurrences happen (and not when cash or its equivalent is received or paid). Budgetary users apply principle of modified accrual basis, which means that revenues and proceeds are approved in an accounting period in which they are measurable and available (cash basis), and expenditures and costs are approved in an accounting period in which a payment obligation occurs. FOS does not make adjustments of revenues on accrual basis.

Output is valued at basic prices, which means that subsidies on products are included in operating revenues. Valuation of inventories (raw and other materials, spare parts and small tools scrap, work in progress, finished goods and stocks of goods for resale) is made at prices existing in the market in a particular period (opening and closing stocks). To achieve an appropriate value of output and intermediate consumption according to ESA/95, changes in inventories are added or subtracted from revenues and expenditure, and these variables should be valued at average price. FOS does not make corrections of inventory accounting values at average price.

3.3 Transition from private accounting and administrative concepts to ESA/95 national accounting concepts

Accounting and Auditing Law in F B&H regulates accounting and auditing used in private and public enterprises, entrepreneurs and other legal entities. In accordance with this Law, business entities are obliged to use International Accounting Standards (IAS), and International Financial Reporting Standards (IFRS), as well as other accompanying guidelines and explanations.

For the calculation of GDP components for enterprises, FOS uses the ‘Statistical Annex’, which is a part of obligatory annual financial statements. The ‘Statistical Annex’ data are presented in line with the accounting regulations.

Budgetary users at all budget levels (FB&H, cantons and municipalities) and non-budgetary funds conduct a budgetary accounting in accordance with the provisions of the Law on the Budget in FB&H. Essential changes of regulations within budgetary users accountancy are expected in the foreseeable future, as well as the beginning of publishing and applying special International Public Sector Accounting Standards (IPSAS). Budgetary units and non-budgetary funds submit financial statements prepared in line with the modified accrual basis principle. Revenues are recorded on cash basis, while expenditures are recorded on accrual basis.

Annual financial statement for enterprises, 'Profit and loss account', submitted to AFIP and FIP has been conceptualized by the so-called functional principle and not natural type of revenues and costs for an accounting period. Consequently, FOS had to provide necessary data through the 'Statistical Annex'. For this large group of business entities, it is possible to compare some aggregated data from Profit and loss account and 'Statistical Annex', as well as coverage of reporting units (which is very good) at the A17 level.

The structure of 'Statistical Annex' is designed in such a way to meet most requirements of ESA/95 concept. The most important adjustments for the production approach according to the ESA/95 concept refer to the calculation of output which apart from operating revenues also includes changes in stocks of finished goods and work in progress, as well as costs of traded goods (see Table 3.4). Data on subsidies on products are collected and used from budgetary statistics.

3.3.1 Enterprises as data source

'Statistical Annex' of annual financial statement is the most important data source for national accounts for this type of legal entities. Calculated GVA based on data from these statements makes 53.8% of whole economy GVA at current prices (without adjustments for non-observed economy (NOE)). GVA as ESA/95 category is calculated as residual between output and intermediation consumption.

3.3.1.1 Output

According to the ESA/95 concept production boundary is the output recorded when it leaves the production process and goes into inventories of finished goods or work in progress inventories. In business accounting, the production occurs when sales of piece of products are invoiced. Output is calculated at the level of institutional units (organizational principle) that are residents of the FB&H. Output for enterprises is calculated at the level of 'Statistical Annex' data by calculating operating revenues that are corrected for the changes in the inventories of finished goods and work in progress, as well as for costs of sold goods and materials and values of subsidies on products taken over from budgetary statistics.

A scheme for calculating the output for enterprises on the base of 'Statistical Annex' data (without NOE adjustment) is given in Table 3.4.

Table 3.4 Output for enterprises-market producers, current prices, 2007 (Statistical annex)

	Ordinal number from »Statistical annex«	Amount in 000 KM
Operating revenues (A+B)		31 384 620
A. Revenues from main activities (Tab. 1)	2	31 324 130
1. Revenues from sold products	3	5 944 444
2. Revenues from provided services	4	4 050 788
3. Revenues from traded goods	5	16 619 232
4. Revenues from sold goods and services to legal joint entities	6	702 384
5. Revenues from sold goods and services on foreign market	7	3 230 386
6. Revenues from use of goods and services for legal entities purposes	11	44 147
7. Revenues based on construction contract	12	443 214
8. Revenues from rents	13	166 313
9. Revenues from financial leasing sale	14	81 860
10. Other revenues from sale	15	41 364

	Ordinal number from »Statistical annex«	Amount in 000 KM
B. Revenues from sold materials, spare parts and inventories	23	60 490
Changes in stocks of work in progress	2 (col. 5-col. 4)	123 726
Changes in stocks of finished goods (Tab. 2)	3 (col. 5-col. 4)	44 731
- Costs of sold goods (Tab. 1)	57+63	15 318 965
+ Subsidies		58 008
Output		16 292 116

Output for enterprises with included NOE estimations amounts to 16 575 281 thousands KM i.e. 67.3% of total output in the FB&H.

3.3.1.2 Intermediate Consumption (IC)

Intermediate consumption is valued at purchasers` prices and represents a value of goods and services used as input during the production process, excluding fixed assets, registered as consumption of fixed capital. Products used for intermediate consumption are recorded and valued at the moment when they enter the production process.

The items from 'Statistical Annex - Table 1' on the basis of which intermediate consumption is calculated are:

- Costs of raw materials, energy and spare parts (ordinal number 32);
- Costs of services (ordinal number 33);
- Other operating costs (ordinal number 44);
- Adjustment of value of stocks (ordinal number 58);
- Other operational expenses (ordinal number 59);
- Losses on construction contracts (ordinal number 64).

In line with ESA/95 requirements, 'other operating costs' (ordinal number 44) are diminished by items that form compensation of employees (allowances for employees - ordinal number 46, expenses for the other rights of employees - ordinal number 47, and allowances and other costs for members of the supervisory boards and commissions - ordinal number 48) and by the taxes to be paid regardless of financial outcomes - ordinal number 50. Since insurance costs are included in other operating costs, intermediate consumption is also corrected (diminished) by the value of revenues calculated from collected damage claims from insurance companies.

3.3.1.3 Methodological corrections for non-exhaustiveness

Output and intermediate consumption for enterprises are adjusted for estimates of NOE according to the non-exhaustiveness type (N1 to N7), in compliance with EUROSTAT-OECD Tabular Approach. Detailed description of sources and methods used for estimates of non-exhaustiveness is given in Chapter 7.

3.3.2 General Government

Two data sources are used in the calculation of GDP categories for general government sector. Data source for direct budgetary users for all levels of government (FB&H, cantons and municipalities) and non-budgetary funds are annual financial statements (Profit and loss account and Additional data on employees and salaries). For other non-market producers from general government sector, data are collected through ‘Statistical Annex’ (e.g. health institutions, Directorate for roads and similar). As there are several levels of authority in B&H (institutions at the B&H level, entity, municipal and, in FB&H, cantonal level), Agency for statistics of B&H (BHAS), conducts the calculation of GDP categories for the state level, and the data are allocated to the entities according to agreed principle of public revenues distribution.

While working on processing the data from annual financial statements ‘Profit and loss account’, the care has been taken not to have a multiple accounting through the different levels of government.

Output is calculated by cost approach based on data from all mentioned sources. Output is obtained as a sum of compensation of employees, intermediate consumption and consumption of fixed capital and other taxes on production.

3.3.2.1 Compensation of employees

For direct budgetary users, Compensation of employees according to ESA-95 concept, include following accounting items from Profit and loss account:

- Gross salaries and wages (part of AOP 104-code for automatic data processing);
- Allowances for employees’ other costs (AOP 105);
- Employer's social contributions and other contributions (AOP 106).

All mentioned items in the ‘Profit and loss account’ are shown as synthetic accounts that are classified by analytical standard at the Chart of accounts.

Gross salaries consist of the calculated net salaries and wages (for holidays, sick leaves, paid absence), employees' social contributions (for pension and disability insurance, health and unemployment).

Allowances for employees’ other costs consist of cash remuneration for transport to and from work, separate living allowance, food at work, allowance for annual holiday, extra payments at retirement, jubilee rewards and similar allowances.

Employers' actual social contributions consist of compulsory employers' social contributions at the standard rate.

For other non-market producers from general government sector, compensation of employees covers the same items from the ‘Statistical Annex’.

3.3.2.2 Intermediate consumption

Accounting item ‘Expenses for material and services’ (AOP 107) from ‘Profit and loss account’ is included in intermediate consumption for direct budgetary users. This item consists of the expenses for transport costs, expenses for energy and utility services, transport and fuel services, purchase of materials, as well as expenses of current maintenance, renting of property and equipment, and contractual services and other special services.

For other non-market producers from general government sector, calculation of intermediate consumption is based on the same items from ‘Statistical Annex’.

3.3.2.3 Consumption of fixed capital

For direct budgetary users, consumption of fixed capital is estimated to be 6% of GVA for activity L - Public administration and defence; compulsory social security, and to be 5% of GVA for direct budgetary users registered at other activities. Starting from the specific situation in B&H, where complete census of fixed assets by ownership has not been carried out, calculation of consumption of fixed capital is done according to the mentioned percentages. These percentages are established in line with recommendations of the international expert, observing the experience of neighbouring countries.

For other non-market producers from general government sector, the value of consumption of fixed capital is taken over from 'Statistical Annex'.

3.3.2.4 Methodological corrections for non-exhaustiveness

Methodological corrections for non-exhaustiveness in general government sector have not been made so far.

3.3.3 Unincorporated enterprises

Majority of future entrepreneurs face dilemma whether to choose the status of entrepreneur (self-employed person) or enterprise (legal entity). The answer is a matter of choice and personal decision based on the needs and opportunities. Before taking a final decision, it is necessary to consider positive and negative sides of both.

Advantages of entrepreneur are:

- Registration procedure is more simple (registration procedure is shorter, costs are lower and procedure can be done by the entrepreneur on his/her own, while the services of lawyer are required for registering legal entity);
- Bookkeeping is more simple and cheaper (financial records keeping is carried out according to the principle of simple bookkeeping by entrepreneurs, while a certified accountant has to manage financial records for legal entity);
- The method of calculation and payment of tax obligations, especially VAT is simpler (e.g. entrepreneurs have to calculate and pay VAT only for collected invoices, while enterprises have to do it for all invoices issued although they are not still paid. In circumstances where the long terms of delay in payment exist, the option to pay VAT only for collected invoices is shown as a huge advantage).

Self-employment is the simplest organizational form of business, where legal and registered activities are carried out independently and continuously. Each activity, which has making profit as an aim, should be registered. Some activities such as agriculture, handicraft, and household services are carried out mostly unregistered, because of low income. However, a number of persons registered for carrying out mentioned activities have been increasing recently.

Unincorporated enterprises – self-employed workers comprise craftsmen and free lancers who perform economic activities in order to gain profit from selling products or providing services on the market. Whether self-employment is one of the craft or freelance depends on the activity performed by entrepreneur. Thus, according to the Law on Craft, freelancing includes the activities of lawyers, notaries, engineers, architects, accountants, etc. The craft are handicraft activities, transport, hotels and restaurants and trade.

Data source used for calculating main macroeconomic categories for this group of business entities is statistical survey '*Calculation of gross value added and output for individual sector of non-agriculture activities for municipality ('DV-DZ')*'. Reporting units for this survey are Tax Authority offices in municipalities. Tax Authority office has all data required by '*DV-DZ*' questionnaire; these data are

essential for calculation of total output and GVA. Data are aggregated at the municipality level, not at the level of business entity.

Self-employed (entrepreneurs) have to fill in tax declaration forms in accordance with provisions of FB&H Tax Authority Law. If self-employed fail to submit their tax declaration forms to the respective Tax Authority office in the defined period, then the Tax Authority office will do it for them on the base of their previous business activities. According to data on total revenues and expenditure entered in financial records and verified by the relevant organisational unit of Tax Authority, taxpayers fill in the following tax declaration forms:

- Annual tax declaration form for natural person's profit from economic and professional activities (*PR-PDF* form);
- *DP*- form (tax declaration of calculated and paid taxes, and taxes on salary and wages);
- Annual tax declaration of calculated and paid tax on consumption of beverages (Hotels and restaurants);
- *INFO-1* form (for financial transactions that entrepreneur has paid to natural persons – citizens).

On the basis of the data from Annual tax declaration form, Tax Authority office in municipality fills in statistical '*DV-DZ*'-form with the following data:

- Number of self-employed that carry out particular activity as main or additional activity;
- Number of employees;
- Average monthly earnings of self-employed (net wage + profit) and employee's salary;
- Sum of assessed and calculated taxes, contributions and other contractual obligations.

'*DV-DZ*' form data are presented as aggregates by activities for whole municipality. The mentioned data, which are an integral part of '*DV-DZ*' form, are determined by Tax Authority office by applying two methods:

- Data takeover method: Data on number of self-employed in main and secondary occupations, number of employees, a sum of calculated taxes and contributions, monthly earnings are taken over from Tax Authority records;
- Estimation method: a commission set up by Tax Authority office makes estimates for categories required by the form, for which Tax Authority either has no data or deems that the information given in Annual tax declaration form for natural persons is unrealistic.

Calculation of gross output and GVA is done by income approach. First, net value added at basic prices is calculated and represents basis for calculation of intermediate consumption and consumption of fixed capital. Net value added at basic prices is calculated as a sum of compensation of employees, mixed income and other taxes on production. Intermediate consumption and consumption of fixed capital are calculated by applying coefficients to net value added. Coefficients of intermediate consumption and consumption of fixed capital are different by activities, and they are calculated on the basis of intermediate consumption and consumption of fixed capital share in net value added of small enterprises (up to 5 employees). Coefficients used are shown in Table 3.5.

Table 3.5 Used coefficients for calculation of IC and CFC

	Intermediate consumption coefficients	Consumption of fixed capital coefficients
Construction F	1.19	0.08
Transport, storage and communication I	1.00	0.20
Wholesale and retail trade G	0.24	0.04
Hotels and restaurants H	1.25	0.12
Manufacturing D	1.11	0.13
Other activities K, M, N, O	0.93	0.08

Using data from 'DV-DZ' form, filled in by Tax Authority office in municipality on the basis of available data, the calculation of production elements for unincorporated units is done in NA Department, and it is shown in the following table. Calculation is done at the 2-digit level of NACE activities.

Table 3.6 Calculation of GVA for non-incorporated units, 2007

	Data sources	In 000 KM
1. Number of self employed	DV-DZ	37 164
2. Number of employees	DV-DZ	18 393
3. Income of self employed	DV-DZ	207 777
4. Net salary of employees	DV-DZ	80 083
5. Taxes and contributes on salary	DV-DZ	142 352
6. Tax on firm and other taxes on production	DV-DZ	11 606
7. STARTING VALUE (3+4+5+6)		441 818
8. Consumption of fixed capital (7 X Coef. Am)		42 468
9. Gross value added at basic prices (7 + 8)		484 286
10. Intermediate consumption (7 X Coef. IC)		367 195
11. Gross output at basic prices (9 + 10)		851 481

Corrections for NOE for entrepreneurs (craftsmen and freelances) are done by non-exhaustiveness types that are described in detail in Chapter 7.

3.3.4 Non-profit institutions serving households (NPISHs)

Data source for the calculation of the main GDP categories for Non-profit institutions serving households (NPISHs) is Annual financial statements (Profit and loss accounts and Additional data on number of employees and wages). This is a very heterogeneous group of business entities registered as associations and other non-profit organizations and non-profit funds and foundations.

Over 10.000 NPISHs are registered in FB&H, most of them not reporting data on the number of employees. FOS directly collects accounting financial reports for about 60 most important NPISHs, which report data on the number of employees (chambers of commerce, bar associations, tourism associations, political parties, humanitarian organizations and similar).

Collected accounting data are calculated in GDP categories in line with ESA/95 concept. Output is calculated by cost method. The output equals a sum of compensation of employees, intermediate consumption, consumption of fixed capital and other taxes on production.

Compensation of employees consists of net wages and salaries, contributions from and on salaries and remuneration wages.

Intermediate consumption is calculated as a sum of the following items: Material and energy, Services and Travel costs from Profit and loss accounts.

Value of consumption of fixed capital is taken over from Profit and loss accounts for associations and other non-profit organizations.

3.4. The roles of direct and indirect estimation methods

Estimation of GDP according to the production approach is based on direct method, using data from regular annual statistical surveys or Annual accounting statements, depends on a group of business entities for which data are collected.

Data needed for calculation of GDP categories are collected on the basis of statistical surveys for the following types of business entities:

- «Statistical annex of annual accounting statements» for enterprises;
- «DV-POLJ» for individual agriculture sector;
- «DV-DZ» for entrepreneurs;
- «DV-B» for banks;
- «DV-OS» for insurance companies.

The main GDP categories are calculated for budgetary users and non-budgetary funds and NPISHs based on data from Annual accounting statements.

Accounting data collected by the mentioned statements are calculated into GDP categories in line with ESA/95 concept. GDP categories for individual construction sector are estimated by the indirect method using the Construction statistics data. Estimates of own-account production for individual agriculture households will be made by using Household Budget Survey (HBS) data.

3.5 The roles of benchmarks and extrapolations

So far, benchmark approach for the calculation of output, intermediate consumption and GVA has not been used. The only exception is the calculation of imputed rental done by BHAS for the state and entity levels.

3.6 Main approaches taken with an aim of achieving exhaustiveness

For the first time, all three statistical institutions carried out activities related to NOE within “EUROSTAT-OECD Project for improving exhaustiveness of GDP estimates in Western Balkan Countries“. The aim of this project was identification of NOE that should be incorporated into the calculation of national accounts in accordance with SNA-93 and ESA-95. This project was implemented in two phases in the period of 2004-2008. The adjustments to GDP of FB&H for NOE were made, for the data series 2000-2007.

Adjustments were made for all non-exhaustiveness types N1-N7, for different types of production units, and by sections of Classification of activities. Furthermore, adjustments were separately made for non-financial sector (enterprises), entrepreneurs and individual agriculture sector. All the adjustments for NOE, made for the period 2000-2007 have been incorporated in the officially published GDP. The only exception is adjustments for N2 - Non-registered illegal producers, experimentally made and estimated and thus not incorporated into the official GDP.

FOS used the recommendations of OECD experts for the NOE estimates. Manual on Measurement of NOE and EUROSTAT Manual ‘*Tabular approach to exhaustiveness*’ was used, as well. The main advantage of the EUROSTAT ‘*Tabular approach*’ is the fact that different types of non-exhaustiveness are precisely defined and mutually exclusive, with possibility of comparing different types of non-exhaustiveness adjustments by countries.

Within NOE project, two *ad-hoc* surveys were carried out in the following sections: hotels and restaurants for entrepreneurs and individual agriculture sector.

The following table refers to the different types of non-exhaustiveness adjustments (N1-N7) with exceptions of N2 and its share in the GDP.

Table 3.7 Non-exhaustiveness adjustments, 2007

Type of non-exhaustiveness	N1- underground producer	N2- illegal producer	N3- producer is not obliged to register	N4- registered legal entities not surveyed	N5- registered un-incorporated enterprise not surveyed	N6- Miss-reporting by the producer	N7- Statistical deficiencies in the data	Total N1-N7
Adjustments as % of GDP	0.13	0.00	1.31	0.12	0.00	3.59	1.00	6.15

Detailed explanations related to calculation of NOE are given in Chapter 7.

3.7 Agriculture, hunting and forestry (A)

FB&H agriculture production comprises production of individual agriculture households, including households registered as entrepreneurs, as well as agriculture production of enterprises. In FB&H, estimated GVA of Agriculture, hunting and forestry for 2007 amounts to 763 423 thousands KM, which is 6.7% of GVA for all activities and 5.5% of GDP. The most important part of agriculture production includes production of individual agriculture households, and their GVA is around 82% of GVA of Agriculture, hunting and forestry.

Table 3.8 A Agriculture, hunting and forestry, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
	000 KM		%		
A Agriculture, hunting and forestry -total	1 556 829	793 406	763 423	100.0	5.5
Enterprises	294 969	158 060	136 909	17.9	
Individual agriculture sector	1 261 860	635 346	626 514	82.1	

Necessary data for calculation of output, intermediate consumption and GVA for enterprises are collected through 'Statistical Annex of annual financial statement', while the data for individual agriculture households are collected through particular statistical survey 'Annual calculation of output and value added for private sector of agriculture without legal entities - agriculture households for municipality (*DV-POLJ*)'.

The way of data collecting, as well as items collected through Statistical Annex are explained in detail in § 3.3.1.

Detailed data on quantities and values by the type of agriculture products (for cereals, vegetables, industrial and feed crops, fruits and fruit processing, increase of livestock and livestock breeding products) are collected through the '*DV-POLJ*' form, as well as costs of products in-kind, and costs in cash. All data are filled in at the level of municipality as a whole, and not at the individual agriculture household level. Total agriculture production (a part for own consumption and a part for market) has been included in the estimates. Starting base for filling data in '*DV-POLJ*' form is data on produced quantities of agriculture products collected regularly through the forms of agriculture statistics.

In B&H, Population and housing census and Agriculture census have not been carried out since 1991. Also, there are no surveys on livestock and cannot be conducted yet due to the lack of basic censuses. For this reason, data on agriculture production for individual agriculture households are estimated by municipality commissions composed of agriculture experts from municipality. Agriculture production of households registered as entrepreneurs is covered by those estimates (but the number of such agriculture households is very small). So far, the reason for their registration has been to obtain some

subsidies and benefits (for example a loan), and not because they really want to be engaged in this activity as entrepreneurs.

3.7.1 Output

The method of output calculation for enterprises is explained in § 3.3.1.

The output of individual agriculture sector is calculated by using collected data on produced quantities and prices by products. The products are classified by the following types: for cereals, vegetables, industrial and feed crops, fruits and fruit processing, increase of livestock and livestock breeding products. The prices collected through '*DV-POLJ*' form, in accordance with defined methodology, are wholesale prices adjusted by the prices of the products used for feeding household members or livestock, for seeds or sale at a market place.

Individual agriculture producers, according to legislation, receive subsidies on production and products. Data on subsidies on the production and products for 2007, as well as for the other years, have been collected by the FB&H Ministry of agriculture and the cantonal ministries of finance. This value is incorporated in output.

The output of Agriculture, hunting and forestry in 2007 for FB&H amounts to 1 556 829 thousands KM, of which 63 262 thousands KM is adjustments for non-observed economy, and it is 4.2 % of the original data. Exhaustiveness adjustments are made for enterprises and individual agriculture sector, separately.

Adjustments for enterprises have been made for non-exhaustiveness types N4, N6 and N7 as described in Chapter 7. The value of output adjustments for Agriculture, hunting and forestry for enterprises amounts to 5 225 thousands KM, or 1.8% of the output obtained on the basis of survey.

For individual agriculture sector, adjustments have been made for non-exhaustiveness type N3 - Producers not required to register, for the part of agriculture production that is not covered by the survey (collecting of aromatic plants, services in livestock breeding, sale of leather, non-registered cutting in forests), as percentage to the original data. Value of output adjustments is 58 037 thousands KM. It has been already shown in the Table 3.9.

3.7.2 Intermediate consumption

Intermediate consumption for enterprises is calculated using data from the 'Statistical Annex' what is described in details in § 3.3.1.

For individual agriculture sector, necessary data for the calculation of intermediate consumption (data on costs in-kind – for feeding of livestock and seeds and costs in cash) are collected through '*DV-POLJ*' form. Intermediate consumption of individual agriculture sector presents 49-52% of output based on the '*DV-POLJ*' data, depending on weather conditions for carrying out agriculture production.

Adjustments for non-exhaustiveness are also separately made for enterprises and individual agriculture sector. Corrections for non-exhaustiveness of intermediate consumption are positive and negative. For enterprises, intermediate consumption correction is negative for 2 581 thousands KM, and related to the corrections of some items that have been incorporated in intermediate consumption (per-diems for business trips, costs for using business car and business telephone for private purposes) and their transfer to compensation of employees. For individual agriculture sector, this item has a positive value concerning that intermediate consumption is adjusted by a non-observed part of agriculture production. Total adjustments of intermediate consumption for non-exhaustiveness for individual agriculture sector amounts to 30 224 thousands KM, which is 5.0 % of the original data.

Table 3.9 A Agriculture, hunting and forestry, 2007, Adjustments on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
A							
Agriculture, hunting and forestry	1 556 829	793 406	763 423	63 262	27 643	35 619	4.9
01	1 357 429	712 120	645 309	61 238	28 974	32 264	5.3
02	199 400	81 286	118 114	2 024	-1 331	3 355	2.9

GVA is obtained by deducting intermediate consumption from the output. Value added is estimated at 763 423 thousands KM, of which adjustments for non-exhaustiveness is 35 619 thousands KM or 4.9% of the original data.

The present data sources, especially for individual agriculture sector, have some weaknesses since the data are based on estimates without reliable basic indicators, which will be provided through the Agriculture census. However, within CARDS Twinning Project, activities on providing necessary data sources and compiling Economic accounts in agriculture have already started, so further improvements of GDP categories will be possible in the National Accounts Department, too.

3.7.3 Forestry

GVA for Forestry is 118 114 thousands KM or 1.0% of total GVA for all activities, and 0.9% of GDP. The total output and intermediate consumption of Forestry for enterprises are estimated in the same way as for enterprises registered in all other activities. Data on quantities and prices of cut wood in private forests are collected through 'DV-POLJ' form, and total output and IC is calculated in the same way as for agriculture.

For Forestry, adjustments to Gross output and IC are made, and total value of the Gross output adjustments is 3 355 thousands KM or 2.9% of GVA of the original data.

3.8 Fishing (B)

GVA for Fishing is not significant in FB&H and it is generated only within enterprises. GVA amounts to 1 987 thousands KM, which is 0.01% of GDP.

Data source needed for calculation of Gross Output and intermediate consumption of Fishing is the 'Statistical Annex'.

The adjustments to GVA for non-exhaustiveness amount to 384 thousands KM or 24.0 % of the original data.

Table 3.10 B Fishing, 2007, 000 KM

	Output	Intermediate consumption	Gross value added	% of GDP
B Fishing	8 744	6 757	1 987	0.01

3.8.1 Output

The output is estimated to be 8 744 thousands KM or 0.04% of total output for all activities. Exhaustiveness adjustments to output side are 413 thousands KM or 5.0% of the output of the original data in Fishing.

3.8.2 Intermediate consumption

Intermediate consumption in Fishing is 6 757 thousands KM. Intermediate consumption share in output amounts to 77.3%. The correction for non-exhaustiveness is 29 thousands KM which is 0.4% of intermediate consumption of the original data.

Table 3.11 B Fishing, 2007, Adjustments on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
B Fishing	8 744	6 757	1 987	413	29	384	24.0

3.9 Mining and quarrying (C)

GVA for this activity amounts to 306 445 thousands KM or 2.7% of GVA for the whole economy, and 2.2% in GDP value. Total production of activity C is generated by enterprises.

The largest share in production of this activity is the section of Mining of coal and lignite; extraction of peat (NACE 10) and GVA share of this section is 78.0% in total GVA for activity C. Other mining and quarrying (NACE 14) is the second most important section in activity C. This section consists of 14 large companies and 108 small quarries and sand producers. GVA of this section contributes with 19.3% to GVA for activity C-Mining and quarrying.

Total GVA adjustments for non-exhaustiveness are insignificant and amount to 4 465 thousands KM, which is 1.5% of GVA before corrections.

The approach used for calculation of the main GDP categories is described in § 3.3.1.

3.9.1 Output

The output of activity C in 2007 amounts to 571 169 thousands KM, which is 2.3% of the output of the whole economy. The estimate of the output adjustments amounts to 2 872 thousands KM, or 0.5% higher than data obtained using 'Statistical Annex'. The adjustments are only for underreporting (N6) and for the other statistical data deficiencies (N7).

3.9.2 Intermediate consumption

Value of intermediate consumption amounts to 264 724 thousands KM and its share in output is 46.4%. Estimated intermediate consumption adjustments have a negative value, because adjustments are done for the part of per-diems for business trips, the part of the costs for using business car and business telephone for private purposes. For the value calculated in this way, the intermediate consumption is deducted and value added and compensation of employees are added. Estimate of negative adjustment of intermediate consumption amounts to 1 593 thousands KM, which is 0.6% of the original data.

Table 3.12 C Mining and quarrying, 2007, Adjustments on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
C Mining and quarrying	571 169	264 724	306 445	2 872	-1 593	4 465	1.5
10	384 710	145 841	238 869	176	-1 001	1 177	0.5
13	19 275	10 825	8 450	613	-119	732	9.5
14	167 184	108 058	59 126	2 083	-473	2 556	4.5

3.10 Manufacturing industry (D)

Manufacturing industry production consists of production generated within enterprises and unincorporated enterprises (entrepreneurs – craftsmen). In total GVA for this activity, the enterprises participate with 96.1%, while unincorporated enterprises (entrepreneurs) with just 3.9%. GVA for Manufacturing industry participates with 12.5% in GDP, and represents the activity with the largest share in GDP.

Activities that make the largest contribution to value added for Manufacturing industry are:

- Manufacture of food products and beverages (NACE 15) with share of 19.2%;
- Manufacture of fabricated metal products, except machinery and equipment (NACE 28) with share of 11.7%;
- Manufacture of basic metals (NACE 27) with share of 11.0%;
- Manufacture of other non-metallic mineral (NACE 26) with share of 9.9%.

For unincorporated units (entrepreneurs), the largest share in this activity has Manufacture of food products and beverages (NACE 15), Manufacture of furniture (NACE 36) and Manufacture of wood and of products of wood and cork (NACE 20).

Although data collection has been conducted using full coverage, adjustments for non-exhaustiveness are somewhat significant and amount to 5.9% GVA of original data for this activity.

Data sources for estimating total output, intermediate consumption and value added for this section of industry are data collected from reporting units through ‘Statistical Annex’ form for enterprises in 2007, and from Tax Authority offices for unincorporated units (entrepreneurs). Data obtained for enterprises through statistical statement are compared with the data from branch statistics, the industry statistics department, as well as audit reports that are published.

3.10.1 Output

The calculation of output for enterprises in this activity is conducted in the same way as for other activities explained in § 3.3.1. Output for entrepreneurs is calculated by using income approach what is explained in detail in § 3.3.3.

Output in Manufacturing industry amounts to 6 638 984 thousands KM mainly related to enterprises. Output for entrepreneurs is just 2.0% of total output for this activity.

The adjustments of output for NOE are 91 020 thousands KM, which represents 1.4% of output in Manufacturing industry of original data. Out of total amount of adjustments to this activity: 86.6% are for enterprises and 13.4% for entrepreneurs. The most significant adjustments are in Manufacture of food products and beverages (NACE 15), Manufacture of furniture (NACE 36), Manufacture of metal products, not machine & equipment (NACE 28) and Manufacture of wearing apparel (NACE 18).

Adjustments for enterprises were done mainly for underreporting (N6) just for small enterprises and for (N4) type of non-exhaustiveness– Registered legal entities not surveyed. Adjustments for entrepreneurs mostly refer to entrepreneurs that are engaged in production of food and beverages and manufacture of different products of wood, generating small income. For this reason, their registration is not required.

3.10.2 Intermediate consumption

Value of intermediate consumption in Manufacturing industry is 4 906 367 thousands KM and its share in output is 73.9%. The largest share of IC in output is in activity D/34-Manufacture of motor vehicles and amounts to 89.1%, thus in activity D/23-Manufacture of coke, refined petroleum products and nuclear fuel with 88.8%. Value of material costs obtained by statistical statement and comprises of costs of raw and other materials, costs of services and other material costs are in compliance with National Accounts standards according to SNA methodology.

Corrections for NOE were done especially for enterprises and entrepreneurs. Negative IC corrections were done for enterprises by deducting of IC for using telephone and cars in private purposes, compensations for temporary and occasional jobs and authors' fees, thus for part of per-diem for business trips. Taking into account that these items make compensation of employees, gross value added is increased for the same amount. Positive corrections of intermediate consumption were done for enterprises that did not submit statements for current year. For entrepreneurs, positive corrections of intermediate consumption were done for non-registered entrepreneurs (for which registration is not required), thus for underreporting. Total corrections for NOE in this activity are negative and amount to 4 828 thousands KM. The reason is that negative corrections of intermediate consumption were mostly done (already mentioned), and because enterprises have almost never presented material costs lower than real value.

Table 3.13 D Manufacturing industry, 2007, Adjustments on Output, GVA and IC, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
Total	6 638 984	4 906 367	1 732 617	91 020	-4 828	95 848	5.9
15	1 140 113	807 629	332 483	16 284	-1 836	18 120	5.8
16	106 970	59 222	47 747	2 094	-514	2 608	5.8
17	71 531	33 087	38 445	2 187	-371	2 558	7.1
18	132 102	66 691	65 411	8 996	1 992	7 004	12.0
19	130 856	84 278	46 579	1 152	-881	2 033	4.6
20	392 680	285 323	107 357	6 528	-700	7 228	7.2
21	62 354	52 317	10 037	460	-135	595	6.3
22	189 467	117 646	71 820	5 559	-3 079	8 638	13.7
23	234 957	208 581	26 377	1 718	-887	2 605	11.0
24	284 208	202 062	82 146	1 176	-3 526	4 702	6.1
25	231 370	169 601	61 769	1 610	-745	2 355	4.0
26	489 127	317 404	171 723	7 077	-744	7 821	4.8
27	1 288 444	1 098 161	190 284	492	-2 745	3 237	1.7
28	693 316	491 063	202 252	10 572	-1 358	11 930	6.3
29	202 721	146 080	56 641	2 903	-435	3 338	6.3
30	42 846	24 782	18 065	423	-372	795	4.6
31	148 274	115 133	33 140	1 421	-516	1 937	6.2
32	9 039	7 209	1 830	89	-101	190	11.6
33	22 563	11 283	11 279	704	-208	912	8.8
34	382 911	341 005	41 906	715	-427	1 142	2.8
35	13 253	6 435	6 818	634	-83	717	11.8
36	285 393	197 711	87 683	15 146	12 666	2 480	2.9
37	84 489	63 664	20 825	3 080	177	2 903	16.2

3.11 Electricity, gas and water supply (E)

Production in this activity is generated only within enterprises, the largest part of which is public enterprises with full coverage in national accounts. Enterprises are classified in the following activities:

- Electricity, gas, steam and hot water supply (NACE 40) and
- Collection, purification and distribution of water (NACE 41).

Output and intermediate consumption data are calculated from database obtained by ‘Statistical Annex’.

GVA for this activity is 448 403 thousands KM which represents 3.2% of GDP. Total adjustment of GVA amounts to 5 328 thousands KM or 1.2% of the original data of this activity.

Table 3.14 E Electricity, gas and water supply, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
			000 KM	%	
Total	1 382 980	934 578	448 403	100.0	3.2
40	1 236 657	881 113	355 544	79.3	
41	146 323	53 465	92 859	20.7	

3.11.1 Output

Output of this activity in 2007 amounted to 1 382 980 thousands KM, which is 5.6% of output for all activities. Corrections for NOE are not significant and amount to 3 130 thousands KM, which is 0.2% of the original data of this activity. Adjustments are done for non-exhaustiveness type N6, on the basis of comparison of compensation of employees by an employee between enterprises with smaller and larger number of employees.

3.11.2 Intermediate consumption

Intermediate consumption is calculated using data from ‘Statistical Annex’ for enterprises. The method for intermediate consumption calculation has been explained in § 3.3.1. It is the same as for Mining i.e. Manufacturing industry. The share of intermediate consumption in output is 67.6%. Small positive corrections are made for enterprises which have not submitted statements. The negative corrections are more significant and related to use of business telephones and cars for private purposes, compensations for temporary and occasional jobs and copyright fees, and the part of per-diems for business trips, what is included in the compensation of employees. Total corrections of intermediate consumption for NOE are negative and amount to 2 198 thousands KM.

Table 3.15 E Electricity, gas and water supply, 2007, Adjustments on Output, GVA and IC, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
Total	1 382 980	934 578	448 403	3 130	-2 198	5 328	1.2
40	1 236 657	881 113	355 544	1 266	-1 628	2 894	0.8
41	146 323	53 465	92 859	1 864	-570	2 434	2.7

3.12 Construction (F)

Enterprises present the largest part, although unincorporated units (entrepreneurs) are significantly engaged in Construction activity. The value of own-account construction by households is treated as

production activity. Estimate for this part is made by using Construction statistics, for which the data are based on regular annual statistical survey for individual housing construction. That is why, GVA is increased for 122 761 thousands KM or 25.7%, and this adjustment is 78.2% of total adjustment in Construction activity.

Adjustments are also done for NOE based on non-registered employees in legal entities, mostly small enterprises, and inaccurate reporting by producers. The most common type of inaccurate reporting is reporting a lower output value and overestimation of costs.

The main data source for the Construction is database obtained through 'Statistical Annex', fulfilled by all reporting units which do bookkeeping using Chart of Accounts for enterprises in FB&H. Only a small percentage of enterprises do not submit their statistical statements, and the value of their production is estimated through NOE (see Chapter 7).

GVA for enterprises amounted to 490 868 thousands KM which is 77.4% of total GVA in this activity, while entrepreneurs in construction generated 16.8% of GVA, and residual is own-account production.

The following table shows data for whole Construction at current prices in 2007.

Table 3.16 F Construction, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
			000 KM	%	
F Construction	2 073 248	1 439 387	633 860	100.0	4.6
Enterprises	1 679 980	1 189 112	490 868	77.4	
Households sector	393 268	250 275	142 992	22.6	

3.12.1 Output

Total Output in this activity is 2 073 248 thousands KM which makes 8.4% of output for all activities. Significant adjustments of output for own-account construction and underreporting have been done, what has been explained before. Total adjustments of output amount to 379 246 thousands KM, which is 22.4% of total output of the original data in this activity.

3.12.2 Intermediate consumption

Value of intermediate consumption in Construction activity is 1 439 387 thousands KM and its share in output is 69.4%. Total corrections of intermediate compensation amount to 222 343 thousands KM, which is 18.3% of total intermediate compensation of the original data of this activity. Positive corrections are made for own-account construction which are 227 983 thousands KM, and positive corrections for business entities, which have not submitted statistical statements for current year, in the amount of 2 954 thousands KM. Negative corrections amount to 8 594 thousands KM and refer to the exhaustiveness type N7, the same as for activities mentioned earlier.

Table 3.17 F Construction, 2007, Adjustments on Output, GVA and IC, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
Total	2 073 248	1 439 387	633 860	379 246	222 343	156 903	32.9

3.13 Wholesale and retail trade; repair of motor vehicles, motorcycles, personal and household goods (G)

This activity, together with Manufacturing industry, presents activity with the largest share in GDP and amounts to 12.4%. Enterprises are mostly engaged in this activity, but the share of entrepreneurs is also significant. GVA is 1 722 636 thousands KM, out of which the share of enterprises is 83.5%, while entrepreneurs generated 16.5% of GVA.

The main data source for Trade is 'Statistical Annex' database for enterprises and the data from Tax Authority for entrepreneurs obtained through statistical survey.

The largest adjustments are done in this activity and amount to 213 637 thousands KM which represents 25.1% of total adjustments for all activities. Participation of NOE in total GVA for this activity is 14.2% of the original data. Adjustments are done mostly for entrepreneurs, and smaller adjustments refer to enterprises. Adjustments for enterprises are done for NOE, on the basis of non-registered employees in legal entities, mostly small enterprises, and for underreporting. For entrepreneurs, the adjustments are done for the value of underreporting and non-registered entrepreneurs, and for the entrepreneurs not obliged to register, who engage in retail trade activity and providing different repair services.

Table 3.18 G Wholesale and retail trade; certain repair, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
	000 KM		%		
Total	3 124 997	1 402 361	1 722 636	100.0	12.4
Enterprises	2 754 998	1 316 174	1 438 824	83.5	
Entrepreneurs	369 999	86 187	283 812	16.5	

3.13.1 Output

Output of this activity is measured as the difference between the sales of goods and costs of sold goods, what means that output is equal to the sum of trade margins value. Output in Trade is 3 124 997 thousands of KM, which is 12.7% of total output for all activities. Total output adjustments are 213 940 thousands KM, which is 7.4% of output of the original data. Adjustments to output have been significantly done for underreporting of entrepreneurs by imputation of the number of employees, as well as for the self-employed of unregistered businesses on opened and closed market places. Output adjustments for enterprises have been done for underreporting and for enterprises which have not submitted the statistical statement in current year.

3.13.2 Intermediate consumption

Intermediate consumption of this activity in 2007 amounted to 1 402 361 thousands KM and its share in output is 44.9%. Positive adjustments of intermediate consumption have been done for underreporting for entrepreneurs, in the amount of 31 935 thousands KM, and negative adjustments for N7 in enterprises in the amount of 31 632 thousands KM. Therefore, the total adjustments to intermediate consumption are positive and only amount to 303 thousands KM or 0.02% of intermediate consumption of the original data.

Table 3.19 G Wholesale and retail trade; certain repair, 2007, Adjustments on Output, GVA and IC, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
Total	3 124 997	1 402 361	1 722 636	213 940	303	213 637	14.2
50	401 255	160 671	240 584	28 789	1 266	27 523	12.9
51	1 826 398	931 529	894 869	27 391	-19 719	47 110	5.6
52	897 344	310 161	587 183	157 760	18 756	139 004	31.0

3.14 Hotels and restaurants (H)

This activity has a very small share of GVA in GDP, which is 2.4%. GVA amounts to 333 574 thousands KM, out of which entrepreneurs' share is 77.0%, while enterprises participate with 22.8%, and residual refers to students' dormitories. Entrepreneurs' services mainly refer to restaurants, bars and coffee shops, while enterprises services are related to hotel services. Students' dormitories present non-market producers and the calculation of total output is done by expenditure approach.

The main data source for Hotels and restaurants is 'Statistical Annex' database for enterprises and data from Tax Authority office for entrepreneurs obtained through statistical survey. After Trade, the largest GVA adjustments in absolute amount have been done in this activity and amount to 164 138 thousands KM, which is 19.3% of total adjustments for all activities. Therefore, the GVA of the original data in this activity has been increased for 96.9%. Out of NOE total amount, adjustments for entrepreneurs amount to 88.4%. This adjustment refers to underreporting (type N6) since almost all self-employed underreport their income and do not register all of their employees. The adjustment is done for tips also. Detailed explanation has been given in Chapter 7.

Table 3.20 H Hotels and restaurants, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
	000 KM			%	
Total	679 272	345 698	333 574	100.0	2.4
Entrepreneurs	535 351	278 674	256 677	77.0	
Enterprises	141 927	65 910	76 017	22.8	
Non-market producers	1 994	1 114	880	0.3	

3.14.1 Output

Output in this activity is 679 272 thousands, which is 2.8% of total output for all activities. Total adjustments to output amount to 316 914 thousands KM, which makes 87.5% of output of the original data for this activity. Output adjustments are done for underreporting and tips both for entrepreneurs and enterprises.

3.14.2 Intermediate consumption

Intermediate consumption for this activity in 2007 is 345 698 thousands KM, i.e. 50.9% of output for this activity. Positive adjustments of intermediate consumption are done for underreporting for entrepreneurs, because of the method of measuring (see § 3.3.3.) and negative intermediate consumption adjustments for the compensation of employees for enterprises.

Table 3.21 H Hotels and restaurants, 2007, Adjustments on Output, GVA and IC, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
Total	679 272	345 698	333 574	316 914	152 776	164 138	96.9

3.15 Transport, storage and communications (I)

In this activity, the enterprises with 95.4% of GVA are dominant, the rest are entrepreneurs whose services are related to taxi services and, to minor extent, to road services (freight transport by trucks). GVA for this activity is 1 021 591 thousands KM and has a significant share in GDP with 7.4%. The most important activity is Post and telecommunications (NACE 64) with 58.9% share in GVA for activity I - Transport, storage and communications.

The main data source for this activity is 'Statistical Annex' database for enterprises and data from Tax Authority office for entrepreneurs obtained through statistical survey.

Minor adjustments to GVA have been done in this activity in the amount of 35 487 thousands KM or 3.6% of the original data, representing 4.2% of total adjustments in all activities. Adjustments have been done for underreporting and other statistical data deficiencies (N7) for enterprises and for non-registered taxi drivers for entrepreneurs.

Table 3.22 I Transport, storage and communications, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
	000 KM			%	
Total	1 837 204	815 613	1 021 591	100.0	7.4
Entrepreneurs	86 828	39 519	47 310	4.6	
Enterprises	1 750 376	776 094	974 281	95.4	

3.15.1. Output

Output of this activity amounts to 1 837 204 thousands KM, which is 7.5% of total output for all activities. Some huge companies are mostly engaged in output of this activity, Audit companies monitor their business, and coverage of these enterprises in National accounts is complete. Therefore, total output adjustments done in this activity are very small and amount to 29 738 thousands KM, which is 1.7% of total output of the original data in this activity. Output adjustments have been done for underreporting and other statistical data deficiencies (tips for taxi drivers) related to the other Land transport, precisely for small enterprises engaged in passenger and goods transport. The main output adjustment for non-exhaustiveness of unincorporated enterprises is estimate for taxi services precisely for taxi drivers without taxi licence.

Beside agriculture, Transport is the activity with the largest amount of subsidies on products from general government.

3.15.2 Intermediate consumption

Intermediate consumption for this activity in 2007 was 815 613 thousands KM, which is 44.4% of the output for this activity.

Positive adjustments of intermediate consumption were done for unincorporated enterprises as well as for output for taxi services precisely for taxi drivers without taxi license. Negative intermediate consumption adjustments were done for enterprises related to non-exhaustiveness type N7 (using business telephones and cars for private purposes, part of per-diems for business trips, compensations

for temporary and occasional jobs and copyright fees). Total intermediate consumption adjustments are negative and amount to 5 749 thousands KM.

Table 3.23 I Transport, storage and communications, 2007, Adjustments on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
Total	1 837 204	815 613	1.021.591	29 738	-5 749	35 487	3.6
60	789 921	453 931	335 991	22 572	-1 773	24 345	7.8
62	21 696	16 749	4 947	38	-76	114	2.4
63	167 561	88 771	78 789	5 935	-1 528	7 463	10.5
64	858 026	256 162	601 864	1 193	-2 372	3 565	0.6

3.16 Financial intermediation (J)

The measurement of output and GVA for Financial intermediation activity is specific since output is generated by institutional units for which output is calculated in different way (banks, insurance companies and other institutional units classified in Financial intermediation activity).

The main categories of output account for this activity are outlined in Table 3.24.

Table 3.24 J Financial intermediation for 2007

	Output	Intermediate consumption	Gross value added		% of GDP
	000 KM			%	
J Financial intermediation	905 645	307 600	598 044	100.0	4.3
65 Financial intermediation, except insurance and pension funding	781 604	240 425	541 179	90.5	
66 Insurance and pension funding, except compulsory social security	85 881	52 473	33 408	5.6	
67 Activities auxiliary to financial intermediation	38 160	14 702	23 457	3.9	

Output in Financial intermediation activity is 905 645 thousands KM and participates with 3.7% in the output of the whole economy. The largest part of output in this activity is generated by commercial banks (73.5%), and it is calculated as the difference between interests receivable and payable and fees for banks services. In division 65, besides banks, there are a significant number of units that are obliged to fulfil financial statements for enterprises such as leasing companies, while micro-credit organisations and some building societies fulfil their financial statements on the forms of annual accounts for non-profit organizations. Micro-credit organisations are legal entities that could be established as micro-financial associations or micro-financial foundations. Permission for work and for giving micro loans is under competence of FB&H Agency for Banking. Currently, micro-credit organisations are in transition process. The share of their output in the total output of Financial intermediation activity is 4.2%.

In the division 65, it is also the Central Bank of Bosnia and Herzegovina, output of which is calculated by cost approach and makes 2.8% of total output in Financial intermediation activity.

Institutional units in NACE division 66 relate to insurance companies. Output in this division participates with 9.5% in total output for Financial intermediation activity.

In division 67, there are, mainly, small enterprises, which are engaged in other financial intermediation. These institutions are stock exchanges, investment funds and other financial intermediaries. The main data source for these financial institutions is "Statistical Annex of annual

financial statement”. Output for all mentioned units is calculated by cost approach, which represents a sum of intermediate consumption, consumption of fixed capital and compensation of employees. The share of output in the division 67 is 3.9% of total output in Financial intermediation activity.

The main data sources for calculation of GVA for institutional units registered in NACE group 65.1 and division 66 are special statistical reports that are fulfilled and submitted by all banks and insurance companies.

GVA for Financial intermediation activity amounts to 598 044 thousands KM, which is 5.2% of total GVA for all activities, i.e. 4.3% of GDP.

3.16.1 Financial intermediation (J 65.1)

Banks and saving banks are included in the Financial intermediation activity - group 65.1. In this NACE group, the Central Bank of B&H is also classified. The main categories of production account for the Central Bank of B&H are calculated by BHAS, and values are assigned to the entities according to the principle of public revenues distribution in B&H (in %). Output for the Central Bank of B&H is calculated on the basis of the cost approach.

Financial services provided by financial organizations generate their output. Output for this activity consists of fees for bank services directly calculated and FISIM, where income is generated indirectly. FISIM is calculated as the difference between interests receivable from debtors (active interests) and payable to depositors (passive interests). The fact that FISIM is not allocated to the final consumers, the total GVA is reduced for these services. For the calculation of FISIM in national accounts, all relevant data are calculated on the base of special form which is used for the output calculation for the banks.

The value of FISIM for 2007 amounted to 480 494 thousands KM. With this item, the correction of GVA at the whole economy level has been made.

Intermediate consumption of banks and other financial institutions includes expenses of materials, services, energy and other operating expenses.

In the Table 3.25 the data on output, IC and GVA for group 65.1, without data for Central Bank B&H, are shown.

Table 3.25 J (65.1) Financial intermediation, except insurance and pension funding, 2007, 000 KM

	Value
1. Fees for bank services	185 361
2. FISIM	480 493
3. Output (1+2)	665 854
4. Intermediate consumption	194 997
5. Value added (3-4)	470 857

3.16.2 Insurance and pension funding, except compulsory social security (J 66)

Main data source for the calculation of value added for insurance companies is statistical form ‘Annual statement of insurance and reinsurance companies’ which insurance companies submit directly to FOS. In 2007, the reports of 13 insurance companies and a reinsurance company were covered.

Output of insurance companies is equal to the part of gross premium which insurance companies charge for their services. Gross premium consist of technical premium, prevention premium and expense loading which insurance companies use for covering their operating expenses, such as

intermediate consumption, consumption of fixed capital, compensation of employees etc., and it is calculated by insurance companies. The percentage of expense loading is about 25.0% of gross premium.

Intermediate consumption of insurance companies includes material expenses, expenses of services and other non-material expenses.

Table 3.26 J (66) Insurance and pension funding, except compulsory social security, 2007, 000KM

	Value
Expense loading	85 881
Output in National Accounts = expense loading	85 881
Intermediate consumption	52 473

3.17 Real estate, renting and business activities (K)

GVA in Real estate, renting and business activities is generated by enterprises, entrepreneurs, some budgetary users and non-budgetary funds for employment. GVA generated on the basis of imputed rental is also included in the GVA for this activity. GVA for Real estate, renting and business activities is 1 201 629 thousands KM, which is 10.5% of total GVA.

FOS takes over main calculated categories of GDP for imputed rental from BHAS which makes calculation. Value of imputed rental has been estimated for the first time for B&H and entities for 2004 on the basis of HBS/2004 data and specific estimates using “user cost” method. Estimated GVA of imputed rental (value of estimated house rent for households that live owner-occupied dwellings) has the largest share in GVA of Real estate, renting and business activities. GVA amounts to 719 599 thousands KM, and participates with 59.9% in GVA of Real estate, renting and business activities.

GVA for enterprises is the second important in whole Real estate, renting and business activities. GVA of enterprises in 2007 amounted to 410 561 thousands KM or 34.2% of total GVA in Real estate, renting and business activities.

Table 3.27 K Real estate, renting and business activities, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
			000 KM	%	
K Real estate, renting and business activities	2 090 193	888 565	1 201 629	100.0	8.7
Enterprises	1 064 000	653 439	410 561	34.2	
Non-incorporated enterprises	81 573	37 930	43 644	3.6	
Imputed rental	845 268	126 069	719 199	59.9	
Budgetary users and non-budgetary fund	99 352	71 127	28 225	2.4	

3.17.1 Output

The data sources and method of calculating output for enterprises and entrepreneurs are described in § 3.3.1. and 3.3.3. The output calculation for imputed rental is estimated by BHAS, which makes distribution by the entities.

In NACE division 73 – Research and development, apart from enterprises there are a significant number of budgetary users, such as various kinds of institutes in Research and development within natural, technical, technological, social and humanistic sciences.

In NACE division 74 – Other business activities, beside enterprises and entrepreneurs, specific users of public revenues such as non-budgetary funds for employment and Directory for roads of FB&H are included.

Unincorporated enterprises in this activity are engaged in activity of providing services such as lawyers, accountants and photographers.

Total value of output in Real estate, renting and business activities is 2 090 193 thousands KM or 8.5% of total output for whole economy. NOE adjustments to the output side is 64 379 thousands KM or 3.2% of output of the original data in this activity. The largest adjustment of output for non-exhaustiveness has been done for enterprises due to underreporting, and for underreporting of unincorporated enterprises (freelance) for lawyers, accountants, architects.

3.17.2 Intermediate consumption

Value of intermediate consumption in 2007 amounted to 888 565 thousands KM and its share in output was 42.5%. Value of intermediate consumption for enterprises and entrepreneurs from the original data sources was improved for conceptual and other corrections.

Intermediate consumption adjustments for non-exhaustiveness in this activity in 2007 was negative and amounted to 7 632 thousands KM. Negative adjustments for enterprises were made for non-exhaustiveness type N7 as well as for other activities and amounted to 16 234 thousands KM. Positive adjustments for entrepreneurs were made for underreporting of freelances (lawyers, accountants, architects), due to the method of calculation of material costs for these business entities (see § 3.3.3.).

Table 3.28 K Real estate, renting and business activities, 2007, Adjustment on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
K	2 090 193	888 565	1 201 629	64 379	-7 632	72 011	6.4
70	926 038	171 108	754 930	2 017	-452	2 469	0.3
71	30 396	15 661	14 735	1 117	-236	1 353	10.1
72	101 873	49 143	52 731	4 665	-1 345	6 010	12.9
73	210 355	172 482	37 873	2 100	-896	2 996	8.6
74	821 531	480 171	341 360	54 480	-4 703	59 183	21.0

3.18 Public administration and defence; compulsory social security (L)

The calculation of the main GDP categories for this activity was explained in details in § 3.3.2. The part of general government bodies, GDP categories of which were distributed according to the principle of public revenues distribution, have been included in value of output of Public administration and defence; compulsory social security.

Output value of non-market producers is calculated by cost approach, which is a sum of intermediate consumption, compensation of fixed capital, compensation of employees and other taxes on production. Compensation of fixed capital has been estimated to be 6.0% of value added.

GVA of Public administration is 1 179 778 thousands KM, which is 8.5% of GDP. For budgetary users, adjustments for non-exhaustiveness have not been made.

Table 3.29 L Public administration and defence; compulsory social security, 2007, 000KM

	Output	Intermediate consumption	Gross value added	% of GDP
L	1 546 443	366 664	1 179 778	8.5

3.18.1 Output

Output of this activity is 1 546 443 thousands KM, which makes 6.3% of total output.

3.18.2 Intermediate consumption

Intermediate consumption is calculated as a sum of production cost, services and other production cost. Intermediate consumption value for Public administration amounts to 366 664 thousands KM and its share in output is 23.7%.

3.19 Education (M)

Activity of Education consists of market (enterprises and entrepreneurs) and non-market producers. The most significant part belongs to the non-market producers where public schools, public kindergarten and faculties are included, and they make 96.4% GVA of this activity, while market producers make smaller part and relate to driving schools and activity of education (private kindergarten, private school and faculties).

The main data source for calculation of gross output for Education activity for non-market producers is Profit and loss account, collected by AFIP, Sarajevo and by the Agency for providing financial, information and intermediation services, Mostar (FIP). Value of output for the non-market producers is calculated by cost approach, and it is a sum of intermediate consumption, consumption of fixed capital, compensation of employees and other taxes on production. Consumption of fixed capital is estimated at 5.0% of GVA (see § 3.3.2.).

Output of entrepreneurs is calculated by income approach, which was explained, in details, in § 3.3.3. Data source for enterprises is 'Statistical Annex', and output has been calculated in the same way as for enterprises registered in other activities. Corrections for non-exhaustiveness were made only for market producers, the more significant corrections were made for entrepreneurs.

GVA for the activity of Education is 647 675 thousand KM, or 4.7% of GDP.

Table 3.30 M Education, 2007

	Output	Intermediate consumption	Gross value added	% of GDP
	000 KM			%
Total	799 866	152 192	647 675	100.0
Enterprises	22 626	11 978	10 648	1.6
Self-employed persons	19 693	6 890	12 803	2.0
Non-market producers (budgetary users and associations)	757 547	133 324	624 224	96.4

3.19.1 Output

Output is 799 866 thousand KM, which makes 3.3% of total output. Adjustments for non-exhaustiveness amounts to 9 602 thousands KM, or 1.2% of output on the base of the original data for this activity. Adjustments are related to non-registered entrepreneurs, mainly (women who take care about children), and smaller part of adjustment refers to inaccurate reporting by enterprises.

3.19.2 Intermediate consumption

Intermediate consumption is calculated as a sum of production cost, services and other costs. Intermediate consumption is 152 192 thousand KM and its share in output is 19.0%. Positive adjustments of intermediate consumption for non-exhaustiveness for unincorporated enterprises was made and amounted to 1 704 thousands KM, while adjustment for enterprises were negative and amounted to 961 thousands KM. Total adjustments of intermediate consumption have been 743 thousands KM or 0.5% of intermediate consumption on the base of the original data.

Table 3.31 M Education, 2007, Adjustments on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
M	799 866	152 192	647 675	9 602	743	8 859	1.4

3.20 Health and social work (N)

Health services may be provided by government and by private institutions. About 90.0% of value added of Health and social work is generated by general government sector (budgetary units and non-profit institutions). Estimates of GVA and output for them are based on the cost approach. Market producers consist of enterprises and entrepreneurs. These are mostly private health clinics, dental surgeries, and residential homes for the elderly. Data for privately owned corporations providing health services are taken from annual survey 'Statistical Annex'. Data for self-employed doctors and dentists are derived from statistical survey from Tax authority offices.

Adjustments for non-exhaustiveness were made, mostly for entrepreneurs, and in a small part for enterprises.

Table 3.32 N Health and social work, 2007

	Output	Intermediate consumption	Gross value added		% of GDP
			000 KM	%	
Total	819 827	249 468	570 359	100.0	4.1
Enterprises	23 121	9 991	13 130	2.3	
Entrepreneurs	32 548	14 720	17 828	3.1	
Budgetary users	764 158	224 757	539 401	94.6	

3.20.1 Output

Value of output has been estimated for market and non-market producers, separately. The output value of non-market producers is equivalent to the sum of intermediate consumption, compensation of employees, consumption of fixed capital and other taxes on production. The output value for enterprises is calculated on the base of the data collected through 'Statistical Annex', as well as for all market producers. The output value for entrepreneurs is calculated by the income approach.

Value of output for Health and social work activities is 819 827 thousands KM or 3.3% of total output. Corrections for non-exhaustiveness are 16 682 thousands KM, which is 2.1 % of output of the original data for this activity. Adjustments are mostly made for entrepreneurs, for the value of underreporting as correction of self-employer's income and imputation of number of employees, and for doctors and dentists who are non-registered for doing their business in private clinics and flats. A smaller part of adjustments relate to underreporting of enterprises.

3.20.2 Intermediate consumption

Value of intermediate consumption is calculated as a sum of production costs, services and other costs. Intermediate consumption amounts to 249 468 thousands KM and its share in output is 30.4%.

The positive adjustment for non-exhaustiveness was made for entrepreneurs in the amount of 6 859 thousands KM, while adjustments for enterprises were negative and amounted to 346 thousands KM. Total adjustments to intermediate consumption has been 6 533 thousands KM or 2.7% of intermediate consumption calculated on the basis of the original data.

Table 3.33 N Health and social work, 2007, Adjustment on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
N	819 827	249 468	570 359	16 682	6 533	10 149	1.8

3.21 Other community, social and personal service activities (O)

In the activity O, enterprises, self-employed persons, non-profit institutions and budgetary users are engaged. Total GVA for the activity O - Other community, social and personal service activities is 311 616 thousands KM, and makes 2.3% of GDP.

GVA of enterprises participates with 49.6%, budgetary users with 9.6%, self-employed persons with 20.5%, membership organizations 4.7% in GVA of this activity, and GVA for all other institutional units is 15.7% of the total GVA.

3.21.1 Output

Data for the calculation of output of enterprises are collected through statistical survey 'Statistical Annex' of annual financial statement and method of calculation is described in §3.3.1.

The calculation of output for entrepreneurs is made on the base of the data collected through survey 'DV-DZ', and calculation approach is described in §3.3.3.

For direct budgetary users, as well as for other non-market producers engaged in government sector, data are collected through 'Statistical Annex' and annual financial statements (Profit and loss accounts), and calculation is made by cost approach as described in § 3.3.2.

Output amounts to 582 742 thousands KM, which is 2.4 % of total output. Output value includes corrections for NOE in the amount of 66 328 thousands KM, and this is 12.8% of the original data. The largest part of NOE refers to incorrect reporting of income and expenditures of small and unincorporated units. Corrections for tips for hairdressers have been made.

3.21.2 Intermediate consumption

Intermediate consumption value amounts to 271 126 thousands KM, and its share in output is 46.5%.

Value of intermediate consumption has been corrected for positive and negative conceptual adjustments. Total value of corrections is 23 120 thousands KM, from which the positive corrections have been made for unincorporated enterprises in the amount of 27 751 thousands KM, and negative corrections for enterprises in the amount of 4 631 thousands KM.

Table 3.34 Other community, social and personal service, 2007, Adjust. on Output, IC and GVA, 000 KM

	Value after corrections for non-exhaustiveness			Value of total corrections for non-exhaustiveness			adjustment as % of GVA
	Output	IC	GVA	Output	IC	GVA	
O Other community, social and personal service activities	582 742	271 126	311 616	66 328	23 120	43 208	16.1
90	75 487	24 999	50 487	1 851	-247	2 098	4.3
91	34 510	17 178	17 332	0	0	0	0.0
92	335 763	163 317	172 447	3 492	-3 374	6 866	4.2
93	136 982	65 632	71 350	60 985	26 741	34 244	92.3

3.22 Private households with employed persons (P)

3.23 Treatment of extra territorial organisations and bodies (Q)

3.24 Taxes on products

For the purpose of national accounts, FOS takes the data on taxes from FB&H Ministry of Finance through “*Overview of total generated and allocated public revenues*”. Data that are indirect taxes, besides VAT, are taxes on imports and import duties, excise and all other taxes calculated on goods and services, also including sales taxes and railroad taxes. All taxes on the mentioned grounds, as well as VAT, are paid into the Single account of Indirect Taxation Authority of B&H and allocated to the entities and the Brcko District according to the agreed ratios of distribution.

The FB&H Ministry of Finance in its “*Overview*” reports data on total revenues from the indirect taxes received from the Single account of Indirect Tax Authority of B&H, by agreed coefficients. Data are not classified by types of taxes and are used in the total amount for GDP calculation. Total taxes on products amount to 2 967 752 thousands KM, which is 21.4% of GDP.

Data on taxes on products, except the taxes mentioned above, have not been included in the calculation yet, as FOS is in the phase of collecting these data by types from the FB&H Ministry of Finance.

3.26 Subsidies on products

Subsidies on products are current unrequited payments by general government to resident market producers. The main data source for subsidies on products is budgetary statistics (data from the federal and cantonal ministries).

For the first time, for the calculation of output for market producer, FOS included data from budgetary statistics on subsidies on products for 2007. Until then, data on subsidies derived from those collected from business entities. These subsidies mainly relate to the subsidies for agriculture, manufacturing industry and passenger rail transport.

In 2007, the amount of given subsidies on products was 99 893 thousands KM, out of which 58% were subsidies given to legal entities. The largest amount of subsidies given to legal entities relates to the Railways of FB&H, while the largest amount of subsidies in individual sector relates to the agriculture, hunting and forestry.

b) REPUBLIKA SRPSKA INSTITUT OF STATISTICS (RSIS)

3.0 GDP by the production approach

The calculation process of gross domestic product (GDP) by production approach can be explained in two steps. In the first step, gross value added (GVA) at basic prices of all activities is calculated as the difference between output at basic prices and intermediate consumption at purchasers' prices. Allocation of FISIM by activities is not done, so entire GVA is corrected for that amount. In the second step, taxes on products are added, while subsidies on products are deducted from the total GVA for all activities, in order to get GDP at market prices. Subsidies on products and taxes on products are not classified by activities and institutional sectors. Table 3.1 shows main categories of GDP 2007 by production approach. In Table 3.2, output, intermediate consumption, and GVA are shown at the level of A60 Classification of activities and by institutional sectors.

First results for GDP by production approach at the level of A60 Classification of activities are published in the middle of July of the current year, while final data are published in November of the same year as release. In addition, final data are published in bulletin at the end of current year. Classification of activities is consistent and in accordance with the European Classification of Economic Activities NACE Rev.1.1.

Complete calculation of GDP is based on the concept of the System of National Accounts 1993 (SNA 93) and European System of National Accounts 1995 (ESA 95).

Table 3.1 GDP by production approach, 2007, 000 KM

	Value	% of GDP
Output at basic prices	12 199 775	165.9
Less : Intermediate consumption at purchasers prices	6 362 685	86.5
Gross Value Added at basic prices	5 837 090	79.4
Taxes on products	1 554 121	21.1
Less : Subsidies on products	40 226	0.5
Gross Domestic Product at market prices	7 350 985	100.0

Table 3.2 Output, IC and GVA by activities and institutional sectors, 2007

Activity	Output	Intermedi ate consumpti on	Gross value added	Structure of gross value added
				000 KM
A Agriculture,hunting,forestry	1 998 400	1 080 601	917 799	15.7
01 Agriculture,hunting and related service activities	1 800 919	982 696	818 223	14.0
02 Forestry,logging and related service activities	197 481	97 905	99 576	1.7
B 05 Fishing	12 917	7 631	5 286	0.1
C Mining and quarrying	272 768	146 871	125 897	2.2
10 Mining of coal and lignite,extraction of peat	88 082	30 941	57 141	1.0
13 Mining of metal ores	152 540	98 039	54 501	1.0
14 Other mining and quarrying	32 146	17 891	14 255	0.2
D Manufacturing	2 433 199	1 758 496	674 703	11.6
15 Mfr.of food production and beverages	646 446	474 097	172 349	2.9
16 Mfr.of tobacco products	6 874	4 195	2 679	0.1
17 Mfr.of textiles	51 292	39 041	12 251	0.2
18 Mfr. of wearing apparel, dressing and dyeing of fur	66 949	38 424	28 525	0.5
19 Leather tanning and dressing: luggage, saddler handbags, shoes etc manufacture	56 738	20 390	36 348	0.6
20 Mfr.of wood and wood, cork, straw and plaiting mat. products	346 895	255 371	91 524	1.6

Table 3.2 Output, IC and GVA by activities and institutional sectors, 2007 (continued)

Activity	Output	Intermediate consumption	Gross value added	Structure of gross value added
	000 KM			%
21 Mfr. of pulp, paper and paper products	83 476	70 563	12 913	0.2
22 Publishing, printing and reproduction of recorded media	60 723	36 414	24 309	0.4
23 Mfr. of coke, refined petroleum products and nuclear fuel	53 269	41 676	11 593	0.2
24 Mfr. of chemicals and chemical products	25 791	16 581	9 210	0.2
25 Mfr. of rubber and plastic products	77 172	54 458	22 714	0.4
26 Mfr. of other non-metallic mineral products	115 811	77 895	37 916	0.6
27 Mfr. of basic metals	263 213	213 446	49 767	0.8
28 Mfr. of fabricated metal prod., except machinery and equipment	274 141	198 230	75 911	1.3
29 Mfr. of machinery and equipment n.e.c.	21 284	13 891	7 393	0.1
30 Mfr. of office machinery and computers	21 951	16 647	5 304	0.1
31 Mfr. of electrical machinery and apparatus n.e.c.	53 768	37 417	16 351	0.3
32 Mfr. of radio, television and common. Equipment and apparatus	12 784	8 110	4 674	0.1
33 Mfr. of medical, precision and optical instr., watches and clocks	17 238	10 970	6 268	0.1
34 Mfr. of motor vehicles, trailers and semi-trailers	28 205	21 564	6 641	0.1
35 Mfr. of other transport equip.	11 715	4 652	7 063	0.2
36 Mfr. of furniture, manufact n.e.c.	89 098	60 589	28 509	0.5
37 Recycling	48 366	43 875	4 491	0.1
E Electricity, gas and water supply	613 887	303 026	310 861	5.3
40 Electricity, gas, steam and hot water supply	555 817	281 133	274 684	4.7
41 Collection, purification and distribution of water	58 070	21 893	36 177	0.6
F 45 Construction	1 105 806	707 675	398 131	6.8
G Wholesale and retail trade	1 525 848	655 460	870 388	14.9
50 Sale, maintenance and repair of motor vehicles	155 650	53 709	101 941	1.7
51 Wholesale trade and commission trade	709 714	336 255	373 459	6.4
52 Retail trade, except of motor vehicles; repair	660 484	265 496	394 988	6.8
H 55 Hotels and restaurants	206 856	90 187	116 669	2.0
I Transport, storage and communication	847 923	389 801	458 122	7.8
60 Land transport	294 939	175 372	119 567	2.0
61 Water transport				
62 Air transport	647	575	72	0.0
63 Supporting and auxiliary transport activities; travel agencies activities	120 052	91 842	28 210	0.5
64 Post and telecommunications	432 285	122 012	310 273	5.3
J Financial intermediation	336 055	138 670	197 385	3.4
65 Financial intermed., exc. insur. and pension funding	273 929	100 059	173 870	3.0
66 Insurance and pension funding	50 770	34 888	15 882	0.3
67 Activities auxiliary to financial intermediation	11 356	3 723	7 633	0.1
K Real estate, renting and business	1 029 137	342 994	686 143	11.8
70 Real estate activities	449 589	76 961	372 628	6.4
71 Renting of machinery and equipment	6 215	2 299	3 916	0.1
72 Computer and related activities	24 307	10 059	14 248	0.2
73 Research and development	7 971	3 985	3 986	0.1
74 Other business activities	541 055	249 690	291 365	5.0
L 75 Public administration and defence	956 953	322 591	634 362	10.9
M 80 Education	288 288	55 678	232 610	4.0
N 85 Health and social work	364 640	117 178	247 462	4.2

Table 3.2 Output, IC and GVA by activities and institutional sectors, 2007 (continued)

Activity	Output	Intermediate consumption	Gross value added	Structure of gross value added
O Other community, social services	207 098	99 449	107 649	1.8
90 Sewage and refuse disposal and similar activities	38 232	11 829	26 403	0.4
91 Activities of membership organizations n.e.c.	66 597	37 700	28 897	0.5
92 Recreational, cultural and sporting activities	98 183	48 576	49 607	0.8
93 Other service activities	4 086	1 344	2 742	0.1
FISIM		146 377	- 146 377	2.5
Total by sections	12 199 775	6 362 685	5 837 090	100.0
S.11 Non-financial corporations	6 610 474	3 903 196	2 707 278	46.4
S.12 Financial corporations	328 967	136 191	192 775	3.3
S.13 General government	1 550 531	470 566	1 079 965	18.5
S.14 Households	3 595 091	1 641 150	1 953 941	33.5
S.15 Non-profit institutions serving households	114 712	65 204	49 508	0.8

3.1 The reference framework

3.1.1 Data sources

3.1.1.1 Agency for intermediation, informatics and finance - APIF

Main data sources for legal entities are annual financial statements (administrative sources). Annual financial statements are most important data source for GDP calculation. They consist of Profit and loss account, Balance sheet, and Accounting Annex for legal entities. This data source excludes only the households sector (entrepreneurs), for which there is still no legal framework for obligatory submission of annual financial statements. Agency for intermediation, informatics, and finances – APIF, is in charge of collection and coverage of Annual financial statements. APIF delivers them in the *Access* format to the Institute for Statistics of Republika Srpska (RSIS), at the individual subject level, in April of the current year for the previous year. After the data are taken from APIF, first of all, the APIF register is compared with the statistical administrative register, to control coverage and check the activities, which are then, on the basis of the principal activity of an institutional unit with location in Republika Srpska (RS), grouped by activities of the Classification of economic activities.

APIF collects annual financial statements for the following legal entities:

- Non-financial enterprises;
- Non-profit institutions, associations;
- Banks and insurance companies;
- Public enterprises and agencies (indirect budget users, such as hospitals, etc.).

All financial statements contain elements of revenues and expenditure, i.e. necessary elements for the calculation of output and intermediation consumption by data sources.

3.1.1.2 Branch statistics

Branch statistics within RSIS are also data source for:

- Agriculture statistics – a part that relates to individual agriculture;
- Prices statistics and industry statistics for the constant prices calculation;
- Non-observed economy (NOE) estimates using labour statistics.

3.1.1.3 RS Ministry of Finance

RS Ministry of Finance delivers consolidated financial statements in electronic form to:

- RS Government;
- Municipalities;
- Social funds;
- Public education.

Above-mentioned reports comprise items of income, expenditure, compensation of employees, capital expenditure, as well as detailed lists of taxes and subsidies.

3.1.1.4 Statistical surveys

Due to the lack of financial statements for entrepreneurs, a statistical pilot survey was carried out for the components relevant to the GVA calculation of this segment of economy. At the end of 2008, the Pilot Survey for entrepreneurs was conducted, only for 2007. Survey was based on the sample of entrepreneurs with five or more employees, and it included all necessary and relevant categories for the GDP calculation. On the basis of the data from the entrepreneurs' sample, aggregation of data to the total number of registered entrepreneurs was done, using data from labour statistics.

New Law on Accounting also regulates the area of entrepreneurship and entrepreneurs that will have to report on their business through financial statements. Then, there will be no need to conduct pilot survey.

Household Budget Survey (HBS) as statistical survey is used for individual construction estimates and actual rent estimates. The estimates for individual construction for the year 2007 were based on the data from the HBS survey for 2007. Until 2007, individual construction was estimated on the basis of construction statistics and the number of issued building permits, which were obtained from the municipality level of government. Within the OECD project in 2005, *Ad hoc* survey "Individual construction" was conducted, for the reference period 1996-2005. It showed dynamics of building of individual houses and structure of output. Obtained results showed that, for some years, estimates of output for individual construction were too high and additional corrections were not necessary.

3.1.1.5 Agency for statistics of Bosnia and Herzegovina

Agency for statistics of Bosnia and Herzegovina (BHAS) collects and processes financial statements of B&H central agencies belonging to general government sector. After calculating the GVA elements, BHAS delivers them to the entities, according to established coefficients (31.7% belongs to RS, 64.7% to FB&H, and 3.6% to the Brcko District). BHAS delivers to RSIS the part which belongs to RS and which refers to the central state level, as already calculated categories of output, intermediate consumption, GVA, consumption of fixed capital, compensation of employees, number of employees, and a part of taxes.

BHAS calculates the value of the imputed rent at current and constant prices.

3.1.1.6 Statistical business register

Statistical business register (SBR) is the result of joint work of the three statistical institutions in B&H. European Union (EU) supported the development of B&H statistical system through the development of SBR as one of the components within the Twinning project completed at the end of 2008.

Through the development of SBR, online application for browsing and online application for statistical surveys were designed; SBR units and their variables were formed (according to previously established procedures). For now, SBR units are updated from administrative sources (Administrative

register of RSIS and RS Tax Authority). SBR at this level of development is still not useful for national accounts, but it is expected that it will be fully functional in near future. The update of SBR from other administrative sources, as well as from statistical activities, is planned for the future period.

3.1.2 Market and non-market units

Legal entities as institutional units are divided into market and non – market producers. Market producers sell their goods and services to other units for economically significant prices, which covers at least 50% of their production costs. This implies that if less than 50% of production costs is covered by sale, then an institutional unit is a non – market producer.

3.1.3 Output and production boundary

Output consists of all goods and services produced during the accounting period (calendar year) within production boundary. According to the ESA 95 definitions, production boundary comprises production destined for the market, production for own needs, and other non - market production. Production of goods and services for own use, which is included in GDP calculation, refers to:

- Building of a dwelling for own account;
- Production and processing of agricultural products;
- Housing services produced by owner-occupiers.

Products retained for own final use can only be produced by the household sector.

Output is calculated by two methods, by production method, or as a sum of costs that occur during the production process. With market producers, output consists of sums of revenues, changes in inventories, trade margin, subsidies on products, while for non-market producers costs method is used. Output is expressed at basic prices.

3.1.4 Intermediate consumption

Intermediate consumption at purchasers' prices consists of :

- Goods and services that are used in the production process (costs of materials, fuel and energy costs, transport costs, rent, fares, presentation, financial transactions, etc.);
- Value of goods and services obtained from other local business units of the same institutional unit;
- Expenditure of using rented fixed assets;
- Membership fees and other charges given to non-profit institutions;
- Expenditures of research and development, staff training;
- Expenditure of procurement of work clothing necessary for work activities;
- Expenditure of non-life insurance;
- Financial Intermediation Services Indirectly Measured at the level of the overall economy – FISIM;
- Expenditure of procurement of tiny tools and inventory used during production process.

According to the accounting regulations of RS, lifetime longevity of assets which lasts one year represents the boundary between distinguishing and defining the intermediate consumption of goods and gross fixed capital formation into fixed assets.

3.1.4.1 Conceptual corrections

Intermediate consumption is corrected for:

- Gross insurance premium;
- Allowances for employees;

- A part of tax expenditure.

Negative conceptual corrections consist of gross insurance premium and allowances for employees. In financial statements, the item, cost of insurance premium, is a part of synthetic account of non-material costs that comprises:

- Allowances for employees;
- Representation costs;
- Non-production services costs;
- Cost of insurance premiums;
- Costs of money transfers;
- Membership fees costs;
- Other non-material costs.

Using ESA 95 definition for non-life insurance services paid for by institutional units, conceptual correction of the above-mentioned item, costs of insurance premium, is made. In order to register only service charges as intermediate consumption, paid gross premiums are corrected for collected claims that amount to 65% of costs of insurance premium, while 35% of the same item remains in intermediate consumption. Allocation of the mentioned item is done on the basis of estimates by national accounts experts.

Non-material costs item, in addition to the category of costs that make up intermediate consumption, comprises also a part of costs that relates to allowances for employees, such as:

- Per diems for business trips;
- Remuneration for field work;
- Remuneration for person's living away from home;
- Remuneration for employees' food at work;
- Allowances for transportation to and back from work.

In line with the ESA 95 methodology principles, national accounts experts have corrected a part of non-material costs that relates to allowances for employees, which has been done within the scope of negative conceptual correction. The part excluded from intermediate consumption is included into compensation of employees.

Positive conceptual correction relates to the part of costs of taxes that falls into item, costs of taxes, in financial statements. Analysing that item through a direct contact with enterprises, it is concluded that in addition to other taxes on production, costs related to production process that should be included in the intermediate consumption have been entered under the same item (costs of taxes). This is the reason why a conceptual correction has been made and a part of the item - costs of taxes - is included into intermediate consumption.

All mentioned conceptual corrections were done for the first time for the GDP revision for 2007, and they will be used in future calculations. Corrections of data for 2005 and 2006 will be done, as well.

3.2 Valuation

3.2.1 Introduction

In accordance with the basic accounting principles, data in annual financial statements that are used for the calculation of output components and intermediate consumption are on accrual basis. The exceptions are some data for direct budget units and funds at the level of municipalities and government, which are on the cash basis, such as taxes.

3.2.2 Output

Output is evaluated at basic prices, from which taxes on products are excluded, but subsidies on products are included. For non-market producers, the calculation of output by cost method equals the sum of consumption of the fixed capital, other taxes on production, compensation of employees, intermediate consumption, while other subsidies on production are deducted from it. Output for market producers is the sum of sale of products and services, sale of goods minus the purchase value of sold goods i.e. trade margin, changes in inventories of finished products and work-in-progress, as well as subsidies on products.

3.2.3 Intermediate consumption

Intermediate consumption is evaluated at purchasers' prices. Intermediate consumption is calculated as a sum of costs of materials and raw materials, fuel and energy costs, costs of production services and non-material costs. Intermediate consumption is corrected for gross insurance premium by activities that are paid for by insured individuals.

3.2.4 Gross value added

GVA at basic prices is equal to the difference between output at basic prices and intermediate consumption at purchasers' prices.

3.2.5 Taxes on products

Taxes on products D.21 are obtained through B-2 report from the Ministry of Finances on annual basis, and are based on the cash basis. D.21 consists of VAT, excise duties, customs and import taxes, special taxes for overnight stay and taxes on lottery. Taxes on products will be explained in more detail in Chapter 3.22.

3.2.6 Subsidies on products

According to the budget statement, subsidies on products are evaluated as real transactions in a specific period. These budget data are balanced with the data on subsidies on products, obtained through financial statements from enterprises. Subsidies on products will be explained in more detail in Chapter 3.24.

3.2.7 Changes in inventories

According to the financial statement -Balance sheet- value of inventories for goods, raw materials and materials, work-in-progress and finished products are shown at the beginning and at the end of the accounting year at current prices. In national accounts, value of inventories by activities and type of inventories at the beginning and at the end of the accounting year are revaluated with the average price of that year. Changes in inventories are calculated as the difference between value at the end and value at the beginning of the year, by average prices. Changes in inventories of finished products and work-in-progress calculated in this way are included in the output calculation at current prices. Data sources for average prices are CPI and PPI.

3.3 Transition from private accounting and administrative concepts to ESA 95 national accounts concept

3.3.1 Introduction

Accounting rules and Chart of accounts in RS do not entirely meet the needs of national accounts, and do not provide for consistent use of ESA 95 methodology for the GDP calculation by production

approach. This is why certain adjustments and adaptations of financial statement data are required to meet the needs of national accounts. An integral part of financial statements is an accounting Annex which has largely simplified the GDP calculation by production method. Accounting Annex has been designed by the staff from RSIS National Accounts department in cooperation with RS Association of Accountants and Auditors and the RS Ministry of Finances department, responsible for regulations and legislation of accounting profession.

3.3.2 Non-financial sector S11.

3.3.2.1 Introduction

Non-financial sector comprises enterprises which generate their income at the market. Annual financial statements for market enterprises are the most important data source for GDP calculation, making up around 45% of total GVA. Introducing accounting Annex has led to the improvement of financial statements, where categories of costs, compensation of employees, taxes on products and subsidies on products are better defined and extracted at the lower analytical level.

3.3.2.2 Output

Output is calculated by taking some of the items from the Profit and loss account:

- Revenue from sales of products and services at domestic and international market;
- Revenue from sales of commodities;
- Other revenue (income from rent and membership fees);
- Purchasing value of sold goods;
- Changes in inventories of finished products and work-in-progress;
- Subsidies on products.

After the data are taken over from APIF, analysis and control of the financial statements data are done, as well as entry control of certain items from more important enterprises, through direct contact with them; all of these with an aim to use ESA 95 methodology more accurately. The next step is further adjustments that relate to non-observed economy (NOE) and the data not accounted for in financial statements (underreporting, non-reporting, and other statistical deficiencies) as will be explained in detail in section 7.1. Exhaustiveness adjustments to output amount to around 1.8% of the total output for enterprises.

3.3.2.3 Intermediate consumption

Intermediate consumption is, in the first step, calculated according to data contained in Profit and loss account, which are:

- Costs of materials for production;
- Other materials costs;
- Fuel and energy costs;
- Production services costs;
- Non-material costs.

Because of inappropriate content of the non-material costs item, which is explained in more detail in the section 3.1.4.1, and which includes allowances for employees and insurance premium costs, certain conceptual corrections are made, and these are corrections of gross insurance premium and allowances for employees, which are included in compensation of employees. In addition to this, conceptual corrections are made also for one part of costs for taxes. Conceptual corrections are explained in more detail in the section 3.1.4.1. In the end, the exhaustiveness adjustment is made for underreporting which is explained in detail in section 7.1.6.

3.3.3 Financial sector S12.

3.3.3.1 Introduction

Financial sector includes financial enterprises and all financial institutions (commercial banks, the part of Central Bank, which belongs to RS, micro credit organizations, privatization-investment funds, postal savings-bank and insurance companies).

Database with financial indicators for financial enterprises and financial institutions is delivered by APIF, except the part of Central Bank for which the data are delivered by BHAS.

3.3.3.2 Output

For the output calculation of banks, revenues and expenditure based on interest and fees are used. When it comes to insurance companies, we take total insurance premium, corrected with taken over damages and expenditure for technical reservations.

3.3.3.3 Intermediate consumption

The calculation of intermediate consumption for financial enterprises is done in the same way as for all enterprises, which is in more detail explained in the section 3.3.1.2. For other financial institutions, except insurance companies and the part of the Central Bank, for calculation of intermediate consumption, we consider the following costs:

- Costs of fees and commissions;
- Costs of materials;
- Costs of production services;
- Non-material costs;
- Other costs;
- Different other costs.

As explained in the section 3.3.1.2, non-material costs include also a part of allowances for employees, which are, as a conceptual correction, excluded from intermediate consumption of financial institutions but included in compensation of employees.

Calculation of intermediate consumption for the part of the Central Bank belonging to RS is obtained as already calculated category from BHAS.

For the calculation of intermediate consumption of insurance companies, apart from standard costs, we also include commissions' costs, other acquisition costs, reinsurance costs, other technical expenses, and non-technical expenses.

3.3.4 General government S13.

3.3.4.1 Introduction

General Government sector consists of non-market enterprises as indirect budget users and government as a direct budget user. There are two data sources, Budget Report for local and entity levels of government (direct budget users) and financial statements for public non-market enterprises (hospitals, funds, etc.). Budget Report referring to revenues is based on cash principle, while the costs are on the accrual base. GVA calculation for this sector is done by cost approach.

3.3.4.2 Output

Output for general government sector is calculated as a sum of intermediate consumption, compensation of employees, other taxes on production and consumption of fixed capital.

3.3.4.3 Intermediate consumption

Intermediate consumption of the government sector consists of:

- Travelling expenses;
- Energy costs;
- Costs of communal services;
- Supply of material;
- Costs of transport services;
- Property renting;
- Costs of current maintenance;
- Costs of insurance and bank services;
- Contracted service.

Conceptual corrections, which are in more detail explained within § 3.1.4.1, are made for intermediate consumption and consist of correction for gross insurance premium, correction for compensation of employees and correction for other taxes on production, where current transfers and other subsidies on production were taken into account.

3.3.5 Non-profit institutions serving households S15.

3.3.5.1 Introduction

Non-profit institutions, which belong to the sector Non-profit institutions serving households (NPISH), include different clubs and societies, cultural and other associations, trade unions and all other institutions, business activities of which are non-market. Main data source for non-profit institutions are financial statements based on accrual principle and provided by APIF. GVA calculation for this sector is done using costs method, as mentioned earlier for general government sector. Exhaustiveness adjustments in this sector refer to estimates for religious communities. Since religious communities are not obliged to submit financial statements, adjustments are made for their non-reporting.

3.3.5.2 Output

Output for non-profit institutions is calculated as a sum of intermediate consumption, compensation of employees, other taxes on production and consumption of fixed capital, i.e. costs approach is used. Output is also increased for estimates of religious communities, as exhaustiveness adjustment.

3.3.5.3 Intermediate consumption

Intermediate consumption of the non-profit institutions serving households sector consists of:

- Costs of raw material;
- Costs of other material;
- Costs of fuel and energy;
- Costs of production services;
- Non-material costs.

Because of inappropriate content of the non-material costs item, which is in more detail explained in §3.1.4.1, and which includes also allowances for employees and insurance premium costs, conceptual

corrections are made: corrections of gross insurance premium and allowances for employees, which are included in compensation of employees. Conceptual corrections are explained in more detail in §3.1.4.1. In the end, exhaustiveness adjustment is made for non-reporting for religious institutions, which is explained in detail in §7.1.6.

3.3.6 Household sector S14.

3.3.6.1 Introduction

Household sector includes entrepreneurs, individual agriculture, individual construction, and imputed rent. As for entrepreneurs, there is no reliable source of data. They are still not required by law to submit annual financial statements with all necessary categories of revenues and expenditure. Number of submitted financial statements with the double-entry accounting is very small, so there are more of those who paid flat taxation. The data submitted for flat taxation are not sufficient to meet the national accounts needs. Until 2007, the calculation for this sector was done by experts' estimates of the number of entrepreneurs from labour statistics, which based their reports on the data from the Health Insurance Fund.

Households sector also includes individual agricultural production, which is based on the data from the agricultural statistics; individual construction based on the HBS 2007 data, as well as imputed rent.

3.3.6.2 Output

In order to further improve calculation for this segment of economy, a pilot survey for individual entrepreneurs for 2007 was conducted as it is explained in § 3.1.1.3. Output was calculated as a sum of sales, changes in inventories and own-account production for consumption. Sale in trade activity has been corrected for purchasing value of sold goods. Based on sample data on individual entrepreneurs, evaluation of data for the total number of registered individual entrepreneurs has been done, using data from labour statistics by activities.

3.3.6.3 Intermediate consumption

Intermediate consumption for individual entrepreneurs is a sum of costs for materials, costs for services and other costs. Based on the sample data on individual entrepreneurs, evaluation of data for the total number of registered individual entrepreneurs has been done, using data from labour statistics by activities.

3.4 The roles of direct and indirect estimation methods

GDP calculation by production approach is mainly based on direct method, on annual financial statements available through APIF and RS Ministry of Finances and available statistical data sources. Annual financial statements, which usually cover all sectors except that of households, are available three or four months after the end of the calendar year. Calculation for the entrepreneurs is based on the Pilot survey, which has been explained in more detail in § 3.1.1.3.

3.5 The roles of benchmarks and extrapolations

Benchmark and extrapolation methods are used for the estimate of GDP component for imputed rent. Estimate of value of imputed rent is based on OECD methodology. It was carried out within EUROSTAT-OECD Project for improving exhaustiveness of GDP estimates in Western Balkan Countries, in which BHAS and entity institutes participated. Estimate was done by user cost method, as the sum of estimated consumption of fixed capital, intermediate consumption, taxes on production and operating surplus. The estimate was made for 2004 (benchmark year), and after that annual series

of data were made for the period 2000-2007, at current and constant prices. The calculation of imputed rent is done by BHAS, and then it is delivered to the entities.

3.6 Main approaches taken concerning non-observed economy

3.6.1 Introduction

During 2004, the Project on Non-observed economy (NOE) started in cooperation and organization of EUROSTAT and OECD. The project was focused on the improvement of exhaustiveness of sources for the GDP estimate. The project was implemented in two phases, using Tabular Approach to NOE estimate by types of non-exhaustiveness (from N1 to N7) for the period 2000-2007, and they were included in GDP calculation by production approach. Illegal activities were not included.

Total estimates of NOE for GDP 2007 amounted to KM 518 085 thousands forming 7.1 % of total GVA (illegal activities not included). The purpose of this part is to show main categories of adjustments for non-reporting, underreporting, unregistered activities of households, and for other statistical deficiencies. Estimates for NOE will be explained in more detail in Chapter 7. In Table 3.3, the adjustments are shown by type of non-exhaustiveness.

Table 3.3 Exhaustiveness adjustments by type, 2007

Type of mistakes, 000 KM	2007
N1 Deliberately non-registering activities	5 823
N2 Illegal activities	
N3 Not required to register	109 920
N4 Legal persons not surveyed	33 209
N5 Registered entrepreneurs not surveyed	
N6 Producers deliberately misreporting	355 261
N7 Other statistical deficiencies	13 872
TOTAL	518 085
	% of GDP
N1 Deliberately non-registering activities	0.1
N2 Illegal activities	
N3 Not required to register	1.5
N4 Legal persons not surveyed	0.5
N5 Registered entrepreneurs not surveyed	
N6 Producers deliberately misreporting	4.8
N7 Other statistical deficiencies	0.2
TOTAL	7.1

3.6.2 Producers who deliberately avoid registration (N1)

Adjustment for non-exhaustiveness type N1 has been very small, but it still exists. It has been included for entrepreneurs. Estimates were made using percentage to the output for the entrepreneurs, depending on the type of activity that they refer to. In the total exhaustiveness adjustments, type N1 participates with 1.1%. This is explained in more detail in § 7.1.1.

3.6.3 Not obliged to register (N3)

Unregistered household activities make up an important and valuable part of adjustments, and they amounted to 21, 2 % of total exhaustiveness adjustments. These estimates refer to the following:

- House and flat renting (real rent);
- Private accommodation renting for tourists;
- Students' work;

- Copyrights' fees;
- Work by contract;
- Fishing for one's own needs.

N3 type of non-exhaustiveness is explained in more detail in § 7.1.3.

3.6.4 Legal persons non-reporting (N4)

Non-reporting rate for 2007 was 6,4 % of total exhaustiveness adjustments. Coverage in administrative data sources is quite good and also complete for Government and its units, as well as for financial corporations. Estimates for non-reporting of non-financial corporations exist, and it amounted to 1.1% of the total GVA for non-financial enterprises. As for the non-profit institutions sector, non-reporting was 6.6% of GVA for that sector, and it refers to the non-reporting for religious institutions. More detailed explanation is provided in § 7.1.4.

3.6.5 Producers deliberately under-reporting (N6)

Underreporting for the year 2007 was 68.6 % of the total exhaustiveness adjustments. For the calculation of estimates for misreporting, the starting point was the analysis of output and GVA per capita. Estimate for misreporting for non-financial enterprises amounted to 7.5% of the total GVA for non-financial sector; for household sector it amounted to 7.7 % of the total GVA for that sector. This is explained in more detail in § 7.1.6.

3.6.6 Other statistical deficiencies (N7)

Other statistical deficiencies are those adjustments done in the following sections: D-crafts, G-trade (motor-vehicles repair), H-hotels and restaurants, I-transport (taxis), N-private health care, and O-other services (hairdressers), and these refer to estimate of tips in these sections. In the total exhaustiveness adjustments, N7 type of non-exhaustiveness participated with 2.7%. This is explained in more detail in §7.1.7.

3.7 Agriculture, hunting and forestry (A)

3.7.1 Introduction

Most part of agricultural activity is individual producers' production, which makes up 85.6% of the GVA for agriculture. Individual producers are not obliged to register. Agricultural and forestry enterprises and entrepreneurs make up the smaller part of GVA to this activity, and it amounts to 14.4 %. In the structure of enterprises, forestry makes up 75% of the GVA for enterprises. Subsidies that the government gives to the agricultural sector are very important. Table 3.4 shows output, intermediate consumption, and GVA to these activities separately for corporations, individual producers and entrepreneurs.

Table 3.4 A Agriculture, hunting and forestry, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM		%		
Total	1 998 400	1 080 601	917 799	100.0	15.7
Enterprises	301 477	170 550	130 927	14.2	2.2
Individual producers	1 687 749	902 949	784 800	85.6	13.5
Entrepreneurs	9 174	7 102	2 072	0.2	0.0

3.7.2 Data sources and methods

For enterprises, data sources were annual financial statements (Profit and loss account, Balance sheet and Annex), while agricultural statistics has been used as a data source for individual sector. Data sources are further explained § 3.1.and 3.3.

3.7.3 Output, corrections and adjustments

Output calculation for the individual sector was done on the basis of physical indicators of production and average purchasers' prices at the level of agricultural crops, which are monitored by agricultural statistics. Main components of agricultural output have been sale of agricultural products, subsidies on products, changes in inventories and trade margin taken over from financial statements. Output of agricultural and forestry enterprises were corrected with the estimates of NOE for non-reporting and underreporting.

3.7.4 Intermediate consumption, corrections and adjustments

For agricultural and forestry enterprises, both positive and negative conceptual corrections were made. Within negative conceptual corrections, corrections were made to items that refer to gross insurance premium and allowances for employees. Positive conceptual corrections comprise corrections of the item - tax cost taken from enterprises' financial statements – which, besides other taxes on production also included taxes that, according to SNA methodology do not belong to taxes on production and, therefore, they are included in intermediate consumption. All conceptual corrections are explained in more detail in § 3.1.4.1. Adjustments were made by including non-reporting and by correction to the lower level based on misreporting. In Table 3.5, conceptual corrections and adjustments for NOE to output and intermediate consumption are shown.

Agriculture statistics does not have data on intermediate consumption for individual agriculture, and by experts' estimate, it amounted to 54% of the output of individual agriculture.

Table 3.5 A Agriculture, hunting and forestry, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	1 982 559			15 841		1 998 400
Enterprises	285 636			15 841		301 477
Individual producers	1 687 749					1 687 749
Entrepreneurs	9 174					9 174
Intermediate consumption	1 084 736	4 896	5 967	1 457	4 521	1 080 601
Enterprises	174 685	4 896	5 967	1 457	4 521	170 550
Individual producers	902 949					902 949
Entrepreneurs	7 102					7 102

Table 3.6 shows gross value added according to data sources and national accounts , as well as adjustments and conceptual corrections of gross value added.

Table 3.6 A Agriculture, hunting and forestry, 2007; Gross value added by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	897 823	917 799	19 976	102.2	2.2
Enterprises	110 951	130 927	19 976	118.0	15.3
Individual producers	784 800	784 800	0.0	100.0	0.0
Entrepreneurs	2 072	2 072	0.0	100.0	0.0

3.8 Fishing (B)

3.8.1 Introduction

Fishing does not have a significant role in our economy. Only 0.1 % of the total number of legal entities goes to fishing. There are no registered entrepreneurs in this activity. Adjustments in this area are very slight, and they refer to misreporting of enterprises, and to households that carry out fishing only for their own needs.

Table 3.7 B Fishing, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM			%	
Total	12 917	7 631	5 286	100.0	0.1
Enterprises	12 912	7 631	5 281	99.9	0.1
Households	5		5	0.1	0.0

3.8.2 Data sources and methods

Financial statements are main data source for enterprises that deal with fishing.

3.8.3 Output, corrections and adjustments

For the output calculation, all components mentioned for agriculture are taken into account. Data source is adjusted for the amount that is considered misreporting of enterprises. The adjustment made refers to households engaged in fishing for their own needs.

3.8.4 Intermediate consumption, corrections and adjustments

Conceptual corrections are made in the same way as in other activities (gross insurance premium, allowances for employees, tax costs), while adjustments relate to misreporting of enterprises. All conceptual corrections are explained in more detail in § 3.1.4.1.

Table 3.8 B Fishing, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	11 956			961		12 917
Enterprises	11 956			956		12 912
Households				5		5
Intermediate consumption	7 877	67	229		84	7 631
Enterprises	7 877	67	229		84	7 631
Households						

Table 3.9 B Fishing, 2007; GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	4 079	5 286	1 207	129.6	22.8
Enterprises	4 079	5 281	1 202	129.5	22.8
Households		5	5	0.0	100.0

3.9 Mining and quarrying (C)

3.9.1 Introduction

In calculation of GVA for this activity, equal importance is attributed to mining of metal ores (division 13) and mining of coal, lignite and extraction of peat (division 10). Subsidies for this area are minimal, and revenues are generated by sale of the products. Entrepreneurs participate with 0.8% in the GVA for this activity.

Table 3.10 C Mining and quarrying, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM			%	
Total	272 768	146 871	125 897	100.0	2.2
Enterprises	270 018	145 111	124 907	99.2	2.1
Entrepreneurs	2 750	1 760	990	0.8	0.1

3.9.2 Data sources and methods

Data sources for enterprises in this activity are financial statements (Profit and loss account, Balance sheet and Annex), which APIF delivers to RSIS. Data source for entrepreneurs is the conducted Pilot Survey, which is explained in more detail in § 3.1.1.3.

3.9.3 Output, corrections and adjustments

For the calculation of output in this activity, the same components are used as for other activities. Subsidies in this activity refer to interest rates subventions. The coverage for this activity is complete and adjustments are not necessary; the adjustments made relate to misreporting.

3.9.4 Intermediate consumption, corrections and adjustments

Data source for intermediate consumption are corrected for amounts of gross insurance premium, allowances for employees and costs for taxes (as explained in § 3.1.4.1.). Adjustments of intermediate consumption are made for misreporting, as costs have been considered overrated. Table 3.11 shows conceptual corrections and NOE adjustments for output and intermediate consumption.

Table 3.11 C Mining and quarrying, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	270 096			2 672		272 768
Enterprises	267 346			2 672		270 018
Entrepreneurs	2 750					2 750
Intermediate consumption	151 572	3 936	3 477		5 160	146 871
Enterprises	149 812	3 936	3 477		5 160	145 111
Entrepreneurs	1 760					1 760

Table 3.12 C Mining and quarrying, 2007; GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	118 524	125 897	7 373	106,2	5,9
Enterprises	117 534	124 907	7 373	106,2	5,9
Entrepreneurs	990	990	0	100,0	0,0

3.10 Manufacture Industry (D)

3.10.1 Introduction

The most important roles in manufacturing belong to food manufacturing, wood processing, manufacturing of basic metals and fabricated metal products. Enterprises' share in the total GVA is 9.0%, and entrepreneurs' share is 2.6%. The most important subsidies on products provided by government are for food manufacturing, wood processing and metal industry.

Table 3.13 D Manufacturing, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM			%	
Total	2 433 199	1 758 496	674 703	100.0	11.6
Enterprises	2 034 985	1 508 206	526 779	78.1	9.0
Entrepreneurs	398 214	250 290	147 924	21.9	2.6

3.10.2 Data sources and methods

Data sources for enterprises in this activity are financial statements (Profit and loss account, Balance sheet and Annex), which APIF delivers to RSIS. The conducted Pilot survey for 2007 is data source for entrepreneurs.

3.10.3 Output, corrections and adjustments

Main components for the output calculation are sales, changes in inventories, trade margin, and subsidies on products. Output adjustments are made according to non-reporting for all 2-digit level of activities except division 16-manufacturing of tobacco products and division 23-manufacturing of coke, refined petroleum products. This adjustment forms 1.4 % of total GVA for manufacturing. Output adjustments for misreporting make up 11.9 % of the total GVA for manufacturing. Entrepreneurs' share in GVA for manufacturing is 21.9 %. Output calculation for entrepreneurs has been done by the same components, as for enterprises, and it has been adjusted for tips and misreporting.

3.10.4 Intermediate consumption, corrections and adjustments

The intermediate consumption calculation is done in the same way as for above-mentioned activities, using conceptual corrections and adjustments. Negative corrections refer to gross insurance premium and corrections of allowances for employees. Positive conceptual corrections relate to correction of the item – costs of taxes – taken from financial statements for enterprises, which, besides other taxes on production also includes taxes that, according to SNA methodology, do not belong to taxes on production and, therefore, they are included in intermediate consumption. Conceptual corrections are explained in more detail in §3.1.4.1. Adjustments for non-reporting and for misreporting (due to over-estimation) are also included in the intermediate consumption. The table 3.14 shows conceptual corrections and adjustments to output and intermediate consumption.

Table 3.14 D Manufacturing, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	2 322 251			110 948		2 433 199
Enterprises	1 959 723			75 262		2 034 985
Entrepreneurs	362 528			35 686		398 214
Intermediate consumption	1 758 524	6 193	23 920	35 362	17 663	1 758 496
Enterprises	1 508 234	6 193	23 920	35 362	17 663	1 508 206
Entrepreneurs	250 290					250 290

Table 3.15 D Manufacturing, 2007; GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	563 727	674 703	110 976	119.7	16.4
Enterprises	451 489	526 779	75 290	116.7	14.3
Entrepreneurs	112 238	147 924	35 686	131.8	24.1

3.11 Electricity, gas and water supply (E)

3.11.1 Introduction

This activity mainly refers to large public enterprises that are completely covered by the administrative data sources. Electricity production is corrected for all internal transactions that occur among subjects whose activity is primary production of electricity, electric power transmission and distribution. There are individual entrepreneurs in this activity, but they are not significant. The share of the GVA to this activity in the total GVA is 5.3 %.

Table 3.16 E Electricity, gas and water supply, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
000 KM			%		
Total	613 887	303 026	310 861	100	5.3
Enterprises	612 762	302 306	310 456	99.9	5.3
Entrepreneurs	1 125	720	405	0.1	0.0

3.11.2 Data sources and methods

Main data sources are annual financial statements for enterprises, making complete coverage for this activity. Calculations of output, intermediate consumption and GVA are done in the same way as for other market activities.

3.11.3 Output, corrections and adjustments

Main components for the calculation are revenues, changes in inventories, trade margin and subsidies on products. Some transfers in this activity realized by the government are excluded from output, and they are shown as other subsidies on production. There are no adjustments for this activity due to completeness of coverage.

3.11.4 Intermediate consumption, corrections and adjustments

The calculation of intermediate consumption is done in the same way as for previous market activities, using conceptual corrections and adjustments. Intermediate consumption is corrected for gross insurance premium, allowances for employees, which are a part of compensation of employees, as well as for costs for taxes that are not other taxes on production. Conceptual corrections are explained in more detail in § 3.1.4.1. During the analyse of the obtained data, the conclusion was made that some costs were overrated, so non-exhaustiveness type N6 (misreporting) is included in the calculation.

Table 3.17 E Electricity, gas and water supply, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	613 887					613 887
Enterprises	612 762					612 762
Entrepreneurs	1 125					1 125
Intermediate consumption	313 332	9 230	8 992		10 544	303 026
Enterprises	312 612	9 230	8 992		10 544	302 306
Entrepreneurs	720					720

Table 3.18 E Electricity, gas and water supply, 2007; GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections		
	1	2	3	2/1*100	3/2*100
Total	300 555	310 861	10 306	103.4	3.3
Enterprises	300 150	310 456	10 306	103.4	3.3
Entrepreneurs	405	405	0	100.0	0.0

3.12 Construction (F)

3.12.1 Introduction

Production within this activity is based on production by enterprises and production by entrepreneurs. Because of large number and importance of individual construction, the estimate of individual construction production is made and its share in the total GVA for this activity amounts to 26.1 %. Based on the analysis of financial statements and their coverage, it is assumed that construction

activity is rather underestimated, so NOE estimates are included too, through adjustments for misreporting and non-reporting.

Table 3.19 F Construction, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM			%	
Total	1 105 806	707 675	398 131	100.0	6.8
Enterprises	806 695	521 924	284 771	71.5	4.9
Entrepreneurs	21 838	12 130	9 708	2.4	0.2
Individual construction	277 273	173 621	103 652	26.1	1.7

3.12.2 Data sources and methods

Main data sources are annual financial statements for enterprises and the pilot survey for individual entrepreneurs, as explained in § 3.1.1. Approaches used for GDP calculation are the same as for other activities, as explained in detail in § 3.1. Data source for estimates of individual construction for 2007 is HBS 2007.

3.12.3 Output, corrections and adjustments

Output calculation is done in the same way as for the previous market activities, beginning with sales, changes in inventories, trade margin and subsidies on products. Adjustment of enterprises output is made for non-reporting, while adjustments of output for misreporting are made for enterprises and entrepreneurs, as well.

3.12.4 Intermediate consumption, corrections and adjustments

Intermediate consumption calculation is done in the same way as for the previous market activities, using conceptual corrections and adjustments. Intermediate consumption is corrected for gross insurance premium, allowances for employees, as well as for costs for taxes that are not other taxes on production. Conceptual corrections are explained in more detail in § 3.1.4.1. The calculation of intermediate consumption includes adjustments for non-reporting and misreporting.

Table 3.20 F Construction, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	1 022 753			83 053		1 105 806
Enterprises	726 182			80 513		806 695
Entrepreneurs	19 298			2 540		21 838
Individual construction	277 273					277 273
Intermediate consumption	684 800	4 473	10 000	39 305	10 903	707 675
Enterprises	499 049	4 473	10 000	39 305	10 903	521 924
Entrepreneurs	12 130					12 130
Individual construction	173 621					173 621

Table 3.21 F Construction, 2007, Gross value added by data sources and national accounts

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections		
	1	2	3	2/1*100	3/2*100
Total	337 953	398 131	60 178	117.8	15.1
Enterprises	227 133	284 771	57 638	125.4	20.2
Entrepreneurs	7 168	9 708	2 540	135.4	26.2
Individual construction	103 652	103 652	0	100.0	0.0

3.13 Whole and retail trade, repair of motor vehicles, motorcycles and personal and household goods (G)

3.13.1 Introduction

Trade has an important place in the structure of total GVA. Enterprises make up 75% and entrepreneurs 25% of GVA for trade. Trade margin is the difference between revenue from sales of trade goods and purchase-value of sold goods.

Table 3.22 G Whole and retail trade, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM		%		
Total	1 525 848	655 460	870 388	100.00	14.9
Enterprises	1 255 177	600 094	655 083	75.2	11.2
Entrepreneurs	270 671	55 366	215 305	24.8	3.7

3.13.2 Data sources and methods

Data sources for enterprises are financial statements (Profit and loss account, Balance sheet, Annex); Pilot survey conducted for 2007 is the data source for entrepreneurs. Conducted Pilot Survey is explained in more detail in § 3.1.1.3. The calculation methods are the same as for other activities.

3.13.3 Output, corrections and adjustments

Output is formed by summing sales, trade margins, changes in inventories, and subsidies on products. In the scope of enterprises' trade, the largest part of output belongs to wholesale (43 %). The entrepreneurs' output has been calculated on the basis of data derived from Pilot survey for 2007. The corrections of output calculation are made for misreporting, and mainly relate to retail trade in relation to tips. In addition, the corrections of output are made for exhaustiveness, and it amounts to 1.5% of the total GVA for Trade activity, where retail trade has the largest part.

3.13.4 Intermediate consumption, corrections and adjustments

Intermediate consumption calculation by source items is the same as for the previous activities, including conceptual corrections and adjustments. Conceptual corrections refer to corrections of intermediate consumption for gross insurance premium and allowances that are included in compensation of employees, as well as for costs of taxes that are not a part of other taxes on production. Conceptual corrections are explained in more detail in § 3.1.4.1. Adjustments for misreporting for enterprises are included.

Table 3.23 G Whole and retail trade, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	1 400 894			124 954		1 525 848
Enterprises	1 182 466			72 711		1 255 177
Entrepreneurs	218 428			52 243		270 671
Intermediate consumption	640 000	10 924	23 545	43 034	14 953	655 460
Enterprises	584 634	10 924	23 545	43 034	14 953	600 094
Entrepreneurs	55 366					55 366

Table 3.24 G Whole and retail trade, 2007, GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	760 894	870 388	109 494	114.4	12.6
Enterprises	597 832	655 083	57 251	109.6	8.7
Entrepreneurs	163 062	215 305	52 243	132.0	24.3

3.14 Hotels and restaurants (H)

3.14.1 Introduction

The most important role in this activity is that of individual entrepreneurs, whose share amounts to 80.1 % of GVA for the H activity, while enterprises are not that important and mainly relate to hotel services. A number of private hotels are registered as individual entrepreneurs, and this is the reason for smaller share of enterprises (15.8 %). Producers in this activity that belong to general government sector are students' and pupils' dormitories which cover more than half of their costs by government financing. Adjustments in this sector are significant, and they amount to 32.8 % of total GVA for this activity.

Table 3.25 H Hotels and restaurants, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
000 KM			%		
Total	206 856	90 187	116 669	100.0	2.0
Enterprises	39 583	21 101	18 482	15.8	0.3
Entrepreneurs	158 731	65 302	93 429	80.1	1.6
Government	8 542	3 784	4 758	4.1	0.1

3.14.2 Data sources and methods

Data sources are annual financial statements for enterprises, as well as pilot survey for individual entrepreneurs. Source of data for students' and pupils' dormitories is the Report on Budget Execution of the Republika Srpska. Calculation for students' and pupils' dormitories is done by using cost method. Approaches to GVA calculation for enterprises and entrepreneurs are the same as for other market activities, and these are explained in more detail in §3.1.

3.14.3 Output, corrections and adjustments

Calculation of output is done in the same way as for all previous market activities, beginning with sales, changes in inventories, trade margin, and subsidies on products. Output for enterprises and

entrepreneurs is significantly increased by adjustments, such as for non-reporting, misreporting, tips, and private accommodation renting for tourists. Output at basic prices for students' and pupils' dormitories has included the sum of other taxes on production, compensation of employees, consumption of fixed capital and intermediate consumption.

3.14.4 Intermediate consumption, corrections and adjustments

The calculation of intermediate consumption is done in the same way as for all previous activities, including conceptual corrections and adjustments. Conceptual corrections of intermediate consumption are made for gross insurance premium and for allowances for employees, as well as costs for taxes not included in other taxes on production. Conceptual corrections are explained in more detail in § 3.1.4.1. The adjustments for non-reporting and misreporting exist for enterprises, while the non-exhaustiveness type N3 (registration not obligatory) is present for the sector of households (private accommodation renting for tourists for which intermediate consumption is estimated by experts from NA).

Table 3.26 H Hotels and restaurants, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		Adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	167 838			39 018		206 856
Enterprises	35 317			4 266		39 583
Entrepreneurs	123 979			34 752		158 731
Government	8 542					8 542
Intermediate consumption	89 771	432	701	1 251	566	90 187
Enterprises	20 852	432	647	1 030	566	21101
Entrepreneurs	65 081			221		65 302
Government	3 838		54			3 784

Table 3.27 H Hotels and restaurants, 2007, GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	78 067	116 669	38 602	149.4	33.1
Enterprises	14 465	18 482	4 017	127.8	21.7
Entrepreneurs	58 898	93 429	34 531	158.6	36.9
Government	4 704	4 758	54	101.1	1.1

3.15 Transport, storage and communication (I)

3.15.1 Introduction

The most important activity is Post and telecommunications for Transport activity, then Land transport and travel agencies, while waterway and air transport are not developed. In the total GVA for Transport, enterprises have a share of 92.1%. Entrepreneurs are included with 7.9% in this activity.

Table 3.28 I Transport, storage and communication, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
		000 KM			%
Total	847 923	389 801	458 122	100.0	7.8
Enterprises	772 896	351 007	421 889	92.1	7.2
Entrepreneurs	75 027	38 794	36 233	7.9	0.6

3.15.2 Data sources and methods

Data sources for enterprises and entrepreneurs are the same as for the previous activities (§ 3.1.1.). Data sources are annual financial statements for enterprises and Pilot survey for individual entrepreneurs.

3.15.3 Output, corrections and adjustments

Calculation of output is a sum of sales, margins, changes in inventories and subsidies on products. Subsidies provided by government to railway transport are significant. Here, only subsidies that relate to subsidies of train tickets are included. Output adjustments are made for non-reporting, misreporting and tips.

3.15.4 Intermediate consumption, corrections and adjustments

Intermediate consumption consists of sums of costs, which occur through the process of production. Data sources are corrected, and these corrections refer to gross insurance premium and allowances for employees and costs of taxes that are not other taxes on production, while adjustments are made for non-reporting and misreporting. Conceptual corrections are explained in more detail in § 3.1.4.1.

Table 3.29 I Transport, storage and communication, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
		000 KM				
Output	826 828			21 095		847 923
Enterprises	768 853			4 043		772 896
Entrepreneurs	57 975			17 052		75 027
Intermediate consumption	406 322	8 385	12 399	672	13 179	389 801
Enterprises	367 528	8 385	12 399	672	13 179	351 007
Entrepreneurs	38 794					38 794

Table 3.30 I Transport, storage and communication, 2007; GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	420 506	458 122	37 616	108.9	8.2
Enterprises	401 325	421 889	20 564	105.1	4.8
Entrepreneurs	19 181	36 233	17 052	188.9	47.1

3.16 Financial intermediation (J)

3.16.1 Introduction

Financial intermediation activity consists of banks, insurance, micro credit organisations, investment funds, financial enterprises, non-profit institutions, and the Central Bank of B&H. The commercial banks have the most significant share in GVA for this activity with 87.1%. Within this activity, the calculation of indirectly measured services – FISIM (difference between revenue and expenditure of interests) was made. It was not allocated to activities, and it was used for corrections of the total GVA. Table 3.31 shows output, intermediate consumption and GVA separately for financial enterprises, banks, insurance, entrepreneurs and NPISHs, as well as share in GVA for activity J.

Table 3.31 J Financial intermediation, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
		000 KM			%
Total	336 055	138 670	197 385	100.0	3.4
Financial enterprises	8 173	3 216	4 957	2.5	0.1
Banks	270 024	98 087	171 937	87.1	2.9
Insurance	50 770	34 888	15 882	8.0	0.3
Entrepreneurs	954	419	535	0.3	0.0
NPISH	6 134	2 060	4 074	2.1	0.1

3.16.2 Data sources and methods

As for the previous activities, the data sources are annual financial statements (except for entrepreneurs) and their content is different for each of these areas. Collection and delivery of these reports are done by APIF. It is important to note that financial statements for banks and insurance companies are specific and separate. Group of banks includes commercial banks, micro credit organisations, investment funds, postal savings-bank and the Central Bank of B&H. Group of insurance companies consists of companies registered in the division 66 of the Classification of activities.

Financial enterprises submit their financial statements to APIF, in line with Chart of accounts for enterprises. Data source for entrepreneurs is the conducted Pilot survey for 2007. Source of data for the Central Bank is BHAS.

3.16.3 Output, corrections and adjustments

Calculation of output for banks is equal to the difference between revenues and expenditure on the basis of fees and interests and other operational revenues. Formation of output for insurance companies is done by decreasing gross insurance premium with damages and expenses for technical reserve, and it is increased by other non-technical revenues and revenue from premium supplement. Output adjustments are made for entrepreneurs according to misreporting.

Financial intermediation services indirectly measured (FISIM) are estimated as service charges paid by the user of primary monetary services: deposits holding as well as credits (loan) lending services. FISIM for both primary services are estimated as the difference between the value of interests on deposits and on loans on one side and the value according to the reference interest rate on the other.

3.16.4 Intermediate consumption, corrections and adjustments

As with other activities, intermediate consumption consists of all standard costs, except intermediate consumption of insurance companies that includes also commissions costs, other acquisition costs,

reinsurance costs, other technical expenses, and non-technical expenses. Conceptual corrections of intermediate consumption are made for financial enterprises for gross insurance premium, allowances for employees and costs for taxes that are not a part of other taxes on production, while adjustments relate to misreporting. Conceptual corrections are explained in more detail in the chapter 3.1.4.1.

Table 3.32 J Financial intermediation, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	Negative	positive	negative	
000 KM						
Output	335 533			522		336 055
Financial enterprises	8 173					8 173
Banks	270 024					270 024
Insurance	50 770					50 770
Entrepreneurs	432			522		954
NPISH	6 134					6 134
Intermediate consumption	148 062	28	9 287		133	138 670
Financial enterprises	3 578	28	257		133	3 216
Banks	107 117		9 030			98 087
Insurance	34 888					34 888
Entrepreneurs	419					419
NPISH	2 060					2 060

Table 3.33 J Financial intermediation, 2007; GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2			
Total	187 471	197 385	9 914	105.3	5.0
Financial enterprises	4 595	4 957	362	107.9	7.3
Banks	162 907	171 937	9 030	105.5	5.2
Insurance	15 882	15 882	0	100.0	0.0
Entrepreneurs	13	535	522	4 115.4	97.6
NPISH	4 074	4 074	0	100.0	0.0

3.17 Real estate, renting and business activities (K), 2007

3.17.1 Introduction

Every year, K activity becomes increasingly important within the structure of GVA. The most important part of GVA for this activity is imputed rent with share of 53.7%, and it is included in the households sector. According to the data from HBS 2007, the 95 % of households are owners of the dwellings, while 5% of households rent their dwellings. The estimate of real rent is made based on these data.

Table 3.34 K Real estate, renting and business activities, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
000 KM					
Total	1 029 137	342 994	686 143	100.0	11.8
Enterprises	373 978	223 831	150 097	21.9	2.6
Entrepreneurs	220 178	52 559	167 619	24.4	2.9
Imputed rent	434 574	66 430	368 144	53.7	6.3
NPISH	176	79	97	0.0	0.0
Government	281	95	186	0.0	0.0

3.17.2 Data sources and methods

For enterprises, non-profit institutions and entrepreneurs data sources are annual financial statements (Profit and loss account, Balance sheet and Annex) and mentioned Pilot survey, explained § 3.1.1. The calculation of imputed rent is derived by User Cost approach, starting from the results of HBS 2004, where the year 2004 is the benchmark year. The calculation for the following years is derived by the rate of growth/decrease of population. Imputed rent is calculated by BHAS and then delivered to RSIS. BHAS also collects and processes financial statements for B&H central agencies belonging to the general government sector. After processing, BHAS delivers them to the entities. This is explained in more detail in § 3.1.1.4. Data source for real rent is the HBS 2007. As to the students' work, the sources of data are information received from the Students and Youth Associations in RS.

3.17.3 Output, corrections and adjustments

Output for enterprises and entrepreneurs is done in the same way as for all market activities, by calculating a sum of sales, margin, subsidies on products and changes in inventories. Imputed rent calculation is done by calculating the sum of intermediate consumption, other taxes on production, consumption of fixed capital and net operational surplus. For entrepreneurs, apart from adjustments for misreporting, output adjustments are made for non-exhaustiveness type N3 for students' work, contractual work, copyrights fees, and renting houses and flats – real rent. Adjustments that relate to contractual work and copyright fees are based on the Report on taxes published by RS Ministry of Finance. Real rent value is a number of households which are under a lease multiplied by the average amount of rent in RS. Calculation for general government and non-profit institutions is done by costs method i.e. by summing up compensation of employees, consumption of fixed capital and intermediate consumption. Output adjustments for enterprises are done by estimate of non-reporting and misreporting, as it was done for the previous activities.

3.17.4 Intermediate consumption, corrections and adjustments

The same as for other activities, conceptual corrections were made for enterprises and NPISH with regards to gross insurance premium, allowances for employees and costs for taxes, which are not included in other taxes on production. Adjustment of intermediate consumption has been made by estimates for misreporting and non-reporting. Intermediate consumption for imputed and real rent is based on the HBS, while intermediate consumption for contractual work and copyright fees has been estimated by experts.

Table 3.35 K Real estate, renting and business activities, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	879 497			149 640		1 029 137
Enterprises	360 493			13 435		373 928
Entrepreneurs	83 973			136 205		220 178
Imputed rent	434 574					434 574
NPISH	176					176
Government	281					281
Intermediate consumption	344 336	2 755	8 044	10 445	6 498	342 994
Enterprises	234 207	2 755	8 017	1 384	6 498	223 831
Entrepreneurs	43 498			9 061		52 559
Imputed rent	66 430					66 430
NPISH	106		27			79
Government	95					95

Table 3.36 K Real estate, renting and business activities, 2007; GVA by data sources and NA

	Gross value added,000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	535 161	686 143	150 982	128.2	22.0
Enterprises	126 286	150 097	23 811	118.6	15.8
Entrepreneurs	40 475	167 619	127 144	414.1	75.6
Imputed rent	368 144	368 144	0	0.0	0.0
NPISH	70	97	27	138.6	27.8
Government	186	186	0	0.0	0.0

3.18 Public administration and defence, compulsory social security (L)

3.18.1 Introduction

RS Government consists of public bodies and their agencies, with legislative, judicial and executive powers within the territory of the entity. General government sector is composed of all units of government and all non-market and non-profitable institutions controlled and mostly financed by the state. By this approach, all government units (units under control of the entity) at the regional and local level are divided into market and non-market units, using the 50% criterion. General government sector can be observed in two groups. First group refers to so-called “direct budget units”, at the central, regional and local level. Central bodies of Bosnia and Herzegovina are at the B&H state level. At the regional and local level, there is RS Government with all its ministries, judiciary, administrative units, municipalities, agencies, and public funds. Direct budget units also include Health Security Fund, Pension and Disability Fund, and Child Protection Fund. Other group includes all public services that are, according to the 50% criterion, classified as non-market producers, such as Directorate for roads RS and agencies for the development of municipalities.

Table 3.37 L Public administration and defence, compulsory social security, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM			%	
Total	956 953	322 591	634 362	100.0	10.9
Non-market enterprises	56 651	39 959	16 692	2.6	0.3
Government	892 949	280 097	612 852	96.6	10.5
NPISH	7 353	2 535	4 818	0.8	0.1

3.18.2 Data sources and methods

RS Ministry of Finance, after publishing the Report on Budget Execution for RS, in electronic form as well as in hard-copy, delivers it to the RSIS. This Ministry’s Department responsible for municipality budget, delivers consolidated financial statements for municipalities and funds in electronic form and hard-copy. The data for B&H central bodies are delivered by BHAS, as reports with already calculated categories are already calculated (output, intermediate consumption, GVA and compensation of employees and number of employees) which is explained in §3.1.1.4. APIF delivers financial statements in electronic form, for non-market enterprises and non-profit institutions. Cost approach is used for the calculation of all mentioned categories.

3.18.3 Output, corrections and adjustments

Output at basic prices comprises the sum of other taxes on production, compensation of employees, consumption of fixed capital and intermediate consumption. Because of the complexity of coverage for this activity, no corrections or adjustments are necessary.

3.18.4 Intermediate consumption, corrections and adjustments

For intermediate consumption calculation the following accounting categories are used:

- Travel expenses;
- Energy costs;
- Communal and communication services costs;
- Material supply;
- Transport services expenses and fuel;
- Property and equipment renting;
- Current maintenance expenditure;
- Money transfer services;
- Services by contract.

Negative conceptual corrections were made to the items which relate to gross insurance premium and travel costs (the part related to allowances for employees are excluded). Conceptual corrections are explained in § 3.1.4.1. Services by contract of the Health Security Fund contained certain costs which were not intermediate consumption and that are why the mentioned item was corrected, as shown in Table 3.38.

Table 3.38 L Public administration and defence, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	956 953					956 953
Non-market enterprises	56 651					56 651
Government	892 949					892 949
NPISH	7 353					7 353
Intermediate consumption	660 349		337 758			322 591
Non-market enterprises	40 171		212			39 959
Government	617 314		337 217			280 097
NPISH	2 864		329			2 535

Table 3.39 L Public administration and defence, 2007, GVA by data sources and national accounts

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections		
	1	2	3	2/1*100	3/2*100
Total	296 604	634 362	337 758	213.9	53.2
Non-market enterprises	16 480	16 692	212	101.3	1.2
Government	275 635	612 852	337 217	222.3	55.0
NPISH	4 489	4 818	329	107.3	6.8

3.19 Education (M)

3.19.1 Introduction

Education activity consists of market and non-market units. For non-market units which belong to the general government sector 99.4 % goes to direct budget units (government), while only 0.6 % belongs to indirect budget users such as specialized schools for children with special needs (which are

organized as non-market enterprises). Direct budget users are state pre-school, primary, secondary, post secondary and higher education. Market units are private education and private driving schools.

Table 3.40 M Education, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
			000 KM		%
Total	288 288	55 678	232 610	100.0	4.0
Market enterprises	23 752	8 370	15 382	6.6	0.3
Entrepreneurs	1 263	480	783	0.3	0.0
Government	257 959	44 365	213 594	91.8	3.7
Non-market enterprises	1 509	323	1 186	0.6	0.0
NPISH	3 805	2 140	1 665	0.7	0.0

3.19.2 Data sources and methods

Main data sources for enterprises and non-profit institutions are financial statements. For enterprises with market activities, calculation are done on the basis of revenues, while for non-market activities, cost, approach was used. Source of data for general government are consolidated financial statements for budget users, and these are delivered by RS Ministry of Education and Culture. As for all non-market producers, the calculation is done by costs approach. Data source for entrepreneurs is earlier mentioned Pilot survey and method of calculation is on the basis of revenues.

3.19.3 Output, corrections and adjustments

For the calculation of output of a non-market unit, same components were used as for the activity public administration, defence and obligatory social insurance. Calculation of output for market units is done through income from market sales. Adjustment for misreporting is included in the calculation of output for market enterprises and entrepreneurs.

3.19.4 Intermediate consumption, corrections and adjustments

For market enterprises positive and negative conceptual corrections were made as for other market activities, which are explained in § 3.1.4.1. For non-market units, conceptual corrections were made as in the activity public administration, defence and obligatory social insurance. Adjustment was made for misreporting.

Table 3.41 M Education, 2007; Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	287 784			504		288 288
Market enterprises	23 688			64		23 752
Entrepreneurs	823			440		1 263
Government	257 959					257 959
Non-market enterprises	1 509					1 509
NPISH	3 805					3 805
Intermediate consumption	61 711	121	5 817		337	55 678
Market enterprises	10 466	121	1 880		337	8 370
Entrepreneurs	480					480
Government	47 904		3 539			44 365
Non-market enterprises	562		239			323
NPISH	2 299		159			2 140

Table 3.42 M Education, 2007, GVA by data sources and national accounts

	Gross value added ,000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	226 073	232 610	6 537	102.9	2.8
Market enterprises	13 222	15 382	2 160	116.3	14.0
Entrepreneurs	343	783	440	228.3	56.2
Government	210 055	213 594	3 539	101.7	1.7
Non-market enterprises	947	1 186	239	125.2	20.1
NPISH	1 506	1 665	159	110.6	9.5

3.20 Health and social work (N)

3.20.1 Introduction

When it comes to health and social work, the biggest role is played by non-market producers which belong to the general government sector (public hospitals, health centres, clinics, social work centres). Private sector, which has started to develop more dynamically in the recent years, becomes more and more important. GVA for this activity amounts to 4.2 % of the total GVA.

Table 3.43 N Health and social work, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
	000 KM			%	
Total	364 640	117 178	247 462	100.0	4.2
Market enterprises	29 217	12 925	16 292	6.6	0.3
Entrepreneurs	21 730	9 842	11 888	4.8	0.2
Government	24 600	5 745	18 855	7.6	0.3
Non-market enterprises	285 113	86 834	198 279	80.1	3.4
NPISH	3 980	1 832	2148	0.9	0.0

3.20.2 Data sources and methods

For enterprises and non-profit institutions, main sources of data are financial statements. For market activities, calculation is done on the basis of revenues, while cost approach has been used for non-market activities. Public hospitals, health centres, medical clinics as legal entities submit their financial statements in line with the Chart of accounts for enterprises; therefore, the cost approach is used for their processing. Data sources for social work centres are financial statements, which RSIS collects directly and then enters and processes them using costs approach. Data source for entrepreneurs is pilot survey, and method of calculation is on the basis of revenues.

3.20.3 Output, corrections and adjustments

Output at basic prices for non-market units consists of the sum of other taxes on production, compensation of employees, consumption of fixed capital and intermediate consumption. Output for market units consists of the sum of sales, margins, subsidies on products and changes in inventories. Output adjustments are made for misreporting and tips.

3.20.4 Intermediate consumption, corrections and adjustments

Intermediate consumption calculation is the same as for other market and non-market activities. For market enterprises, positive and negative conceptual corrections have been made, as it has been done for other market activities, what is explained in § 3.1.4.1. For non-market units, conceptual corrections have been made as in the activity - Public administration, defence and obligatory social insurance. Adjustment has been made for misreporting.

Table 3.44 N Health and social work, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	359 789			4 851		364 640
Market enterprises	28 548			669		29 217
Entrepreneurs	17 548			4 182		21 730
Government	24 600					24 600
Non-market enterprises	285 113					285 113
NPISH	3 980					3 980
Intermediate consumption	125 672	87	8 351		230	117 178
Market enterprises	13 436	87	368		230	12 925
Entrepreneurs	9 842					9 842
Government	5 897		152			5 745
Non-market enterprises	94 572		7 738			86 834
NPISH	1 925		93			1 832

Table 3.45 N Health and social work, 2007, GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections		
	1	2	3	2/1*100	3/2*100
Total	234 117	247 462	13 345	105.7	5.4
Market enterprises	15 112	16 292	1 180	107.8	7.2
Entrepreneurs	7 706	11 888	4 182	154.3	35.2
Government	18 703	18 855	152	100.8	0.8
Non-market enterprises	190 541	198 279	7 738	104.1	3.9
NPISH	2 055	2 148	93	104.5	4.3

3.21 Other community, social and personal service activities (O)

3.21.1 Introduction

As it was explained in chapter 3.18, this activity is also divided into market and non-market producers on the basis of the 50% criterion. Non-market enterprises belong to the general government sector and their share in the total GVA for this activity amounts to 12.6%. The biggest share in the GVA of this activity of 34.1 % goes to non-profit institutions, which include all associations, different clubs, societies and trade unions. In the non-profit institutions, through adjustment for non-exhaustiveness type N4, estimates for religious associations have been included as well. In addition to religious associations, estimates for tips, non-reporting and misreporting have also been included through adjustments.

Table 3.46 O Other community, social and personal service activities, 2007

	Output	Intermediate consumption	Gross value added at basic prices		
			total	structure	percentage of total
			000 KM		
			%		
Total	207 098	99 449	107 649	100.0	1.8
Market enterprises	77 074	30 145	46 929	43.6	0.8
Entrepreneurs	13 835	3 383	10 452	9.7	0.2
Non-market enterprises	22 925	9 363	13 562	12.6	0.2
NPISH	93 264	56 558	36 706	34.1	0.6

3.21.2 Data sources and methods

As for the previous activities, main sources of data are financial statements of legal entities and Pilot survey for entrepreneurs. For market producers, enterprises and entrepreneurs, the calculation has been done by revenues approach, while the cost method was used for the calculation of non-profit institutions and non-market enterprises (as government sector).

3.21.3 Output, corrections and adjustments

Calculation of output for market producers is done in the same way as for all previous activities, starting with sales, changes in inventories, trade margin and subsidies on products. Output for enterprises and entrepreneurs has been significantly increased for adjustments, and this is the case for non-reporting, misreporting and tips. For non-profit institutions, output has been increased for adjustments made for religious associations, which are not obliged to submit financial statements.

3.21.4 Intermediate consumption, corrections and adjustments

Intermediate consumption calculation is done in the same way as for all previous activities, using conceptual corrections and adjustments. For market enterprises, intermediate consumption is corrected for conceptual corrections, and this is the case for gross insurance premium and for allowances for employees, as well as for costs on taxes that are not other taxes on production. For non-market enterprises and non-profit institutions intermediate consumption is corrected for negative conceptual corrections. Conceptual corrections are explained in § 3.1.4.1. Adjustments are necessary for non-reporting, for misreporting and for religious associations. Intermediate consumption for religious associations is estimated by experts from NA.

Table 3.47 O Other community, soc. and person. .services, 2007, Output, IC, corrections and adjustments

	Data sources	Conceptual corrections		NOE adjustments		National accounts
		positive	negative	positive	negative	
000 KM						
Output	196 102			10 996		207 098
Market enterprises	74 148			2 926		77 074
Entrepreneurs	9 680			4 155		13 835
Non-market enterprises	22 925					22 925
NPISH	89 349			3 915		93 264
Intermediate consumption	109 187	1 047	11 000	1253	1 038	99 449
Market enterprises	31 595	1 047	2 103	644	1 038	30 145
Entrepreneurs	3 383					3 383
Non-market enterprises	12 166		2 803			9 363
NPISH	62 043		6 094	609		56 558

Table 3.48 O Other community, soc. and pers. service, 2007, GVA by data sources and NA

	Gross value added, 000 KM			Indices	
	Data sources	National accounts	Adjustments and conceptual corrections	2/1*100	3/2*100
	1	2	3		
Total	86 915	107 649	20 734	123.8	19.3
Market enterprises	42 553	46 929	4 376	110.3	9.3
Entrepreneurs	6 297	10 452	4 155	165.9	39.8
Non-market enterprises	10 759	13 562	2 803	126.1	20.7
NPISH	27 306	36 706	9 400	134.4	25.6

3.22 Taxes on products

Taxes on production and import are divided into:

- Taxes on products;
- Other taxes on production.

Taxes on products (D.21) are taxes that are paid by produced goods or service. Indirect Taxation Authority (ITA) of BIH, with the established model of distribution, distributes collected indirect taxes to the central and entity levels. Data on indirect taxes, which belong to Republika Srpska, are delivered by Ministry of Finance, through the Report on Budget Execution. In addition to this, taxes on products are partly completed with data on indirect taxes which are delivered by BHAS (as income of the central bodies). Taxes on products consist of:

- Value added tax (VAT);
- Excise taxes;
- Customs and import duties;
- Special tax for overnight stay;
- Lottery tax

Data sources for taxes on products (except for value added tax) and other taxes on production are financial statements for legal entities and detailed list of taxes by analytical accounts, which is a part of the Report on Budget Execution prepared by RS Ministry of Finance. It is, as the B-2 form, delivered to RSIS by the Ministry.

Taxes calculation is based on collected taxes, that is, on the cash basis of recording. Aiming to approach to the system of valuation of taxes by accounting principle, National Accounts department, in cooperation with RS Ministry of Finance, performs the calculation of value added tax using time period which is based on tax characteristics and time framework for payments. The main types of taxes on products are shown in Table 3.49.

Table 3.49 Taxes on products, 2007

D.21 Taxes on products , 000 KM	1 554 121
Value added tax	1 547 226
Excise tax	2 097
Customs and import taxes	155
Special taxes for overnight stay	701
Taxes on lottery	3 942

3.23 Value added tax

VAT was introduced in RS on January 1st 2006, and it is unique rate of 17%. VAT for 2007, at the level of RS amounts to 1 547 226 thousands. KM. ITA is responsible for indirect taxes collection at the BIH level. A model for the distribution to the entities has been established. Certain funds are allocated to the central bodies of BIH and for repayment of external debt, the rest of indirect taxes is allocated to the entities. Unfortunately, entity statistics do not have the basis for VAT, only total amounts, which is a huge disadvantage when various analyses and controls are conducted.

3.24 Subsidies on products

Subsidies are divided into:

- Subsidies on products and services;
- Other subsidies on production.

Subsidies are non-returnable payments and disbursements to resident producers. Data source on subsidies for public and private institutions is the Report on Budget Execution by the RS Ministry of Finances. The Annex, as an integral part of financial statements, is filled in by all legal entities. Since it includes items that refer to subsidies on products D.31 and other subsidies on production D.39, the allocation of total subsidies by activities has been done by the structure of mentioned items from the Annex. In addition, distribution and analysis of subsidies are also done according to the reports of the ministries on allocated subsidies.

Subsidies on products are a part of the output at basic prices.

RS Government mostly provides subsidies to producers in agriculture, food industry, publishing, as well as for rail transport. The largest subsidies go to public enterprises, while private enterprises get a significantly smaller share. In addition, RS Government gives incentives to agriculture and domestic production, so more and more subsidies are given to individual agricultural producers. In the total subsidies on products, subsidies to individual agricultural producers amount to 57.5%, while legal entities participate with 42.5%.

Table 3.50 Subsidies on products, 2007

D.31 Subsidies on products,000 KM	40 226
Legal entities	17 091
Individual agricultural producers	23 135

c) AGENCY FOR STATISTICS OF B&H BRCKO DISTRICT

3.0 Introduction

Brcko District of Bosnia and Herzegovina is a separate administrative unit that is under the sovereignty of Bosnia and Herzegovina. Brcko District was officially established in 8th March 2000. City Brcko is the centre of Brcko District. The Constitution of Bosnia and Herzegovina as well as all existing laws are applicable to the entire territory of the District.

In accordance with the Law on Statistics of Bosnia and Herzegovina Statistical Office of Brcko District is reconstituted as organisational unit of the Agency for statistics of B&H. After integration in the Office Agency, the state of B&H is responsible for funding Branch Office Brcko District. Branch Office Brcko District directly collects all the statistics on the area of Brcko District.

Until proclamation of District the town Brcko was partly under the control of the Federation of B&H and the other part under the control of the Republika Srpska. Since on the level of B&H there is no unified accounting system, the entities apply different accounting systems. The companies which were

operating in the area under the control of Republika Srpska apply business accounting rules by the RS and the enterprises which were operating in the area under the control of the FB&H apply business accounting rules by the Federation. These inherited conditions make difficult collecting statistical data.

Table 3.1 Output, intermediate consumption and value added by activities, 2007, 000KM

Activities		Output	Intermediate consumption	Gross value added
1		2	3	4
A	Agriculture, hunting and forestry	76 243	26 465	49 778
B	Fishing			
C	Mining and quarrying			
D	Manufacturing industry	167 248	122 440	44 808
E	Electricity, gas and water supply	5 292	2 858	2 343
F	Construction	70 691	46 735	23 956
G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	149 410	50 630	98 780
H	Hotels and restaurants	28 088	9 682	18 406
I	Transport, storage and communications	34 317	20 503	13 814
J	Financial intermediation	3 019	1 597	1 422
K	Real estate, renting and business activities	57 404	20 103	37 301
L	Public administration and defence; compulsory social security	87 955	35 443	52 512
M	Education	26 208	5 851	20 357
N	Health and social work	24 191	9 611	14 580
O	Other community, social and personal service activities	12 585	6 857	5 728
	FISIM		-	-
	TOTAL, basic prices	742 651	358 775	383 876
	Taxes on product less subsidies on product			162 815
Gross domestic product				546 691

3.1 Data sources

The following sources were used for compilation of gross domestic product (GDP) in the Brcko District of Bosnia and Herzegovina in 2007:

Two different accounting systems are in use in the Brcko District. The enterprises, which fulfil their financial statements in accordance in the balance sheets of enterprises in Federation of B&H (FB&H), also fill in a separate statistical forms ‘Statistical Annex of Annual Accounting Statement’, as an integral part of the annual financial statements. The above-mentioned form includes data required by the statistics of national accounts.

For enterprises, which work in line with the accounting system of Republika Srpska (RS), the data from the prescribed annual financial statements are taken as the data source for the compilation of GDP and its components, since balance sheets contain the required data.

For non-profit organizations and associations, the annual financial statements are available.

For entrepreneurs, the data are collected by using a statistical questionnaire “Calculation of gross value added and output for individual sector of non-agriculture activities for municipality” (DV-DZ). A reporting unit is the Department of Economic Development, and the Tax Authority of the Brcko District. An established committee makes estimates of the data, and administrative data of the Tax Authority are used as a basis for these estimates (Tax forms filled out by entrepreneurs).

For individual agricultural households, the data are collected by using a statistical questionnaire “Annual calculation of output and value added for private sector of agriculture without legal entities-

agriculture households for municipality” (DV-POLJ). A reporting unit is the Department of Agriculture, which provides detailed data on the quantity and values of produced and consumed goods at the level of the Brcko District. The data of agricultural statistics are a base for completing this questionnaire.

Data on taxes on products and services and imports are taken over from the Annual financial statements of the Agency for Finance of the Brcko District.

The data on subsidies are collected from the Department of Economic Development, and the Department of Agriculture.

The particularities of the Brcko District of B&H, in comparison with the entities, are shown in the calculation of the gross value added in sections E, L, M, N and, partly, section O. In fact, the institutions of the Brcko District are organised in a different way than in the entities, and complete calculation for these sections are derived from the Annual report on budget execution, which is drawn up by the Agency for Finance of the Brcko District.

The output of budget users is calculated by cost approach. Majority of the business entities in these sections are integral part of the government institutions. Personnel department of all employees, payment and collection of revenues are centralized. Elementary and secondary schools, a hospital, a health centre, electricity, water supply, sewerage, garbage collection and cleaning and other communal services are integral parts of the Government department, and they do not have a status of legal units and ,thus, no obligation of submitting final statements. Everything is included in the Annual financial statement on implementation of budget which is broken down into Government departments and units in accordance with the particularities of the activities they carry out. Output of these activities is compilation of the following categories: compensation of employees, intermediate consumption and depreciation.

Compensation of employees includes total gross salaries and wage, allowances for employees and the representatives in the Assembly of the Brcko District, and employer`s social contributions.

Intermediate consumption includes travel expenses, energy costs, communal and communication services costs, purchase of materials, transport and fuel costs, and expenditures for maintenance and contractual services and other special services.

A part of contract services that refers to overtime work, contract work on part time or temporary service is deducted from these items and added to the category ‘compensation of employees’.

Consumption of fixed capital- Currently, there is no basis to make estimates of this category. There are data only for the part that refers to depreciation in the state institutions allocated to the Brcko District.

3.2 Agriculture, hunting and forestry (A)

Gross value added in the activities of Agriculture, hunting and forestry for the year 2007 is 49 778 thousand KM which is 12.97 % of total value added, and it mainly consists of the output of individual agricultural households, and slightly of the output of legal units. The calculation of income of agriculture is performed on the defined statistical questionnaire “Annual calculation of output and value added for private sector - agriculture households” - on the basis of the estimation of the responsible committee of the Brcko District of B&H. There are no financial data on the compensation of employees for the individual agricultural households. Data of agricultural statistics are used for estimates. The method of collection is explained in Chapter 3 § 3.7 – the FB&H part.

For enterprises, the data for the compilation of national accounts are used, a part of financial statements following the system of RS and the part, following the system of FB&H. The method of calculation is explained in Chapter 3 § 3.3.1 – The FB&H part and the RS part.

Aimed to support local agriculture, the Government of the Brcko District stimulates individual producers and legal units, which is recorded as subsidy on products. The data on the amount of subsidies paid in the accounting year are provided by the Department of Agriculture.

The estimate of the adjustment to the output is 8.03 % of the official data on the gross output and 7.79 of the value added. The adjustments were made for the producers who are not obliged to register their activity (N3).

There are no registered legal units in forestry.

Table 3.2 A Agriculture, hunting and forestry, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
A Agriculture, hunting and forestry	76 243	26 465	49 778	6 123	2 244	3 879	7.79

3.3 Manufacturing industry (D)

In 2007, gross value added of Manufacturing industry was estimated at 44 808 thousand KM which is 11.68% of total value added. The most significant activity by the value added of Manufacturing industry is the Production of foodstuffs and beverages (NACE 15).The entrepreneurs, according to the accounting DV-DZ, participate with 6.2% in the total value added in this activity. The participation of legal units (institutional units) is dominant. The method of calculation is explained in the Chapter 3 – the F B&H part and the RS part.

The adjustments to the value added for NOE is 4.95% of the value added in this section and it refers mainly to the estimate of the number of unregistered employees (N4 i N7).

Table 3.3 D Manufacturing industry, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
D Manufacturing industry	167 248	122 440	44 808	3 406	2 244	2 218	4.95

3.4 Electricity, gas and water supply (E)

The data on gross output and intermediate consumption are derived from the annual report on the execution of budget, since the organization of these activities is very specific. Gross value added for this section is 2 434 thousand KM which is 0.63% of total value added.

The adjustment of exhaustiveness for this section has no significant influence on the total result and it refers only to the estimate of the number of employees engaged on the basis of contract work.

Table 3.4 E Electricity, gas and water supply, 2007, 000 KM

	Gross output	Intermediate consumption	Gross value added	% of GVA
E Electricity, gas and water supply	5 292	2 858	2 434	0.63

3.5 Construction (F)

The calculation of gross value added in the section of construction is made on the basis of the data from financial statements for legal units which follow the accounting system of RS and the data from Statistical Annex for the legal units that follow accounting system of F B&H and on the basis of the estimates of data from the DV-DZ forms.

The gross value added in this activity is 23 956 thousand KM, which is 6.24% of total value added. Out of which, the entrepreneurs participate with 12.5%.

The method of calculation is explained in the Chapter 3 – the FB&H part and the RS part.

The value of construction on own account by households is added to the output and value added as NOE.

The largest quantity of non-observed economy is comprised of non-registered employees in legal units, mostly small enterprises and entrepreneurs, reported amounts of salaries stated to be at the minimum determine by law, hence, under-reporting. Total adjustments for the value added are 5 571 thousand KM, which is 23.25 % of the official data on this activity.

Table 3.5 F Constructions, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
F Construction	70 691	46 735	23 956	8 336	2 765	5 571	23.25

3.6 Wholesale and retail trade: repair of motor vehicles and motorcycles, and goods for personal consumption or utilization (G)

This activity with 25.73% has the most significant share in total gross value added for the Brcko District of B&H. The share of legal units in generating added value is about 60%, and entrepreneurs with 40%. The method of calculation is explained in the Chapter 3. – the FB&H part and the RS part.

In this activity, significant adjustments of the gross value added were made and they amount to 11 534 thousand KM, which is 11.67% of the official data. Adjustments for enterprises were made to account for non-observed economy, based on the estimate of non-reported employees. For entrepreneurs, the adjustments were made for under-reporting and for the entrepreneurs who are not obliged to register their activity.

Table 3.6 G Wholesale and retail trade, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(G) Wholesale and retail trade	149 410	50 630	98 780	15261	3727	11534	23.25

3.7 Hotels and restaurants (H)

The share of this activity in the total gross value added is 4.79%. The gross value added is 18 406 thousand KM, out of which, the participation of entrepreneurs is 91 %, and legal units participate with 9%. In these activities, significant adjustments of 138% to the gross value added are made, in the part which refers to the entrepreneurs. NOE mainly refers to under-reporting, the estimate of tips received by employees in hotels and restaurants.

The method of calculation is explained in the Chapter 3. – Federation part and part of Republika Srpska.

Table 3.7 H Hotels and restaurants, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(H) Hotels and restaurants	28 088	9 682	18 406	11 631	956	10 675	58.00

3.8 Transportation, storage and communication (I)

Gross value added in this activity is 13 814 thousand KM, which is 3.60% of total value added. It should be noted that this is the situation if the principle of organization is taken into account. However, in the Brcko District, there are three registered branch offices of telecommunication companies and post-offices, two branch offices of railway companies and so on, for which business transactions are accounted for in one of the entities. The method of calculation is explained in the Chapter 3. – the FB&H part and the RS part.

The participation of entrepreneurs is more significant than the enterprises. Considering the current method of calculation in these activities, small adjustments of 12.41% were made to the value added, and they refer mainly to the under-reporting, non-licensed taxi-drivers, who work for the entrepreneurs, and tips received by taxi-drivers.

Table 3.8 I Transportation, storage and communications, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
I Transportation, storage and communications	34 317	20 503	13 814	3 275	1 561	1 714	12.41

3.9 Financial intermediation (J)

This activity has a small share in the gross value added in all activities; there is only one company dealing with insurance that is registered in the Brcko District.

The situation is similar to the previous section of activities. When the accounting on the level of establishment's activity is performed, what is done for the local needs of government, the situation changes significantly since most of the banks and insurance companies from FB&H and RS have their unit in the District and generate considerable gross output and value added.

3.10 Real estate activities (K)

The gross value added in this activity amounts to 37 301 thousand KM, which is 9.72% of the total gross value added. The gross value added covers gross value added generated on the bases of imputed rental. The estimate of the gross value added of the imputed rental (the value of estimated imputed rental for owner occupied dwellings) has a significant share in the gross value added in the section K and participates with 66.03% of gross value added in this section.

Adjustment for NOE of gross value added is 6.27 %, and is made for enterprises on the basis of estimate for under-reporting, as well as, for entrepreneurs in some free occupations such as lawyers, architects and book-keepers.

Table 3.9 K Real estate activities, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(K) Real estate activities	57 404	20 103	37 301	4 554	2 214	2 340	6.27

3.11 Public administration and defence (L)

The methods of calculation and data sources have been already explained. The Gross value added is 52 512 thousand KM, which is 13.68% of the total gross value added.

The value of NOE on the gross value added is 2.83%. The data have been adjusted for the part of employees engaged on contractual basis, for which the compensations of employees are increased and intermediate consumption reduced.

Table 3.10 L Public administration and defence, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(L) Public administration and defence	87 955	35 443	52 512	0	-1 487	1 487	2.83

3.12 Education (M)

Gross value added is 20 357 thousand KM, which is 5.30% of the total value added. Specific educational institutions, method of calculation and data sources are previously explained for the part which refers to the budget users. The participation of market producers is small in this activity.

Slight adjustments made for non-exhaustiveness amount to 869 thousand KM, which is 4.26% of official data for this activity.

Table 3.11 M Education, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(M) Education	26 208	5 851	20 357	354	-515	869	4.26

3.13 Health and social works (N)

Gross value added in this activity is 14 580 thousand KM, which is 3.80% of gross value added. Specific organization of health works and method of calculation as well as data sources have already been explained for the part that refers to the budget users. The participation of market producers is small in this activity.

Slight adjustments made for non-exhaustiveness is 851 thousand KM which is 5.83% of the official data for this activity Adjustments refer to non-registered workers engaged on contractual basis, and the estimate of tips received by employees in health works and non-registered entrepreneurs.

Table 3.12 N Health and social works, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(N) Health and social works	24 191	9 611	14 580	811	-40	851	5.83

3.14 Other community social and personal service activities (O)

Gross value added in this activity is 5 728 thousand KM, which is 1.49% of total gross value added. Most of non-observed economy is on the basis of non-reporting and costs for small and non-corporate units. The adjustments are made for tips for haircutting services.

Table 3.13 O Other community social and personal service activities, 2007, 000 KM

	Official data			Adjustment for NOE			
	Gross output	IC	GVA	Gross output	IC	GVA	% of GVA
(O) Other community social and personal service activities	12 585	6 857	5 728	1 340	671	669	11.68

d) AGENCY FOR STATISTICS OF B&H (BHAS) REMAINING PARTS

The very important methodological adjustment to output and intermediate consumption in NACE K related to calculation of dwelling services. The estimate of dwelling services was based on the methodology proposed by OECD. The estimate was based on the cost approach as sum of intermediate consumption, consumption of fixed capital, taxes on production and operating surplus. The estimate was made for 2004 (2004-benchmark year). The inclusion of these estimates of dwelling services in the GDP official estimates would increase the comparability of the GDP compiled in B&H and with that compiled in other countries.

3.17.1 Data sources used for the user cost estimation of dwelling services

The last population census as the most important data source on dwelling stock and estimation of dwelling services as well was carried out in B&H in 1991. Due to the war which came afterwards, the data collected on dwelling stock were neither processed nor published. The last available data on dwelling stock were data from the population census carried out in 1981.

Household budget survey 2004 (HBS) - Data collected by the household budget survey in 2004 have been remained as the main data source for estimation of the dwelling stock of B&H and expenditure related to the owner occupied dwelling. The year 2004 was also chosen as the starting point and reference year for the construction of the series based on the availability of source data.

The household budget survey was implemented in B&H for the first time in 2004. The questionnaire included a set of questions related to the dwelling stock that have been used as basic information for the user cost estimation of owner occupied dwelling services. The next survey was carried out in 2007. The following basic information has been taken over from HBS:

- Type of dwelling units;
- The year of construction;
- Size of dwelling units;
- Facilities, installations and accessory space;
- Legal status of dwelling units;
- Ownership of dwelling units;

- Actual rental paid per month;
- Expenditure on maintenance and repair of dwelling units;
- Expenditure on insurance of dwelling units;
- Annual instalment for loan on dwelling units;
- Revenue from rentals of dwelling units.

Construction statistics and experts judgment have been used for some specific parts of estimation (share of land value in value of dwelling, relation between construction prices in urban and rural area, differences in quality of construction and technical equipment of dwellings between old and new built buildings etc.).

Assumptions - The lack of the relevant data required use of some assumptions. Assumptions were made for three items:

- The average price per m² for new constructed dwellings;
- The average service life of dwelling unit;
- The annual rate of dwelling stock growth rate.

Recommendations - The guidelines to the user cost approach made recommendation for some items which could be used in the absence of data relevant information as:

- The annual rate of return;
- The net operating surplus;
- The consumption of fixed assets.

Retail price indices - Until 2005 the Retail Prices Index (RPI) has been used as the main indicator of inflation in the B&H. The RPI has been available only at the level of the entities. Retail price indices have been used as price indices for the derivation of data series of output and value added from 2000 to 2006, for the entities.

Consumer price indices - The Consumer Price Index (CPI) is a measure of the average change in prices over time of a market basket of goods and services and is used as measure of consumer price inflation in the entities and in B&H as a whole. The CPI has been compiled starting with the data for January 2005. The period adopted as the base of calculation for the indices is December 2004. CPI has been used for derivation dwelling services in 2006 and 2007.

Population data - For purposes of derivation imputed rentals from 2000 to 2007, for entities and B&H as whole, the population estimates made by the BHAS have been used. It is important to mention that these population estimates do not coincide with the aggregate obtained by summing up the respective independent estimates made by the entities because BHAS has made population estimates for B&H independent of entities.

3.17.2 Method of calculation

According to the SNA 1993, the production boundary cover a very wide range of productive activities, among other things the production of housing services for own final consumption by owner occupiers. The housing services can be calculated using standard procedure that means that the rents that would be paid are the same as the rents actually paid for similar dwellings. In the countries where the standard procedure cannot be applied user cost method is recommended.

The user cost method is method of estimating the value imputed rental by summing the relevant cost: intermediate consumption, consumption of fixed capital, other taxes on production and net operating surplus (nominal rate of return on the capital invested in the dwelling and land).

In case of B&H, the standard procedure cannot be applied as only a few dwellings are rented and the rents actually paid cannot be considered as typical. The standard procedure cannot be used because:

- Less than 25 % of all dwellings in the country are actually rented (according to HBS/2004 less than 5% of total dwellings are by tenants);
- More than half of the rented dwellings are occupied by foreigners;
- Rented dwellings are not evenly distributed throughout the country.

The estimate of dwellings services was based on the user cost method.

3.17.2.1 Intermediate consumption

The estimation of the total value of the intermediate consumption was mainly based on expenditure on maintenance and repair of dwellings taken over from HBS and represented 20% of gross output. Additional analysis of HBS data referred to expenditure on maintenance and repair of owner occupied dwellings has shown that those data included also some part of cost which can prolong expected lifetime of dwellings. Due to the fact that it has not been known exactly which part refers to regular maintenance and which to extraordinary cost, the share of this category in gross output has been reduced in such a way that total intermediate consumption now represents 15% of gross output.

Because of very low quality of data in HBS, gross insurance premiums paid on dwellings and insurance claims paid to owners have been estimated as zero. The same level has been retained in the refined estimation as well.

The data have not been available for gross insurance premiums and insurance claims. Net insurance premiums paid by owners have been estimated as proposed by user cost guidelines, 1% of total intermediate consumption.

3.17.2.2 Other taxes on production

This category consists of two type taxes: taxes paid by owners on dwelling services and taxes paid by owners on the value of dwellings and associated land. Data for the both type of taxes have not been available and have been estimated as zero.

3.17.2.3 Consumption of fixed capital

Consumption of fixed capital is obtained by multiplying the mid-year value of the stock of owner-occupied dwellings valued at current prices by the depreciation rate. As depreciation rate the rate 1.6%, proposed by user cost methodology has been used.

3.17.2.4 Net operating surplus

Data on current market value of the stock of dwellings at the beginning and at the end of the year have not been available. The calculation of current market value of the stock of dwellings have been made using estimated number of owner-occupied dwellings in the middle of the current year and average price of newly-constructed dwellings in current year. The current market value of the stock of dwellings at mid-year has been estimated including value of land. Value of land has been estimated as share in price per m². For dwellings in capital city area the share was the largest 30% and for rural area only 2%. The average share has been recalculated as 11% in price per m².

The recommended rate of return on dwellings in percent per annum has been used for calculation of net operating surplus, by multiplication the rate and current market value of the stock of dwellings at mid-year. The following are tables with final results for B&H as a whole.

Table 3.14 Worksheet for estimating expenditure on owner-occupied dwelling services, 2004, 000 KM

Item No.	Description of the item	Value
	Intermediate consumption	
UC 01	Expenditure on maintenance and repair of owner-occupied dwellings	193 590
UC 02	Gross insurance premiums paid on owner-occupied dwellings	not available
UC 03	Insurance claims paid to owners (minus)	not available
UC 04	Net insurance premiums paid by owners (UC 02) – (UC 03)	1 955
UC 05	Total intermediate consumption (UC 01) + (UC 04)	195 545
	Other taxes on production	
UC 06	Taxes paid by owners on dwelling services	0
UC 07	Taxes paid by owners on the value of owner-occupied dwellings and their associated land	0
UC 08	Total taxes paid by owners (UC 06) + (UC 08)	0
	Consumption of fixed capital	
UC 09	Consumption of fixed capital on owner-occupied dwellings at current prices (excluding land)	481 507
	Net operating surplus	
UC 10	Current market value of the stock of owner occupied dwellings at the beginning of the year (including land)	not available
UC 11	Current market value of the stock of owner-occupied dwellings at the end of the year (including land)	not available
UC 12	Current market value of the stock of owner-occupied dwellings at mid-year (including land) (UC 10) + (UC 11) / 2	25 065 360
UC 13	Rate of return on owner-occupied dwellings (including land) in percent per annum	0.025
UC 14	Net operating surplus (UC 13) * (UC 12) / 100	626 634
	Expenditure on owner-occupied dwellings services	
UC 15	Expenditure on owner-occupied dwelling services (UC 05) + (UC 08) + (UC 09) + (UC 14)	1 303 686
	Value added (UC15 - UC 05)	1 108 141

As mentioned already, 2004 was also chosen as the reference period for the construction of the series based on the availability of data. The derivation of data for B&H for 2004 at current prices has been done by aggregating data from the entities and Brcko District.

Table 3.15 Imputed dwelling services, 2004, 000 KM

	Bosnia and Herzegovina	Federation of Bosnia and Herzegovina	Republika Srpska	Brcko District
Output	1 303 687	840 930	435 274	27 483
Intermediate consumption	195 545	125 422	66 537	3 586
Value added	1 108 142	715 508	368 737	23 897

The derivation of the series for the period 2000 to 2007 has been done using indices (consumer price indices and index of population) based on 2004=100 for the current price estimates. The constant price estimates have been calculated using chained indices (volume indicator – index of population) based on previous year data. The estimates of dwelling services for owner occupied dwellings have been included in official estimation of GDP for period 2000 to 2007.

Table 3.16 The share estimated imputed dwelling services in total GDP by production approach, mio KM

	2000	2001	2002	2003	2004	2005	2006	2007
GDP	11 661	12 555	13 811	14 505	15 787	16 928	19 121	21 647
Imputed dwelling services	1 028	1 070	1 114	1 097	1 108	1 120	1 110	1 107
Share %	8.80	8.52	8.06	7.57	7.02	6.62	5.81	5.12

3.18 Public administration and defence

National accounts department of Agency for statistics of B&H calculates output and its components for State level units including the Central government institutions and Central Bank of B&H. Central government institutions comprise of the ministries and other government institution (around 58 reports).

Data sources for calculation of national accounts aggregates for central government are annual financial reports collected by the Ministry of finance and treasury of B&H. Data are collected from all government institutions.

Gross output is calculated by cost approach as sum of intermediate consumption, compensation of employees, consumption of fixed capital and other taxes minus other subsidies on production.

Intermediate consumption is calculated as sum of the next costs: travel costs, energy and communal services, telephone and postal services, purchases material, fuel costs, operating leasing and renting, current maintenance, insurance costs and bank services, contracted services.

Consumption of fixed capital is estimated as 5% of value added.

Table 3.17 The share Central government institutions in Total Public administration in B&H, 2007

	Output	Intermediate consumption	Value added
Total - Public administration and defence – B&H	2 344 981	537 333	1 807 647
Central government institutions	666 032	97 787	568 244
Percentage of total - %	28.40	18.20	31.43

Calculated output and its components have been allocated to Entities (Federation of B&H and Republika Srpska) and Brcko District using coefficient for distribution of indirect taxes from single account of Indirect Taxation Authorities of B&H to entities (Federation of B&H 64,76%, Republika Srpska 31,73% and Brcko District 3,51%).

For calculation of output and its components for Central bank B&H data have been collected directly from Central bank using a special form. Calculation has been made using cost approach. Output and its components have been allocated to the entities using the same coefficient as for Central government institutions.

Table 3.18 Allocation data to the entities and Brcko District, 2007, 000KM

	Output	Intermediate consumption	Value added	Percentage of total - %
Federation of B&H	456 807	75 945	360 861	64.76
Republika Srpska	223 818	37 210	186 608	31.73
Brcko District	24 759	4 115	20 643	3.51
B&H	705 384	117 270	588 112	100.00

3.23 Treatment of extra territorial organizations and bodies (Q)

In GDP calculation extra territorial organizations and bodies have not been shown.

3.25 Value Added Tax

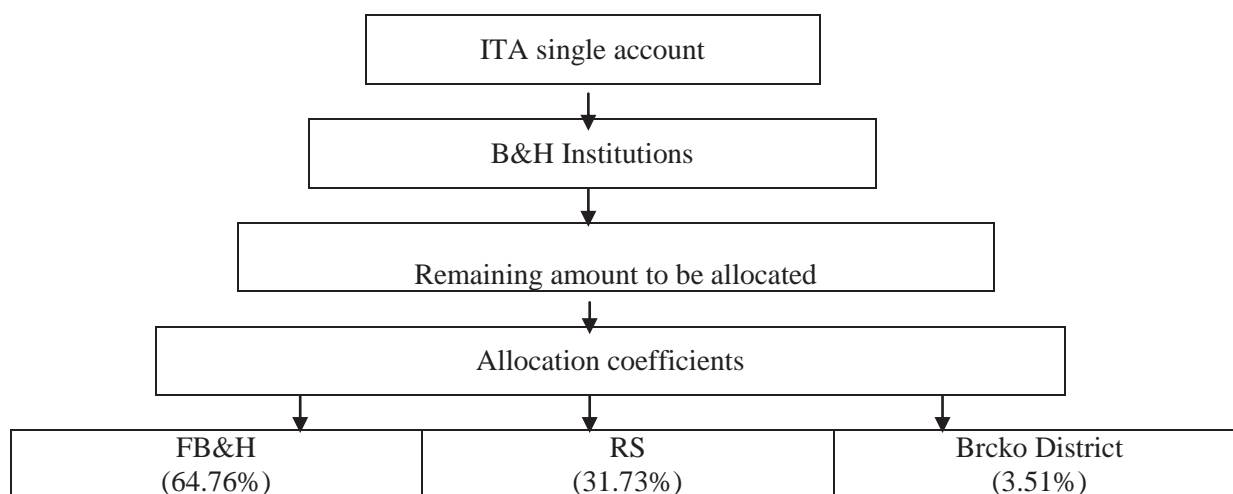
Complex and asymmetric administrative structure in B&H created complex allocation of public revenues. The law on system of indirect taxation in B&H created institutional and organizational basis for single system of indirect taxation in B&H, system of collection and allocation of indirect taxes between budgets of B&H, Federation of B&H, Republika Srpska and Brcko District. Indirect Taxation

Authority (ITA) is a body responsible for implementation of law on indirect taxation, system of collection and allocation of revenues from indirect taxes, other revenues and fees.

Since the introduction of value added tax on January 1st, 2006, Indirect Taxation Authority became responsible for calculation, collection and allocation of indirect taxes. All revenues from indirect taxes are paid into single account and allocation is made so that the reserves for refunds and share for financing B&H institutions represent first priority in allocation of revenues. Remaining amount is allocated to budgets of B&H Federation, Republica Srpska and Brcko District after reduction of amount of liabilities requires for servicing foreign debt.

Indirect taxes cover import and export duties, excise, value added tax and taxes calculated on goods and services, including sales taxes and road tolls.

The system for allocation of indirect taxes in B&H:



All revenues that ITA is responsible for are paid to the single account, which comprises of accounts in commercial and Central bank. Account in the Central bank is used for recording, keeping and allocation of revenues to the state, entities, Brcko District and minimum reserves in the account.

Table 3.19 Revenues from indirect taxes collected by ITA on Single Account, 2007

	mio KM	in %
Indirect taxes	4 676	100.00
VAT	2 869	61.35
VAT on imports	2 266	48.45
VAT from VAT returns	1 205	25.76
VAT from automatic assessment done by ITA	0.5	0.01
One-off VAT payments	1.5	0.03
Other	13	0.29
VAT refunds	-617	-13.20
Custom duties	656	14.02
Sales tax	32	0.07
Excises	919	19.66
Railroad tax	187	4.00
Other	19	0.41
Other refunds	-5	-0.11

Table 3.20 Review of allocated revenues to beneficiaries in 2007, mio KM

Beneficiary	2007
Minimum reserves	529
B&H – financing institutions	637
Federation of B&H	2 669
Republika Srpska	1 308
Brcko District	145
Total	5 288

Revenues from collection of indirect taxes for financing B&H institutions have been allocated to Entities and Brcko District using coefficient for distribution of total indirect taxes from single account of Indirect Taxation Authorities of B&H to entities.

Table 3.21 Allocation Indirect taxes for financing B&H institutions to Entities and Brcko District, 2007

	mio KM	in %
Federation of B&H	413	64.76
Republika Srpska	202	31.73
Brcko District	22	3.51
B&H institutions	637	100.00

CHAPTER 4

THE INCOME APPROACH

a) FEDERAL OFFICE OF STATISTICS (FOS)

4.0 GDP by the income approach

During 2009, FOS has made, for the first time, estimate of GDP by income approach for 2007. The calculation of income categories is done at the 2-digit level of Classification of activities, but not by institutional sectors.

GDP by income approach consists of the primary income categories that resident production units and individuals receive in the process of production of goods and services. Gross operating surplus is primary income of market and non-market producers, mixed income is primary income of households and compensation of employees is primary income of individual employees. In order to obtain GDP at market prices, the value of all taxes on production and imports has been added and the value of all subsidies on production has been deducted.

Table 4.1 GDP by the income approach, 2007

	000 KM	Structure (%)
Compensation of employees	6 873 384	49.6
Taxes on production and imports	3 249 149	23.4
Taxes on products	2 967 752	21.4
Other taxes on production	281 397	2.0
Subsidies on production	116 842	0.8
Subsidies on products	99 893	0.7
Other subsidies on production	16 949	0.1
Gross operating surplus	2 680 201	19.3
Gross mixed income	1 175 110	8.5
Gross domestic product at market prices	13 861 003	100.0

The data sources for primary income categories calculation are the same as for GDP by production approach, as outlined in Chapter 3. Compensation of employees includes gross salaries and wages, employees' social contributions and allowances for employees' other costs.

In National Accounts, taxes on production and imports are divided into taxes on products and other taxes on production (for taxes on products see Chapter 3, § 3.24). Other taxes on production include: payroll tax and other personal income, tax on additional income, tax on firm, special tax on salary for protection from natural and other disasters, special tax on salary for protection from natural and other disasters related to part-time contract and temporary and occasional contractual work, environmental charges, charges for the use of roads, paid at the registration of vehicles, charges for the right to use natural resources and a part of administrative taxes related to the business entities.

Subsidies on production consist of subsidies on products and other subsidies on production. Subsidies are current unrequited payments by general government to resident market producers. Subsidies on products are part of output value at basic prices and are explained in Chapter 3, § 3.26.

Gross operating surplus is the residual item and equal to GVA less compensation of employees less other taxes on production plus other subsidies on production. For non-market producers (general government and NPISH) gross operating surplus is equal to the consumption of fixed capital. Gross mixed income is income of unincorporated enterprises. It is estimated as a residual category and it is equal to GVA less compensation of employees less other taxes on production plus other subsidies on production.

Consumption of fixed capital for general government sector does not include consumption of fixed capital for roads, bridges and similar public infrastructure. The calculation of income categories has not been done by institutional sectors. For now, the total FISIM is deducted from gross operating surplus of whole economy.

4.1 The reference framework

GDP by income approach is not an independent measure because it is estimated with the same data sources as GDP by production approach. Taxes on production and imports are estimated on the base of the report “*Overview of total generated and allocated public revenues*” from FB&H Ministry of Finance which includes all kinds of public revenues. Federal and cantonal ministries are main data sources for subsidies on products and other subsidies on production.

4.2 Valuation

According to basic accounting principles, data for estimation of GDP by production approach and GVA categories are recorded on accrual basis. For budgetary users and non-budgetary funds, revenues are recorded on cash basis, and expenditures on accrual basis. Other taxes on production and other subsidies on production reflect actual transactions during the accounting period. For payroll tax, as the most important type of other taxes on production, a month time lag adjustment is not made.

4.3 Transition from private accounting and administrative concepts to ESA/95 National accounts concepts

Transition from private accounting and administrative concepts to ESA/95 National Accounts concepts is an important part of GDP compilation process. The main problem is distinguishing between categories of intermediate consumption, compensation of employees and other taxes on production. Payroll tax is excluded from labour costs in administrative and statistical data sources and it is a part of other taxes on production. A part of allowances for business trips are deducted from intermediate costs in administrative and statistical data sources and included in the compensation of employees.

4.4 The roles of direct and indirect estimation methods

Income categories estimation is mostly based on direct estimation methods. The only exception is consumption of fixed capital for institutional units of general government sector that is indirectly estimated.

4.5 The roles of benchmark and extrapolations

4.6 The main approaches taken with respect to exhaustiveness

Adjustments of income categories for non-exhaustiveness are estimated entirely during the adjustments within GDP calculation by the production approach. Adjustments of income categories have been made in non-financial and households sector (see Chapter 7).

4.7 Compensation of employees

Compensation of employees includes:

- Gross salaries and wages;
- Employers' social contributions and
- Allowances for employees' other costs.

Gross salaries and wages consist of net salaries and wages and employees' social contributions. Net salaries and wages consist of all payments during the work including working overtime and paid absence from work (sick leave, holidays, annual holidays, professional trainings). Employees' social contributions include contributions for pension and disability insurance (17% of gross salary), contributions for health insurance (12.5% of gross salary) and contributions for unemployment (1.5% of gross salary).

Employers' social contributions include contributions for pension and disability insurance (6% of gross salary), contributions for health insurance (4% of gross salary) and contributions for unemployment (0.5% of gross salary).

Allowances for employees' other costs are: food at work, allowances for transportation to and back from work, allowance for annual holiday, jubilee rewards, allowances in case of death or serious health problems, extra payments at retirement, living away from home allowance.

4.8 Other taxes on production

Other taxes on production are categories of GVA and consist of all payments by production units to general government institutions for the engagement in the production process. In 2007, other taxes on production were estimated at 281 397 thousands KM or 2% of GDP. Other taxes on production include:

- Payroll tax and other personal income;
- Tax on additional income;
- Tax on firm;
- Special tax on salary for protection from natural and other disasters;
- Special tax on salary for protection from natural and other disasters related to part-time contract and temporary and occasional contract work;
- Environmental charges;
- Charges for the use of roads paid at the registration of vehicles;
- Charge for the right to use natural resources and
- Part of administrative taxes related to the business entities.

4.8.1 Payroll tax and other personal income

Payroll tax is calculated and paid by employer. It is calculated as a percentage of 5% on net salary (gross salary minus compulsory employee's social contributions).

4.8.2 Tax on additional income

Tax on additional income is calculated and paid by employer. It is calculated as a percentage of 30-50% on the following incomes paid above the amount specified by law: separate living fee, fee for work away from office, annual holiday bonus, fee for temporary and occasional works, fee to the members of the board of directors and supervisory board and similar.

4.8.3 Tax on firm

Annual fee is paid for each symbol and sign on the premises and facilities which indicate that specific business entity is engaged in certain activity. The amount of tax depends on type of activity in which units are engaged, and cantons where activity is performed.

4.8.4 Special tax on salary for protection from natural and other disasters

This type of tax is calculated and paid by employer in the amount of 0.5% of net employee's salary and remuneration for temporary and occasional works, part-time contracts, remuneration to the members of the board of directors.

4.8.5 Environmental charges

These charges include:

- Charges for environmental pollution;
- Charges for users of environment and
- Special environmental Charges paid by business entities during the registration of motor vehicles.

All business entities whose activity pollutes the environment in terms of the Environmental Protection Law are obliged to pay charges for environmental pollution; those that produce and import products containing noxious substances as well as energy operators which pollute the environment. The amount of charges depends on the quantity and type of harmful substances, radiation in the air, product prices and the degree of harmfulness to the environment, the type of fuel and technology.

Environment users charges should be paid by all business entities that are owners of the rights to the buildings used for carrying out activities for which regulation requires a study of environmental impact assessment to be made. The amount of charges depends on the size and type of building and degree of negative impact on the environment.

Owners of motor vehicles (business entities) are liable to pay the charges at the registration of motor vehicles. The amount of charges is determined by the type and age of vehicle, type of engine and motor fuel.

4.8.6 Charges for use of roads paid at the registration of vehicles for business entities

Owners of motor vehicles are obliged to pay this charge. It is paid annually at the registration of vehicles. The amount of charge depends on the volume of engine, number of seats, total weight (weight of vehicle plus capacity) and engine power.

4.8.7 Charges for the right to use the natural resources

These charges consist of:

- Charges calculated and paid at once when contract on concession is concluded and it is a charge for the right to use natural wealth and
- Annual charge that is calculated from revenues generated by using natural wealth, and it is paid during the contract period.

4.8.8 Administrative taxes

Administrative taxes paid by business entities are covered. Taxpayers are business entities at which request administrative procedure is initiated or activity is being done for which the tax payment is prescribed.

4.9 Other subsidies on production

Other subsidies on production are current unrequited payments by general government to resident market producers. In this category all payments for the following purposes are included: to support employment, to relieve costs of interests and mitigation of VAT's effects. The main data source for

other subsidies on production is budgetary statistics (data from federal and cantonal ministries). In 2007, other subsidies on production amounted to 16 949 thousands KM, out of which the biggest amount is related to mitigation of VAT's effects, due to the fact that VAT was levied in 2006.

4.10 Gross operating surplus

Gross operating surplus is a residual category of GVA and is equal to the GVA less compensation of employees less other taxes on production plus other subsidies on production. In non-market activities of general government and NPISH, gross operating surplus equals the consumption of fixed capital. Operating surplus for imputed rental of owner-occupiers dwelling activities is included in gross operating surplus.

4.11 Gross mixed income

Gross mixed income is revenue of the self-employed for their engagement in the production process and relates to unincorporated enterprises (individual agriculture production and entrepreneurs). Gross mixed income is residual category and equals to the GVA less compensation of employees less other taxes on production plus other subsidies on production.

4.12 Consumption of fixed capital

Data sources for calculation of consumption of fixed capital are statistical reports used for GDP calculation by the production approach. For direct budgetary users the consumption of fixed capital is estimated as 6% of GVA in activity L- Public administration and defence, compulsory social security, i.e. 5% of GVA for direct budgetary users registered in other activities. PIM method is not in use, so there is still no estimation of consumption of fixed capital for roads, bridges and similar public infrastructure.

b) REPUBLIKA SRPSKA INSTITUT OF STATISTICS (RSIS)

4.0 GDP by income approach

GDP by income approach is the sum of all incomes earned by production units and employees. Resident production units are enterprises and entrepreneurs as market producers and general government and NPI units as non-market producers. The main categories of income GDP are compensation of employees, gross operating surplus, gross mixed income, other taxes on production and other subsidies on production. Total income categories by activities are directly increased by taxes on products and reduced by subsidies on products to get the final value of GDP at market prices. GDP 2007 main income categories are shown in the Table 4.1.

GDP by income approach equals the sum of compensation of employees, net taxes on production (taxes on production less subsidies on production) and gross operating surplus and mixed income.

Rough experimental calculation of GDP by income approach started for the first time at the beginning of 2008. It related to data for GDP by income approach for 2007 and 2008. Further work on analysis of calculated categories is necessary in order to finalize and publish, for the first time, income-based GDP.

Table 4.1 GDP by the income approach, 2007

Income categories	Value in 000 KM	Structure (%)
Compensation of employees	2 854 109	38.8
Taxes on production and imports	1 789 021	24.3
Taxes on products	1 554 121	21.1
Other taxes on production	234 900	3.2
Less: subsidies	127 506	1.7
Subsidies on products	40 226	0.5
Other subsidies	87 280	1.2
Gross operating surplus	1 437 173	19.5
Gross mixed income	1 398 188	19.1
Gross domestic product at market prices	7 350 985	100.0

4.1 The reference framework

The data sources for the calculation of income categories are the same as for GDP by production approach, as shown in § 3.1.1.

APIF and RS Ministry of Finance deliver financial statements, which include separate items of gross wages and salaries, other labour costs, as well as consumption of fixed capital for market and non-market producers. Sources of data for taxes on production and subsidies on production are detailed lists of taxes and subsidies delivered by RS Ministry of Finance, as well as financial statements for legal entities. More detailed explanations are given in § 3.22 and 3.24. The item, consumption of fixed capital, does not exist in financial statements for direct budget users, so the experts from the National Accounts department have estimated this item.

4.2 Valuation

In accordance with the basic accounting principles, available data for estimate of GDP by the production and income approach and GVA categories are recorded on accrual basis. The exception are data on taxes recorded on cash basis.

4.3 Transition from private accounting and administrative concepts to ESA95 NA concepts

Transition from private accounting and administrative concepts to ESA 95 National Accounts concept is explained in detail in § 3.3.

In order to accomplish the national accounts concept, the following steps were performed:

- Items which relate to allowances for employees are excluded from intermediate consumption;
- Compensation of employees for students work, contracted work, as well as religious communities are added to the account;
- Part which refers to employed persons in individual agriculture is also added to the account;
- The item - consumption of fixed capital for religious communities, individual agriculture and imputed rent is estimated and included in the calculation.

4.4 The roles of direct and indirect estimation methods

GDP by the income approach is based on a direct method using standard and complete annual data sources. Indirect estimate methods are of no significance.

4.5 The roles of benchmarks and extrapolations

See explanations given in § 3.5.

4.6 The main approaches taken with respect to exhaustiveness

Exhaustiveness adjustments of income categories are not estimated independently. They are estimated in the same way and at the same time as exhaustiveness adjustments, by the production approach. The majority of exhaustiveness adjustments of the output are allocated to compensation of employees and to gross mixed income.

For the non-exhaustiveness type N3 (not obliged to register), for students' work and contractual work, in addition to output and intermediate consumption, the estimates are made for compensation of employees, as well. Compensation of employees is increased also due to non-reporting of legal enterprises (non-exhaustiveness type N4). All adjustments to output and intermediate consumption for market enterprises for under reporting (non-exhaustiveness type N6) are allocated to compensation of employees. Other statistical deficiencies (non-exhaustiveness type N7) include output adjustments for tips estimated for service activities of households and in market enterprises, and they are allocated to compensation of employees.

4.7 Compensation of employees

Compensation of employees consists of two main components:

- Gross wages and salaries;
- Other allowances for employees.

The sources for compensation of employees are financial statement received from APIF, and annual consolidate reports for government units.

Compensation of employees is calculated with available data sources, according to accounting standards and rules, and with exhaustiveness adjustments.

Further, compensation of employees includes items that refer to allowances for employees, and they are excluded from intermediate consumption by production approach. These items refer to:

- Per diems for business trips;
- Remuneration for field work;
- Remuneration for living away from home;
- Remuneration for employees' food at work;
- Allowances for transportation to and back from work.

Gross wages and salaries and other allowances for employees include all gross payments in the accounting year for employees together with employees' social contributions. Gross salaries comprise four types of employees' social security contribution (30.6%). Employees' social security contributions include obligatory contributions for pension and (17%), health security scheme (11.5 %), social security contributions for the unemployed (0.7%) and child protection fund (1.4 %).

According to accounting standards, the most important other allowances are:

- Jubilee rewards;
- Remuneration for retirement;
- Remuneration for annual holiday;
- Remuneration for board of directors and supervisory board members;
- Over-time allowances;
- Allowances in case of death or serious health problems

All payment of other allowances are valued gross, before deduction of social contributions paid by employer.

4.8 Other taxes on production and imports

Other taxes on production (D.29) consist of all taxes that legal entities incur as a result of engaging in production, regardless of quantity or value of the goods or services produced or sold. Besides the Report on Budget Execution from the RS Ministry of Finance, data sources for D.29 are also information from the RS Tax Authority on the origin of tax charges, i.e., taxes paid only by a legal entity. The following taxes are included herein:

- Tax on the use of land for construction
- Income tax
- Taxes on copyrights, patents revenues;
- Taxes on the use of vehicles;
- Taxes on the use of mobile phones;
- Road fees paid by legal entities;
- Use of mineral resources charges;
- Water supply charges;
- Charges for water used;
- Charges for water used for agriculture;
- Charges for water taken for commercial purposes;
- Water fees paid when registering motor vehicles;
- Charges for polluted water;
- Charges for water used for energy production;
- Charges for anti-hail protection;
- Charges for material extracted from watercourses;
- Fire protection measures fees;
- Lottery funds for humanitarian purposes;
- Special republic tax;
- Tax on students' work;
- Tax on contractual work;
- Change of purpose of agricultural land fee;
- Funds for expanded reproduction of forest resources.

Taxes calculation in national accounts is based on tax collected, that is, on the cash basis.

Taxes on products are explained in § 3.22. and include all taxes and import duties, value added tax, excises on petrol, cigarettes, alcohol, taxes on gambling and slot machines, taxes on specific services and real estate transactions.

4.9 Other subsidies on production

Subsidies are non-returnable payments and disbursements to resident producers made by government institutions. Data source for subsidies to public and private institutions is the Report on Budget Execution, provided by the RS Ministry of Finance. Since the Annex, as an integral part of financial statements, is filled in by all legal entities, and since it includes items which refer to subsidies on products D.31 and other subsidies on production D.39, allocation of total subsidies according to activities is done on the basis of structure of mentioned items from the Annex. In addition to the mentioned items from the Annex, distribution and analysis of subsidies are also done on the basis of the ministries' reports on given subsidies.

Other subsidies on production mainly refer on employment subsidy, interest rates, cover of expenses for maintenance of railway infrastructure, etc.

Subsidies on products are explained in § 3.24.

4.10 Gross operating surplus

Operating surplus is the residual category of value added in financial and non-financial corporations and in activities of households (imputed rentals of dwellings). As output of dwelling activities of owner-occupiers is estimated by the cost approach and gross operating surplus is the sum of consumption of fixed capital and net operating surplus. The category can be shown either as net or gross, together with consumption of fixed capital. In non-market activities, gross operating surplus equals the consumption of fixed capital.

4.11 Mixed income

Mixed income is the residual category in the calculation of value added of unincorporated enterprises. Gross mixed income is revenue of self-employed for their engagement in the production process. The category is estimated separately for household agriculture production and for unincorporated enterprises. The category can be shown either as net or gross, together with consumption of fixed capital. For individual agriculture the number of employed persons was estimated on the basis of the Labour Force Survey 2007, as well as their corresponding mixed income.

4.12 Consumption of fixed capital

For non-market producers of general government and non-profit institutions NPISH, consumption of fixed capital is equal to gross operating surplus.

Since consolidated financial statements for direct budget users do not include the item consumption of fixed capital, it is estimated by using rate of 30% on intermediate consumption. Financial statements for enterprises, indirect budget users and NPISH include the item - consumption of fixed capital, and it is taken over from these. The item - consumption of fixed capital for religious communities, individual agriculture and imputed rent is estimated and included in the calculation.

c) AGENCY FOR STATISTICS OF B&H BRCKO (BHAS)

The estimate of GDP by income approach for 2007 and 2008 on section level is in preparation. The data will be published in December 2009.

CHAPTER 5

THE EXPENDITURE APPROACH

5.0 GDP according to the expenditure approach

Gross domestic product by the expenditure approach is measured as total domestic final consumption corrected by external trade balance with the rest of the world. The main components of GDP by the expenditure are:

- Households final consumption expenditure;
- Final consumption of non-profit institutions serving households;
- General government final consumption expenditure;
- Gross capital formation;
- Export and import of goods and services.

Each of these components can be estimated using a variety of data sources and techniques, with the aim of obtaining as comprehensive measure as possible of the level of economic activity.

The first estimates of GDP by the expenditure approach in B&H have been compiled at the level of country as a whole instead of aggregating the macroeconomic data compiled by the entities as it is done with the estimates of GDP by production. This approach was followed because balance of payments estimates are only available for the country as a whole. Moreover, estimates of expenditures on final uses rely significantly on detailed data on imports and exports, which are likely to be more reliable when referred to the country as a whole than to the entities. This is because the allocation of imports and exports to the entities in accordance with the residence of the importer/exporter does not necessarily reflect the residence of the final user of goods imported or the origin of the exports.

The year 2004 was chosen as the starting reference period for the construction of the series based on the availability of source data. The year 2004 is the first year for which data from a household budget survey with countrywide coverage became available, thus providing an important data source for estimating household's consumption. That year is also the first one for which foreign trade data were compiled with countrywide coverage, based on uniform customs declarations submitted to the Indirect Taxation Authority.

GDP by the expenditure approach has been estimated at current prices since 2004 and at constant prices since 2005, thus permitting measuring of the volume growth rates between two years. Estimates at constant prices are also undermined by the lack of necessary price indices: there are no price indices available for import and export of goods, no countrywide producer indices, no countrywide retail price index, no price indices for construction output, and compilation of the consumer price index (CPI) started only with the data of January 2005. Table 5.0 shows estimate of GDP by expenditure approach at current prices in 2007, main expenditures categories and structure of GDP.

Table 5.1 GDP by the expenditure approach at current prices, 2007, Mio

Expenditure categories	2007	Structure (%)
1	2	3
Household final consumption expenditure	19 810 887	81,41
Final consumption expenditure of NPISH	205 864	0,85
General government final consumption expenditure	4 453 569	21,19
Individual government consumption	2 113 677	8,69
Collective government consumption	2 339 892	9,62
Gross capital formation	6 830 295	28,07
Gross fixed capital formation	6 484 422	26,65
Changes in inventories	345 873	1,42
Export of goods and services	7 990 900	32,84
Goods (fob)	6 046 600	24,85
Services	1 944 300	7,99
Import of goods and services (minus)	14 957 000	61,46
Goods (fob)	14 148 200	58,14
Services	808 800	3,32
Gross domestic product – at market prices	24 334 515	100,00

5.1 The reference framework

5.1.1 Introduction

The estimate of the main components of the expenditure GDP is based on statistical surveys, administrative data sources and balance of payments statistics prepared by the Central Bank of Bosnia and Herzegovina.

It should be noted, however, that there are still important gaps on the basic statistics available for the compilation of the national accounts; quality of some statistics whether based on administrative sources or statistical surveys need improvements. Therefore, improvements of the national accounts estimates, including revisions of the data, is a continuous process subject to corresponding future improvements of the existing basic statistics, as well as the development of new data sources.

The main data sources for the estimates of the main components of the expenditure GDP at current prices are presented in the Table 5.2:

Table 5.2 The main data sources for compilation GDP by expenditure

Data sources		Availability
1	2	3
5.1.1.1	Household budget survey of 2004	2004, 2007
5.1.1.2	Foreign trade data	monthly; annually
5.1.1.3	PRODCOM survey	annually
5.1.1.4	Balance of payment	monthly; annually
5.1.1.5	Output by economic activities	annually
5.1.1.6	The investment survey	annually
5.1.1.7	The public investment program	annually
5.1.1.8	Changes in inventories by economic activity	annually
5.1.1.9	Various basic statistics	annually
5.1.2.0	Various administrative sources	annually

5.1.1.1 Household Budget Survey of 2004

The household budget survey was implemented in Bosnia and Herzegovina in 2004.

The survey was based on a sample of households and collected data on household expenditures for consumption, with a particular focus on the social and economic aspects of households living conditions. By virtue of its sample, the survey design allowed both qualitative and quantitative analysis of living standard and consumption behaviours of the households.

The main purpose of the survey was collecting information expenditure by main social, economic and territorial characteristics of households; all expenditures incurred by households to purchase goods and services were registered. The definition of consumption expenditure included also goods from the households garden or farm directly consumed by the household itself (self-consumption), goods and services provided by employers as salary, the imputed rent for houses occupied by the owner or used without a charge. Any other expenditure incurred by households for purpose other than consumption is excluded from the concept of consumption expenditure (for example the purchase of a house or a piece of land, the payment of taxes, expenditures connected with work activities, etc.). The amount of consumption expenditure is surveyed at the moment the good or service is purchased, regardless of the moment it was actually consumed or paid (for example by credit card or instalments).

Expenditures are broken-down in about 400 consumption items. Collected data were originally classified by using a specific classification for the survey and for needs of expenditure calculation reclassified in accordance with the COICOP and than CPA and NACE classification. Sampling errors were calculated for each item to provide an indication of the accuracy of the estimates.

According to the Household budget survey (HBS), population in Bosnia and Herzegovina in 2004 was 3,507,868 and household consumption expenditure was calculated for that population. An estimate for the total population of Bosnia and Herzegovina was obtained by grossing up the per capita expenditures of each item by the official estimate of the population, which is higher by 9,5%.

The all three institutions were included in implementation of this survey. Data are processed for B&H and entities as well.

The next Household budget survey was carried out in 2007. Since the survey is based on sample of selected households as observation units, it was necessary to ensure updated information on which to select the sample. In 2006, a project for implementing update of the Master Sample was carried out in Bosnia and Herzegovina whereby an Extended Master Sample of 1,456 enumeration areas was created. The Extended Master Sample represented the sample frame from which the 9,274 households for the 2007 Household Budget Survey were selected.

The Survey was carried out in the same way as in 2004 with small changes in the questionnaire and the introduction of COICOP classification

5.1.1.2 Foreign trade data

The main data sources for external trade statistics are custom declarations collected by the Indirect Taxation Authority of B&H and taken over by Agency for Statistics of B&H. The observation unit is each import and exports shipment with the rest of the world and is uniform as regards the type of goods, country of destination or origin, for which the custom declaration was filled. The external trade statistics data are produced and published on a monthly basis.

The external trade are monitored according to the special trade system (relaxed definition), which means that beside regular import and export transactions, inward and outward processing as well as processing carried out in custom free zones are included, too.

Data on imports and exports are available based on the Customs Tariff of B&H, which uses a 10-digit code system for the identification of the goods. The first six digits correspond to the Harmonized

System (HS), the international nomenclature for the classification of foreign trade data. The additional two digits are harmonized with the EU nomenclature (Combined Nomenclature-CN), and the last two digits are an extension of the classification to meet specific needs of B&H.

5.1.1.3 PRODCOM survey

The subject of the PRODCOM survey is industrial production accomplished at the territory of Bosnia and Herzegovina in the period of one calendar year. The survey collects data on volume and value of production and sales of industrial production, at the detailed level of a single product specified in the nomenclature of industrial products.

The coverage of the PRODCOM survey is not full, and it is based on the address list of statistical units used for annual statistical surveys on industry. The coverage in the Institute for Statistics of Federation of B&H is limited to those reporting units that have ten or more employees while in the Institute for Statistical Republic Srpska and the Statistical Branch of the District Brcko all reporting units from the address list are included in the survey. An adjustment for non-coverage was made using coefficients (the ratio of total output to the output covered by the survey) at the level of the NACE class.

The data from the PRODCOM survey were additionally adjusted by coverage because the survey covers only legal entities.

Adjustment of PRODCOM data for coverage has been done by the Agency for statistics – National accounts department. All products belonging to a class were adjusted with the same coefficient calculated at the class level.

5.1.1.4 Balance of payment

The balance of payment statistics in Bosnia and Herzegovina is the responsibility of the Central Bank of Bosnia and Herzegovina. For the compilation of gross domestic product by expenditure, data on exports and imports of goods and services were used.

The Central Bank produces monthly series of data on exports and imports of goods on a balance of payment basis and seasonally adjusted. The Central Bank performs adjustments in respect of coverage, value, timing and classification of transaction.

Adjustments to Export of goods comprise:

Coverage adjustment is related to adjustment of value of export in special trade system to the value of export in general trade system, as the general trade system provides a more accurate basis for estimating the change of ownership criterion used in the balance of payments statistics. The value of export of goods from custom warehouses, free commercial zones or other areas under custom control and supervision is therefore added to the value of exports.

Valuation adjustments apply to the value adjustments for undervalued exports. Undeclared and undervalued exports are estimated to have had a downward tendency until 2006. Since the VAT introduction in the beginning of 2006, the value adjustments of exports have not been performed any longer.

Adjustments to Import of goods comprise:

Coverage adjustments include imports not recorded by customs, adjustment from special to general trade system and adjustment for goods imported by non-resident institutions and organizations in B&H.

Valuation adjustment for undervalued imports:

Timing adjustment is made because customs statistics are based on physical movement of goods across country borders whereas balance of payment statistics use change of ownership concept.

Classification adjustment is made to deduct freight and insurance included in custom statistics on import, since the balance of payment statistics concept is „free on board“. In balance of payments statistics, freight and insurance is classified as exchange of service rather than goods.

Seasonal adjustment of the foreign statistics data series removes oscillations in the value of data on imports and exports due to seasonal influences on foreign trade such as weather, construction season, fiscal reasons and holidays.

Export and Import of services are classified into three groups: transportation, travel and other services. The main source of data for calculating services with non-residents are statistical and government institutions, commercial banks and companies in B&H and the Central Bank. The data are supplemented with information from publications of local institutions, and statistical institutions of other countries from the region. Table 5.3 shows adjustments done to export and import of goods.

Table 5.3 Adjustments to Export and Import of goods, Mio KM

	2004	2005	2006	2007
1	2	3	4	5
General merchandise: export fob	3 279,9	4 028,4	5 255,8	6 046,5
Export of goods in trade statistics	2 818,8	3 783,2	5 164,3	5 936,6
Adjustments	461,1	245,2	91,5	109,9
Adjustments %	16.3	6.4	1.8	1.8
General merchandise: import fob	10 472,5	11 777,1	11 916,9	14 147,6
Import of goods in trade statistics	9 305,9	11 178,5	11 388,8	13 898,2
Adjustments	1 166,6	598,6	528,1	249,4
Adjustments %	12.5	5.4	4.6	1.8

5.1.1.5 Output by economic activity

Output by economic activities has been calculated on four-digit level of NACE classification by entities statistical institutions and has been used for estimation of different types of services.

5.1.1.6 Investment survey

The survey on the gross fixed capital formation has been carried out annually since 2004 by statistical institutions in Bosnia and Herzegovina. The survey covers all legal units and detailed data on product groups of tangible and intangible fixed assets and cost associated with acquisition of non-produced non-financial assets (land improvement work and transaction costs of ownership of non-produced non-financial assets). In the survey, gross fixed capital formation is divided into acquisitions of new assets, acquisition of existing assets and disposals of existing assets.

5.1.1.7 The public investment program

The Public investment Program of Bosnia and Herzegovina (PIP) includes the projects contained in the Public Investment Program of Institutions of Bosnia and Herzegovina, the Public investment Program of the Federation of Bosnia and Herzegovina, the Public Investment Program of the Republic of Srpska and the List of prioritized Public Investment Projects in the Brcko District of Bosnia and Herzegovina. It is designed as a three-year rolling plan to encompass prioritized proposals based on the needs of Bosnia and Herzegovina.

The projects contained in the PIP are classified as following: new-high priority, new-medium priority, committed and ongoing projects. Only for «ongoing» projects, funding was secured in the previous period and is committed for the incoming period.

The data from this source were used for estimation of the part of gross fixed capital formation financed by donors and credits, which is not covered by the investment survey.

5.1.1.8 Changes in inventories by economic activity

Calculation of changes in inventories is based on accounting statement data. For the compilation of GDP by expenditure, the entities statistical offices have provided data on inventories. Only data for enterprises have been available and they do not cover the inventories held by other producers (entrepreneurs and households as producers). Inventories consist of the following categories: finished goods, work in progress, trade goods, raw materials, and supplies.

5.1.1.9 Various basic statistics

For the estimate of each individual component of GDP by expenditure, available data of various basic statistics (such as agriculture statistics, construction, trade, transport, other service statistics and similar) were used, having been published by the entity institutions for statistics.

5.1.2.0 Various administrative sources

Since B&H statistics still do not produce all necessary indicators that can be used as data sources for assessing quality of estimates, all available administrative data sources were used for the estimate of GDP by expenditure.

5.2 Valuation

The valuation of individual components of GDP corresponds in principle with ESA 95 requirements.

Household consumption expenditure is valued at purchasers' prices, paid by households including any taxes on products which may be payable at the time of purchase.

Final consumption expenditure of non-profit institutions serving households is valued at the same prices as other non-market output.

General government individual and collective consumption expenditure is equal by definition to the value of goods and services produced by the government institutions for own consumption, other than own account capital formation plus the value of the goods and services purchased by general government and provided for free to the population. The value of the goods and services produced by government is measured as the sum of its production costs: intermediate consumption, compensation of employees, consumption of fixed capital and other taxes on production less other subsidies on production.

Because of the lack of data on sales and purchase for free distribution, consumption was assumed equal to output.

Output is valued at the same prices as other non-market output.

Gross fixed capital formation is valued at purchasers' prices including installation charges and other costs of ownership transfer.

Changes in inventories are recorded at prices which correspond to the current prices at the time of entering the inventories or at the time of withdrawal. Data on inventories have been obtained from financial statements of legal entities; therefore they do not cover the inventories held by other producers (entrepreneurs and households as producers). Changes in inventories were taken as the book values differences between the beginning and the end of the year. No attempt has been made to adjust the data for holding gains due to the lack of price indices for adjusting data.

Export and import of goods are valued at free on board prices (f.o.b.). The f.o.b. prices of export and imports is a market value of the goods at the point of uniform valuation (the custom frontier of the economy from which they are exported); it is equal to the c.i.f. price less the costs of transportation and insurance charges, between the custom frontier of the exporting (importing) country and that of the importing (exporting) country.

Export and import of services are recorded at the time at which they are rendered, which mostly coincides with the time at which the services are produced.

5.3 Transition from private accounting and administrative concept to ESA 95 national accounts concept

The estimates of GDP by the expenditure approach are compiled using available data sources that are mostly not in line with ESA 95 concept. The future development of data sources should enable increase of their compliance with ESA 95 and consequently compliance of expenditure categories as well.

5.4 The roles of direct and indirect estimation methods

Components of GDP by expenditure approach are estimated by combining direct and indirect estimation methods, depending on available data sources for each component of GDP.

Table 5.4 The estimation methods used in compilation of GDP by the expenditure

Expenditure categories	Estimation methods
1	2
Households final expenditure consumption expenditure	Direct and indirect methods
Final consumption expenditure of NPISH	Direct method
General government final consumption expenditure	Direct method
Gross capital formation	Direct method
Export of goods and services	Direct method
Import of goods and service	Direct method

5.5 The roles of benchmark and extrapolation

The first estimate of GDP by the expenditure approach was compiled in 2006 for 2004. The year 2004 was selected as the starting reference period for these estimates based on the broader source data available for this year, particularly, data on household consumption expenditure obtained from HBS 2004. Moreover, in 2004 the custom administration was unified under the Indirect Taxation Authorities of B&H.

Some components of HFCE are calculated for the benchmark year and then extrapolated on the basis of basic statistics indicators and by commodity-flow method.

Housing services for dwellings occupied by their owners were estimated for 2004 as benchmark year by the user cost approach (See 3.17) and then extrapolated by volume (population growth rate) and price change.

Actual rentals data in the benchmark year were taken over from HBS and then extrapolated in the same way as imputed rentals.

For all other expenditure components, independent estimates based on available data sources are compiled for each year. Therefore, benchmark and extrapolation do not have importance for those categories. Table 5.5 shows methods used for estimation of GDP by the expenditure approach.

Table 5.5 The role of benchmark and extrapolation in compilation of GDP by the expenditure approach

Expenditure categories	2004	2005	2006	2007
1	2	3	4	5
Household final consumption expenditure:				
• Agriculture goods	Benchmark	Extrapolation	Extrapolation	Extrapolation
• Manufactured goods	Benchmark	Benchmark	Benchmark	Benchmark
• Services	Benchmark	Benchmark/ Extrapolation	Benchmark/ Extrapolation	Benchmark/ Extrapolation
• Net purchases abroad	Benchmark	Benchmark	Benchmark	Benchmark
Final consumption expenditure of NPISH	benchmark	benchmark	benchmark	benchmark
General government final consumption expenditure	benchmark	benchmark	benchmark	benchmark
Gross fixed capital formation	benchmark	benchmark	benchmark	benchmark
Changes in inventories	benchmark	benchmark	benchmark	benchmark
Export of goods and services	benchmark	benchmark	benchmark	benchmark
Import of goods and services	benchmark	benchmark	benchmark	benchmark

5.6 Main approaches taken with respect to exhaustiveness

The main component of the expenditure GDP is Household final consumption expenditure. Estimates of this expenditure category were mostly based on HBS, foreign trade statistics and domestic production statistics. Since none of these data sources in its original form meets needs of National Accounts, each data source was adjusted:

- Households budget survey data in their original form are based on the total population which for 2004 was 3,507,868, while the official number of population, according to the Agency for Statistics of B&H, was 3,843,000 or 9.5% more. An estimate for the total population of Bosnia and Herzegovina was obtained by grossing up per capita expenditures of each item by the official estimate of the population. The table 5.6 shows HBS data adjustment for the total population.

Table 5.6 Conversion of HBS 2004 data for national accounts purposes, Mio KM

COICOP code	Description	HBS raw data	Population adjustment	HBS Final data
1	2	3	4	5
01	Food and non alcoholic beverages	5 224	499	5 723
02	Alcoholic beverages, tobacco and narcotics	603	58	661
03	Clothing and footwear	847	81	928
04	Housing, water, electricity, gas and other fuels	3 916	374	4 291
05	Furnishings, household equipment and routine maintenance of the house	1 145	109	1 254
06	Health	619	59	678
07	Transport	1 652	158	1 810
08	Communication	423	40	463
09	Recreation and culture	632	60	692
10	Education	161	15	177
11	Restaurants and hotels	428	41	469
12	Miscellaneous goods and services	1 025	98	1 123
Total:		16 676	1 593	18 269

Although data on exports and imports of goods have been adjusted by the Central bank for coverage, due to the fact that detailed data on type of adjusted goods have not been available, BHAS has not adjusted available data on Foreign trade statistics. Detailed data on imports of goods were obtained at ten-digit level from the Foreign Trade Statistics Department. The files contain the code and description of the goods, the c.i.f. value in KM and the unit (kg). For needs of HFCE estimate, the NACE and the CPA codes were manually assigned to each item. The data were also classified according to their economic use based on the characteristics of the product. This classification is the most relevant for estimating the components of final expenditure based on commodity flow approach, as it was used in the compilation of GDP estimates by the expenditure for B&H. Goods with a single use do not actually represent a problem for classification because they are either final consumption or intermediate consumption. On the contrary, goods with multiple uses have to be allocated to their final economic uses. Goods with multiple uses have been allocated to consumption and other uses based on an expert assessment depending on the description of the goods and supported on additional information on uses. The proportion of specific goods to different uses is kept constant in the compilation of successive year, so any misclassification may affect mainly the level of consumption but the growth rate for any specific good is not affected.

The same as with imports, data on exports have been obtained at detailed level of ten-digit level of the Harmonised System. Data comprises the f.o.b. value and quantity. These data were also reclassified in accordance to NACE and CPA classification. The latter classification was needed to match the data with respective data of the PRODCOM survey.

- PRODCOM survey – As explained in section 5.1.3, PRODCOM survey collects data on volume and value of production and sales of industrial production, at the detailed level of a single product specified in the nomenclature of industrial products. The data from survey were adjusted twice; the first adjustment refers to non-coverage of all legal units and second to non-observed economy. The adjustment was made using coefficients (the ratio of total output to the output covered by the survey) at the level of the NACE class. The table 5.7 shows PRODCOM data adjustment.

Table 5.7 Conversion of Prodcum 2004 data for national accounts purposes, Mio KM

NA CE	Product and activity	Production value sold	Correction factor	Production adjusted
1	2	3	4	5
C	MINING AND QUARRING	400 663	1.019	408 229
10	Mining of coal and lignite; extraction of peat	282 565	1.002	282 989
13	Mining of metal ores	42 116	1.003	42 227
14	Other mining and quarrying	75 982	1.093	83 013
D	MANUFACTURING	3 715 535	1.074	3 990 961
15	Manufacture of food products and beverages	927 485	1.090	1 011 046
16	Manufacture of tobacco products	114 117	1.005	114 733
17	Manufacture of textiles	144 214	1.157	166 901
18	Manufacture of wear. app.; dress., dyeing of fur	20 060	1.154	23 152
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddler, harness and footwear	15 289	1.115	17 052
20	Manufacture of wood and products of wood cork, except furniture; manuf. of articles of straw and plaiting materials	339 870	1.128	383 496
21	Manufacture of pulp, paper and paper products	102 313	1.096	112 145
22	Publishing, printing and reproduction of recorded media	56 940	1.148	65 340
23	Manufacture of corke, refined petroleum products and nuclear fuel	87 771	1.001	87 834
24	Manufacture of chemicals and chemical products	143 937	1.024	147 418
25	Manufacture of rubber and plastic products	112 178	1.195	134 092
26	Manufacture of other non-metalic mineral products	288 635	1.084	312 974
27	Manufacture of basic metals	673 829	1.002	675 151
28	Manufacture of fabricated metal products, except machinery and equipment	250 896	1.083	271 595
29	Manufacture of machinery and equipment n.e.c	91 012	1.096	99 776
30	Manufacture of office machunery and computers	13 106	1.086	14 235
31	Manufacture of electrical machinery and apparatus n.e.c	63 517	1.027	65 247
32	Manufacture of radio, television and communication equipment and apparatus	482	1.033	498
33	Manufacture of medical, precision and optical instruments, watches and clocks	13 759	1.113	15 311
34	Manufacture of motor vehicles, trailers and semi-trailers	38 337	1.025	39 308
35	Manufacture of other transport equipment	8 424	1.013	8 533
36	Manufacture of furniture; n.e.c.	187 435	1.037	194 349
37	Recycling	21 929	1.403	30 775
	Total C + D	4 116 198	1.069	4 399 190

- NPISH – Exhaustiveness is not a problem for general government data, but NPISH data sources need significant coverage adjustment and corrections.
- Gross fixed capital formation data – Data on investments into fixed capital formation, collected through specially designed survey (See 5.1.6.) provide detailed information of investment of corporative sector into construction works, equipment, other kinds of investments as well as expenditures for transfer of ownership for non-produced, non-financial assets.

The data obtained through this survey are used only for the estimate of investment into construction works and other investments.

For the estimates of size of investment into machinery and equipment, commodity-flow method is used, corrected for costs associated with the installation of equipment.

Estimates of investments of unincorporated sector into construction dwellings (residential and non-residential buildings) are based on a specially designed yearly survey carried out only in Federation of Bosnia and Herzegovina, in a selected number of municipalities (62 municipalities in 2004), with detailed data on type of buildings, floor area and the level to what extent it is finished). It should be noted that the geographical coverage of these statistics change from year to year. An estimate for the Bosnia and Herzegovina was obtained by grossing up the per capita expenditures by the official estimate of the population.

5.7 Household final consumption expenditure

Household final consumption expenditure on the domestic territory (domestic concept) is the largest component of GDP by the expenditure and represents 90.03% of GDP in 2004. Household final consumption by the domestic concept consists of all expenditure of households on consumer durables, consumer semi-durables, single-use goods and services of all kinds, on the domestic market. In line with the ESA 95, data on HFCE are presented according to the national concept which is equal to the HFCE by the domestic concept less direct purchases of non-resident households on the domestic market plus direct purchases of resident households abroad.

The Classification of Individual Consumption by Purpose (COICOP) was used for a breakdown of HFCE by purpose.

HFCE is aligned, as far as possible with COICOP. However, there are some instances where it is not yet possible to follow COICOP's recommendations, e.g. estimates of HFCE on narcotics and prostitution services are still not available.

In the estimates of household consumption expenditures, the following categories were distinguished:

- 5.7.1 Consumption of agriculture goods,
- 5.7.2 Consumption of manufactured food goods,
- 5.7.3 Consumption of other manufactured goods,
- 5.7.4 Consumption of services and
- 5.7.5 Consumption of residents abroad less consumption of non residents.

Data sources for 2004 were:

- Detailed data on imports and exports of goods,
- Household budget survey,
- PRODCOM survey data,
- Detailed data on agriculture output and prices of agriculture products,
- Population estimates,
- Data on output by economic activity at the class level,
- Data from Balance of payments on travel.

5.7.1 Consumption of agriculture goods – Estimation procedures

For the year 2004, different approaches were tried in the compilation of the estimates of consumption of agriculture and animal products. One of the approaches was to produce detailed supply and use balances for each product in quantity terms and to multiply the resulting estimate of consumption by the consumer prices. Different price was used to value consumption of own-produced goods. Total supply of each product was obtained from the data on imports and domestic production. The latter were obtained from the detailed data on agriculture production compiled by the entities and aggregated by the BHAS: matching the data on imports with the data on domestic production raised some problems because in some cases, the level of detail of the data was not sufficient and, therefore, some assumptions had to be made to produce required details. From the uses side, estimates were made of

the uses of the products as intermediate consumption in agriculture, food processing industries and restaurants and catering. These estimates were based on the nature of product and on the data on output and intermediate consumption of food processing industries, restaurants and catering industry. Data on export were taken from the respective file with the detailed data on foreign trade statistics. Estimates for consumption were obtained as a residual, after all other uses were subtracted from total supply.

The resulting estimate of consumption for each product was then multiplied by the consumer price in order to obtain the respective estimate on expenditure by households. Because of the lack of an average price at the national level, an estimate of this price was made by averaging respective retail price in entities using participation of the entities population in the total population.

The above estimates were checked for consistency by looking at the plausibility of per capita consumption in quantity, comparing with consumption in neighbouring countries, and comparing money expenditures with the HBS 2004. As a result of this process, most of the expenditure on fresh fruit, vegetables, and fresh meat, poultry, fish and milk were taken from the respective estimates provided by the HBS 2004.

For the year 2005, where no data from household budget survey were available, the estimate of consumption for each item was based on the extrapolation of the quantity implicit in the estimate for 2004 by growth rate of supply plus increase in price.

The following are the tables with detailed estimates on consumption of agriculture products:

Table 5.8 The estimate of the meat consumption in 2005

Meat	2004			2005/2004		2005		
	Quantity /tons	Price per tons/ KM	Value/ 000 KM	Quantity index	RPI	Quantity /tons	Price per tons/ KM	Value/ 000 KM
1	2	3	4	5	6	7	8	9
Beef	62 929	8 652	544 452	105.17	110.22	66 179	9 536	631 090
Pork	22 711	6 725	152 728	104.42	103.74	23 715	6 976	165 445
Lamb	8 972	8 456	75 866	104.63	97.89	9 387	8 277	77 702
Polutry	58 532	4 356	254 946	92.76	101.99	54 295	4 442	241 195
Other	1 592	7 106	11 313	107.52	104.42	1 712	7 420	12 701
Total:	154 736	-	1 039 306	-	-	155 288	-	1 128 135

Table 5.9 The estimate of the milk consumption

Milk	2004			2005/2004		2005		
	Quantity/ 000	Price per unit/ KM	Value/ 000 KM	Quantity index	RPI	Quantity/ 000	Price per unit/ KM	Value/ 000 KM
1	2	3	4	5	6	7	8	9
Fresh milk l	296 513	1.06	314 531	107.8	97.42	320 234	1.03	330 929
Preserved and other milk prod. l	99 189	2.59	256 627	107.9	99.08	107 125	2.56	274 607
Cheese kg	26 964	3.90	105 101	107.9	99.45	29 121	3.88	112 885
Total:	-	-	676 259	-	-	-	-	718 421

Table 5.10 The estimate of the vegetables consumption in 2005

Vegetables	2004			2005/2004		2005		
	Quantity /tons	Price per tons/ KM	Value/ 000 KM	Quantity index	RPI	Quantity /tons	Price per tons/ KM	Value/ 000 KM
1	2	3	4	5	6	7	8	9
Potatoes	191 462	590	113 113	99.98	80.26	191 419	474	90 764
Carrot, beet, celery, parsley	13 108	1 231	16 142	108.43	101.62	14 212	1 251	17 785
Onion, garlic, leek	39 907	1 1170	46 728	98.36	102.75	39 252	1 203	47 225
Peas and green and dried bean	14 016	1 111	15 572	100.26	95.38	14 052	1 059	14 892
Cabbage, cauliflower	53 536	629	33 724	99.93	114.14	53 499	719	38 466
Tomatoes	41 353	1 271	52 571	112.27	106.87	46 430	1 358	63 081
Green peper	33 571	1 338	44 922	100.26	98.17	33 658	1 313	44 214
Cucumber	19 258	1 125	21 672	130.47	105.49	25 127	1 187	29 830
Other veg.	21 063	1 495	31 496	100.26	105.16	21 117	1 572	33 207
Mushrooms	7 143	4 399	31 425	100.26	104.86	7 161	4 613	33 038
Total:	434 417	-	407 368	-	-	445 929	-	412 505

Table 5.11 The estimate of the eggs consumption

Eggs	2004			2005/2004		2005		
	Quantity / 000	Price per unit/ KM	Value/ 000 KM	Quantity index	RPI	Quantity / 000	Price per unit/ KM	Value/ 000 KM
1	2	3	4	5	6	7	8	9
Eggs /pcs	932 580	0.19	178 142	108.00	106.00	1 007 186	0.20	203 937

Table 5.12 The estimate of the honey consumption

Honey	2004			2005/2004		2005		
	Quantity / 000	Price per unit/ KM	Value/ 000 KM	Quantity index	RPI	Quantity / 000	Price per unit/ KM	Value/ 000 KM
1	2	3	4	5	6	7	8	9
Honey/kg	2 290	8.82	20 157	115.06	110.07	2635	9.68	25 530

Table 5.13 The estimate of the fruit consumption in 2005

Fruits	2004			2005/2004		2005		
	Quantity /tons	Price per tons/ KM	Value/ 000 KM	Quantity index	RPI	Quantity /tons	Price per tons/ KM	Value/ 000 KM
1	2	3	4	5	6	7	8	9
Strawberries, raspberries	4 702	2 996	14 087	85.49	96.15	4 019	2 880	11 579
Cherries, sour cherries	3 101	1 647	5 109	92.74	107.18	2 876	1 766	5 078
Apricot, peaches	6 575	2 460	16 174	100.26	108.62	6 592	2 672	17 614
Apples	80 832	1 193	96 475	118.53	103.57	95 807	1 236	118 430
Pears	8 762	1 745	15 296	121.82	99.60	10 673	1 738	18 558
Plums	9 090	1 264	11 488	98.68	121.09	8 969	1 530	13 727
Walnut, almond	4 329	7 245	31 365	97.83	134.91	4 235	9 774	41 395
Citrus	45 679	1 740	79 487	103.90	102.49	47 462	1 783	84 646
Grapes	10 422	2 214	23 075	103.85	104.06	12 726	2 304	29 320
Bananas	68 562	697	47 787	101.07	105.38	69 296	734	50 898
Watermelone	44 790	585	26 209	100.99	76.14	45 236	445	20 154
Other	45 726	1 773	81 074	104.29	112.18	47 690	1 989	94 860
Total:	332 570	-	447 627	-	-	355 584	-	506 262

5.7.2 and 5.7.3 Consumption of manufactured food goods and other manufactured goods estimation procedures

In general, a method for estimating consumption of manufactured food goods and other manufactured goods is based on a commodity flow approach, where consumption for each item is obtained as the sum of consumption of imported goods and locally produced goods, or:

$$\text{Households consumption} = \text{Imports} + \text{Domestic production} - \text{Export} - \text{Non-consumption uses}$$

Consumption of imported goods for a specific item is the c.i.f. value of imports of that good allocated to consumption plus custom duties, distribution margins and taxes on products. Consumption of domestically produced goods is obtained as the sum of sales of goods less exports, plus distribution margins and taxes on products. Estimate of sales are taken from the PRODCOM survey (after adjustment for coverage) and they are reduced by the corresponding value of export f.o.b. at the level of each commodity, thus obtaining as residual the value of sales within the domestic market. The latter data are classified according to economic use. The data from HBS were used as an alternative data source and for validation of the results more than as the basis for the corresponding estimates.

Table 5.14 Commodity flow method for estimate of HFCE on manufactured goods in 2004, 000 KM

Code	COICOP	Import	Domestic production	Margins	Taxes	Purchases value
1	2	3	4	5	6	7
01.00	Food and non-alcoholic beverages	961 819	402 645	373 034	142 465	1 879 964
02.00	Alcoholic beverages, tobacco, narcotics	426 733	184 849	212 833	144 274	968 690
03.00	Clothing and footwear	328 184	18 745	290 826	196 808	834 565
04.00	Housing, water, electricity, gas and other fuel	133	22 893	8 055	3 438	34 521
05.00	Furnishing, househ. equip. and routine househ. mainten.	433 354	109 110	280 757	184 287	1 007 509
06.00	Health	155 953	44 392	138 477	672	339 495
07.00	Transport	141 254	53 451	54 832	48 560	298 099
08.00	Communication	4 538	76	1 751	1 238	7 604
09.00	Recreation and culture	200 514	12 091	73 193	38 939	324 739
10.00	Education	0	0	0	0	0
11.00	Restaurants and hotels	0	0	0	0	0
12.00	Miscell. goods and services	212 182	42 514	155 756	69 281	479 735
Total domestic concept:		2 864 669	890 771	1 589 519	829 967	6 174 926

Estimates of imported goods were based on the value c.i.f. of goods allocated to consumption plus custom duties, distribution margins and taxes on products. The last three components were calculated on the basis of available information and assumptions. The custom duties were calculated at the level of each product, by applying normative tax rates according to the custom tariff code. When appropriate, also the excise tax was added. Distribution margins were determined on the basis of information on trade margin rates obtained from national accounts data at the most detailed level of the industrial classification.

Estimates of domestically produced goods were obtained as net sales of consumption goods to the domestic market plus the distribution margins and taxes. As in the case of imported goods, distribution margins and taxes were calculated using the same procedures.

Estimates for the year 2005 and all further years are based on the same kind of data sources and procedures.

It should be noticed that the procedures followed for compiling these estimates assumed no changes in the distribution margin rates. In fact, data on trade margin rates derived from the detailed information on the production accounts for the year 2005 show some significant and, sometimes, unrealistic results. It was decided to continue using the data from 2004 until a detailed survey on trade and transport margin is conducted. Additional implication of the assumption used is in the calculation of constant price estimates. Deflating the estimates by a consumer price index would introduce a bias in the results if the trade margin rates have effectively changed from one year to another, although it is expected that, due to low inflation rates observed at present, these margins do not change significantly. Change in margins is treated as a price effect and is not a bias; the volume change is always with fixed margins from the base period

5.7.4 Consumption of services – Estimation procedures

The estimates of consumption of services in 2004 covered all the corresponding items included in the HBS. The main data sources for consumption of services were the estimates of output within the compilation framework of GDP by production by the entities and Brcko District, and the HBS. The gross output of services was obtained from the entities statistical offices at the 4-digit level of NACE. The data from HBS were classified by NACE categories to make possible the comparison with the

data on output. Final estimates were decided on a case-by-case way, comparing the data from these two sources and additional information, where possible. Table 5.7.2 shows data sources, adjustment and final estimates of household final consumption expenditure on services.

Table 5.15 Household final consumption expenditure on services – part I, 2004

NACE	2004	Output B&H	HBS	BOP adjust.	Taxes Adjust.	Final estimate
1	2	3	4	5	6	7
50.20	Maintenance and repair of motor vehicle	89 179	178 040	-	-	178 040
52.71	Repair of boots, shoes and other articles of leather	-	10 540	-	-	10 540
52.72	Repair of electrical household goods	-	61 449	-	-	61 449
52.74	Repair n.e.c.	-	79 298	-	-	79 298
55.10	Hotels	128 691	75 410	357 800	-	433 210
55.20	Camping sites	312	-	-	-	-
55.30	Restaurants	378 474	144 584	176 279	-	320 863
55.40	Bars	79 201	142 978	174 321	-	317 299
55.50	Canteens and catering	6 451	36 385	-	-	36 385
60.10	Transport via railways	92 834	3 580	-	-	3 580
60.21	Other scheduled pass. land transport	229 234	172 375	-	21 777	239 549
60.22	Taxi operation	2 737	26 314	-	-	26 314
60.23	Other land passenger transport	7 062	27 285	-	-	27 285
62.10	Scheduled air transport	76	12 049	-	-	50 000
63.21	Other supporting land transp. activities	-	4 959	-	-	4 959
63.30	Activities of travel agencies	68 518	37 427	-	-	37 427
64.11	National post activities	106 865	8 461	-	-	8 461
64.20	Telecommunications	1 030 000	431 177	-	-	431 177
65.10	Monetary intermediation	608 176	-	-	-	178 248
66.00	Insurance and pensions funding	88 540	269 667	-	-	50 150
70.20	Letting of own property	13 630	2 766	-	-	2 766
70.31	Real estate agencies	3 488	-	-	-	104 361
70.31	Imputed rentals	-	-	-	-	1 303 686
71.10	Renting of automobiles	8 775	483	-	-	483
71.40	Renting of personal and household goods n.e.c.	262	14 476	-	-	14 476
74.11	Legal activities	1 261	15 811	-	-	15 811
74.81	Photographic activities	8 042	40 698	-	-	40 698
75.23	Justice and judicial act.	173 991	60 407	-	-	60 407
80.10	Primary education	373 586	22 340	-	-	22 340
80.20	Secondary education	190 749	25 123	-	-	25 123
80.30	Higher education	162 236	165 715	-	-	165 715
80.40	Adult and other education	29 053	58 479	-	-	58 479
85.11	Hospital activities	481 056	140 417	-	-	140 417
85.12	Medical practice activities	321 393	58 336	-	-	58 336
85.13	Dental practice activities	1 931	24 569	-	-	24 569
85.14	Other human health activities	2 751	63 020	-	-	63 020
85.20	Veterinary activities	15 279	14 137	-	-	14 137
85.30	Social work activities	61 210	3 987	-	-	3 987
92.13	Motion picture projection	1 991	10 166	-	-	10 166
92.20	Radio and television activities	114 072	44 344	-	-	44 344
92.34	Other entertainment activities n.e.c.	3 419	8 788	-	-	8 788
92.51	Library and archives activities	8 515	1 377	-	-	1 377
92.52	Museums activities and preservation of historical sites and buildings	5 381	1 539	-	-	1 539
92.61	Operation of sports arenas and stadiums	5 266	4 523	-	-	4 523

92.62	Other sporting activities	4 413	7 041	-	-	7 041
92.71	Gambling and betting activities	260 472	65 185	-	-	65 185
93.01	Washing and dry-cleaning of textile and fur products	791	12 774	-	-	12 774
93.02	Hairdressing and other beauty treatment	2 598	171 534	-	-	171 534
93.03	Funeral and related activities	318	-	-	1 331	32 616
93.04	Physical well-being activities	13 315	-	-	-	14 647
95.00	Private households with employed persons	-	30 120	-	-	30 120
Total:		5 185 606	2 790 133	708 400	23 108	5 017 699

The estimate of imputed rentals of owner-occupied dwellings was taken from respective estimate of output.

Consumption of non-life insurance services was estimated assuming that 50% of the services are acquired by households insuring their property (the sale tax was added to obtain the market price).

The estimates for the consumption of transport services in all their types were based on the results of the HBS, except for road transport (NACE 60.21), where the estimate was based on output figures.

Estimates of expenditures by households on health, education and personal services were based on the results of HBS.

The imputed financial intermediaries' services were also allocated to household consumption in accordance with their shares in deposits and liabilities towards the banks.

Estimates of Household consumption expenditure on other services (water supply and sewerage, refuse collection, electricity, gas by network and heat energy) were based partly on data collected from enterprises providing services and partly on HBS data. The table 5.16 shows the second part of Household consumption expenditure on services in 2004.

Table 5.16 Household final consumption expenditure on services – part II, 2004, 000 KM

COICOP	Services	HBS	Enterprises	Taxes adjustment	Final estimate
1	2	3	4	5	6
04.41	Water supply and sewerage	101 020	60 388	6 038	66 427
04.42	Refuse collection	50 775	-	-	50 775
04.51	Electricity	585 944	406 079	40 607	446 687
04.52	Gas by network	29 396	-	-	29 396
04.55	Heat energy	64 913	-	-	64 913
Total:		832 051	466 468	46 646	658 200

The Table 5.17 shows the final estimate of Household final consumption expenditure – domestic concept in comparison with the Household budget survey results.

Table 5.17 Household final consumption expenditure - domestic concept; final estimate, 000 KM

Code	COICOP	HBS	Adjustment	Final estimate
1	2	3	4	5
01.00	Food and non-alcoholic beverages	5 723 570	- 714 267	5 009 303
02.00	Alcoholic beverages, tobacco and narcotics	660 893	+ 307 793	968 691
03.00	Clothing and footwear	928 073	- 139 206	788 867
04.00	Housing, water, electricity, gas and other fuel	4 290 571	- 1 853 693	2 436 878
05.00	Furnishing, household equipment and routine household maintenance	1 254 289	- 126 365	1 127 924
06.00	Health	678 220	- 51 612	626 608
07.00	Transport	1 810 251	- 511 207	1 299 044
08.00	Communication	462 892	- 15 649	447 243
09.00	Recreation and culture	692 019	- 40 298	651 721
10.00	Education	176 693	0	176 693
11.00	Restaurants and hotels	468 666	+ 708 398	1 177 064
12.00	Miscellaneous goods and services	1 123 260	- 130 769	992 491
Household final consumption expenditure - domestic concept:		18 269 397	- 2 566 870	15 02 527

5.7.5 Consumption of residents abroad less consumption of non residents – Estimation procedures

In line with the ESA 95, data on Household final consumption expenditure are presented according to the national concept that is equal to the HFCE by the domestic concept less direct purchases of non-resident households on the domestic market plus direct purchases of resident households abroad.

Conversion from domestic to national concept has been done using data from Balance of payment estimated by the Central bank of Bosnia and Herzegovina. Table 5.18 shows HFCE for 2004 by domestic concept and transition to national concept.

Table 5.18 Household final consumption expenditure, 2004, transition from domestic to national concept

Code	COICOP	Mio KM	Structure (%)
1	2	3	4
Household final consumption expenditure – domestic concept		15 702 526	100.0
01.00	Food and non-alcoholic beverages	5 009 303	31.9
02.00	Alcoholic beverages, tobacco and narcotics	968 691	6.1
03.00	Clothing and footwear	788 867	5.0
04.00	Housing, water, electricity, gas and other fuel	2 436 878	15.5
05.00	Furnishing, household equipment and routine household maintenance	1 127 924	7.1
06.00	Health	626 608	3.9
07.00	Transport	1 299 044	8.2
08.00	Communication	447 243	2.8
09.00	Recreation and culture	651 721	4.1
10.00	Education	176 693	1.1
11.00	Restaurants and hotels	1 177 064	7.5
12.00	Miscellaneous goods and services	992 491	6.3
Plus:	direct purchases abroad by resident households	132 500	0.8
Less:	direct purchases on the domestic market by non-resident households	817 500	5.2
Household final consumption expenditure – national concept		15 017 526	95.6

5.8 NPISH final consumption expenditure

The estimate of consumption of NPISH was based on the respective estimate of output of these institutions compiled by the entities' statistical institutions within the framework of their work in compiling GDP estimates based on the production approach. Output of these institutions is measured by sum of the cost components of production, that is, compensation of employees, consumption of goods and services for production, other taxes on production, and consumption of fixed assets. Table 5.19 shows estimate of the final consumption of NPISH.

Table 5.19 Final consumption expenditure of NPISH as part of GDP by the expenditure, 000 KM

	2004	2005	2006	2007
1	2	3	4	5
GDP	16 680 225	18 177 634	21 151 321	24 334 515
Final consumption expenditure of NPISH	121 587	168 389	177 058	205 864
Share of GDP	0.7	0.9	0.8	0.8

5.9 General government final consumption expenditure

The general government comprises the respective institutions at the state level, the entities and the local level, as well as health and pension fund, and the extra-budgetary funds. Current expenditures of the foreign financed projects, which are not included in the budgets of the governments, were also estimated based on an analysis of the data obtained from a special report "Public Investment Programme of Bosnia and Herzegovina, 2004-2006", prepared jointly by the Ministry of Foreign Trade.

General government final consumption expenditure is equal by definition to the value of the goods and services produced by the government institutions for own consumption plus the value of the goods and services purchased by government and provided free to the population. The value of the goods and services produced by government is measured as the sum of its production costs.

The entities' institutes of statistics and the Brcko District branch of the BHAS provided estimates of the value of government output. These estimates are compiled within the framework of GDP compilation by production. The respective data for the state level was compiled by the BHAS, based on the execution of the state budget. It was not possible at this time to obtain data on sales, therefore, consumption was assumed equal to output.

Table 5.20 General government final consumption expenditure as part of GDP by the expenditure

	2004	2005	2006	2007
1	2	3	4	5
GDP	16 680 225	18 177 634	21 151 321	24 334 515
General government final consumption expenditure	3 535 079	3 653 199	4 053 868	4 453 569
Share of GDP	21.2	20.1	19.2	18.3

5.10 Gross capital formation

The estimates of gross capital formation cover:

- Gross fixed capital formation on machinery and transport equipment;
- Gross fixed capital formation on dwellings, other buildings and other construction works;
- Expenditure on cultivated assets (trees and livestock in agriculture);
- Expenditures on mineral exploration, computers and software;
- Major improvements to land and the cost of transfer of non-produced assets;

- Changes in inventories.

Data sources for the compilation of Gross capital formation in 2004 were:

- Detailed data on imports and exports at 10-digit level of the classification of foreign trade data;
- The PRODCOM annual survey;
- The countrywide annual survey on gross fixed capital formation;
- Construction statistics produced by Federal Institute of Statistics;
- Data on the Public Investment Program;
- Changes in inventories by economic activities provided by the entities and the Brcko. District.

5.10.1 Data sources

5.10.1.1. Import of capital goods

The detailed data on imports at the 10-digit level were examined for the identification of capital goods, following a process similar to the one used in the compilation of household consumption expenditure. Thus, products were classified according to their description into those that are used exclusively for capital formation (acquired by producers as means of production), and those that may have alternative uses depending on the institutional unit acquiring them. The first category includes items such as agriculture and industrial machinery, while other categories include durable goods that can be used as capital formation and/or consumption of households and intermediate consumption. These latter products refer to products as computers, which can be used by producers as equipment or by households as consumption; they also include some machines and equipment that can perform independent functions as well as they can be incorporated in other manufactures products. These data were also classified in accordance with the NACE and CPA classifications.

5.10.1.2 Exports of capital goods

The same as with imports, data on exports have been obtained at detailed level of ten-digit level of Harmonized system. Data comprises the f.o.b. value and quantity. These data were also reclassified in accordance with NACE and CPA classifications. The latter classification was needed to match the data with the respective data of the PRODCOM survey.

5.10.1.3 PRODCOM survey

The data from the PRODCOM survey were adjusted for coverage (See 5.6). As expected, it should be noted that production of capital goods is still not a significant source of capital formation.

5.10.1.4 Annual survey on gross fixed capital formation

The survey has countrywide coverage of expenditure on fixed assets by all legal entities. It provides estimates of capital formation by type of assets and by economic activity. The scope of investment in fixed assets is in accordance with the definitions provided by SNA/ESA methodology (See 5.1.6).

5.10.1.5 Construction statistics

Annual construction statistics for the Federation of B&H comprise the value of work put in place during the year, by the type of construction, distinguishing main categories of buildings (residential and non-residential buildings) and main categories of civil engineering works. The statistics also comprise, in the case of buildings, data on the value of work put in place and floor area for buildings completed during the reference year. The source data for these statistics are the “Annual Report on Construction Facilities” field by legal entities or their parts engaged in construction activities, and on a survey on construction sites conducted by household sector. Data are based on the documentation of the competent construction bodies and by census necessary data directly in the selected number of

municipalities. It should be noted that the geographical coverage of these statistics change from year to year. The survey provides detailed data on number of new buildings, buildings floor area, value of construction put in place in the reporting year and on completed facilities. The data are shown for residential buildings (permanently living and weekend houses) and non-residential buildings (hotels and restaurants, trade buildings, handcraft buildings, agriculture and live stock buildings, garage and other buildings). All these data are shown for each municipality included in the survey.

5.10.2 Estimation procedures

5.10.2.1 Machinery and equipment

Estimates of capital formation in imported goods were taken as the sum of the c.i.f. values of the goods selected as capital goods, plus custom duties, distribution margins, net taxes on products and installation costs.

Custom duties were calculated applying the normative tax rates applicable to each product. Distribution margins were calculated based on information on the distribution margin rates for these finds of products obtained from the production accounts of the trade industry prepared by the entities. The trade margin rates were downward adjusted to take into account that only a fraction of imports of capital goods is channelled through the trade industry, as most investors will import directly goods. According to the regulation, the investors were not obliged to pay taxes on products and net taxes were neither calculated nor added to the value of machinery and equipment. Installation margin rates were assumed equal to 10% of the purchaser's value of the capital goods. Similar procedures were applied to domestically produced goods available in the domestic market. An estimate of capital formation in machinery and equipment within the framework of the Public Investment Program was added.

The commodity flow approach was selected for these estimates, since the coverage of the survey on capital formation excludes entrepreneurs, which have a significant share of economic activity in some industries, like agriculture, construction and trade. A comparison of the results with the figures provided by the capital formation survey shows that the estimates are 11.6 % higher than in the capital formation survey. The Table 5.10.2.1 shows Commodity flow approach used for estimate of capital formation in machinery and equipment.

Table 5.21 Commodity flow method for estimate of investment in Machinery and equipment in 2004, 000 KM

NA CE	Industry	Import	Domestic production	Margins	Taxes	Market value
1	2	3	4	5	6	7
01	Agriculture, hunting and related service activities	10 128	-	1 680	587	12 450
20	Manufacture of wood and wood products	2 093	11 119	4 108	105	17 424
22	Publishing, printing and reproduction of recorded media	3 262	- 56	515	163	3 884
25	Manufacture of rubber and plastic products	1 536	- 26	267	230	2 007
28	Manufacture of fabricated metal products, except machinery and equipment	46 143	30 065	18 856	5 097	100 161
29	Manufacture of machinery and equipment n.e.c.	525 166	- 13 450	82 576	34 603	628 895
30	Manufacture of office machinery and computers	87 111	6 262	16 350	4 404	114 127
31	Manufacture of electrical machinery and apparatus n.e.c.	71 521	- 1 228	11 822	6884	88 999
32	Manufacture of radio, television	89 732	- 1 033	14 565	5 846	109 111

	and communication equipment and apparatus					
33	Manufacture of medical, precision and optical instruments, watches and clocks	75 244	- 3 052	11 151	2 632	85 975
34	Manufacture of motor vehicles, trailers and semi-trailers	233 175	- 12 205	35 528	23 157	279 655
35	Manufacture of other transport equipment	37 527	- 10 672	2 198	1 574	30 626
36	Manufacture of furniture; manufacturing n.e.c.	36 049	15 781	11 388	3 453	66 671
92	Recreational, cultural and sporting activities	370	-	58	4	432
	Sum:	1 219 111	21 504	211 063	88 739	1 540 417
	Cost of installation:					154 041
Total:						1 694 458

5.10.2.2 Buildings and other construction structures

The estimates of buildings and other construction structures are based on the capital formation annual survey for the construction by legal entities, and the construction statistics of the Institute of Statistics of Federation of B&H for the construction of buildings by individuals (entrepreneurs and households), plus the construction component of the Public Investment Program.

Estimates of capital formation on residential buildings and other buildings by individuals were taken as the value of work put in place during the reference period. The source data used were the construction statistics compiled by the Institute for Statistics of Federation of B&H that covered partially the territory of the Federation of B&H. An adjustment for undervaluation was made to the data reported, by comparing, then, the prices of 1 square meter of completed dwellings in the statistics and an estimate of the average market price. Due to the needs of the consistency of the data the average market price were taken from the dwelling stock valuation calculated for the purposes of the estimation of the dwelling services for dwellings occupied by the owners. The same adjustment factor for under valuation was applied to other type of buildings for commercial/industrial use. The per capita value of construction was calculated by dividing the total construction expenditure reported by the population covered by the construction statistics. These expenditure per capita coefficients were used to fill the gaps of information regarding parts of the Federation, and for the totals of Republika Srpska and the Brcko District, for which no reliable data on construction by individuals are available. Improvement of these estimates will depend on the development of more adequate data sources. In addition, a survey on construction put in place, collecting information on the construction sites, as it is done in the Federation, if applied in other parts of B&H would provide a more sounded basis for the estimates related to these areas. Construction permits issued by the local authorities may also constitute a source for the estimates of construction activity, depending on how the practice of requiring a permit for construction is observed.

The resulting estimates of capital formation in construction assets were compared with the construction output in the compilation of GDP by production, which appears to be significantly under-estimating the activity, particularly with respect of construction by individuals.

Table 5.22 Construction output and GFCF in construction structures – comparative view, 000 KM

	2004	2005	2006	2007
1	2	3	4	5
Construction – GDP output	2 014 980	2 383 974	2 399 553	3 102 202
Construction - GFCF	2 206 443	2 600 274	2 711 229	3 512 790
GFCF / Output	109.50	109.07	112.99	113.24

The composition of capital formation and particularly the share of housing in total capital formation and in GDP have also been compared with other countries in the region, showing reasonable results.

Table 5.23 GFCF in construction structures as part of GDP by the expenditure, 000 KM

	2004	2005	2006	2007
1	2	3	4	5
GDP	16 680 225	18 177 634	21 151 321	24 334 515
GFCF - Construction	2 206 443	2 600 274	2 711 229	3 512 790
Share of GDP	13.23	14.30	12.82	14.44

5.11 Acquisition less disposals of tangible fixed assets

Due to the lack of reliable data on disposal of tangible fixed assets the value of the total investment in tangible fixed assets is equal to the total investment in the new tangible fixed assets.

5.12 Acquisition less disposals of intangible fixed assets

Due to the lack of reliable data on disposal of intangible fixed assets the value of the total investment in intangible fixed assets is equal to the total investment in the new intangible fixed assets.

5.13 Changes in inventories

The estimate of Changes in inventories was taken as the difference between the opening and closing book values reported by enterprises and government institutions. Data on the book-values of the inventories at the beginning and the end of the year was provided by the entities and the Brcko District at the four-digit level of the NACE classification. These data are based on the financial statement of all legal entities. Therefore, they do not cover the inventories held by other producers (entrepreneurs and households as producers). No attempt was made for adjusting the data in order to eliminate holding gains due to the lack of appropriate price indices.

The estimates were taken as the book values differences between the beginning and the end of the year. No attempt has been made to adjust the data for holding gains due to the lack of price indices for adjusting the data. Nevertheless, as inflation in 2004 was low, it is expected that the holding gains are not significant. The Table 5.13 shows calculation of changes in inventories in 2004.

Table 5.24 Changes in inventories, 2004, 000 KM

Type of inventory	B o o k v a l u e s			Difference
	31 December 2003	31 December 2004		
1	2	3	4	
Materials and supplies	1 277 825	1 352 905		75 080
Work in progress	488 908	556 475		67 567
Finished goods	463 206	490 060		26 854
Goods for resale	2 198 818	2 505 111		306 293
Total	4 428 757	4 904 551		475 794

5.14 Imports and exports of goods and services

The estimates of total imports and exports of goods and services in the compilation of GDP by expenditure approach are taken from the balance of payment statistics compiled by the Central Bank of B&H. This is in accordance with the standard statistical practice of considering the BOP as an input for the compilation of the rest of the world account in the national accounts, assuring consistency between these two macroeconomic datasets. However, the data of BOP on imports and exports of goods differ from the official statistics of foreign trade that served, at the detailed levels, as the basis for the compilation of the expenditure components using the commodity flow method. The CBBH adjustment of the data on imports and exports of goods in 2004 just for the concept of under valuation and smuggling added 16-17% to exports and almost 18% to imports, thus increasing the net exports of goods and services by 1,202 millions KM.

The effect in GDP estimates of the discrepancy between the official data on foreign trade and the respective data in the BOP depends on the kind of goods to which the adjustments refer. If all the adjustments were made to intermediate consumption goods, the discrepancy would not affect the true value of GDP significantly. Similarly, if the adjustment refers to goods for which the GDP estimates are based not in a commodity flow approach, but on other sources like HBS, there is no effect on the GDP calculations.

A correct procedure requires detailed information by commodities of the adjustments of coverage and valuation made by the CBBH. This would allow adjusting resources and uses in the commodity flow calculation. In fact, the CBBH is not able to provide this detailed information as the adjustments are made on a global basis.

It may be argued that smuggling and under valuation are more likely to occur on goods subject to high rates of taxation like tobacco products and fuel but the respective estimates of consumption in these items, based on calculation and HBS seems to be sound and therefore there is no place to further increase these estimates in account of the adjustments made in the BOP.

In summary, the discrepancy between the detailed data on foreign trade and the respective totals in BOP has the effect of under valuating the level of GDP. Although the extent of the bias is less than the total adjustment, it is not possible with the information available to determine any reliable measure of its magnitude.

CHAPTER 6

THE BALANCING OR INTEGRATION PROCEDURE AND VALIDATING THE ESTIMATES

There are not balancing procedures for validating GDP estimates.

CHAPTER 7

OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS

a) FOS OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS OF GDP BY PRODUCTION APPROACH

7.0 Introduction

The lack of coverage of the GDP estimates in B&H has long been under discussion. Many alternative estimates circulate from various sources, while the first official estimate was done by the entity statistical institutions for 2004 within EUROSTAT-OECD Project for the improvement of exhaustiveness. For the first time B&H conducted the activities related to the improvement of exhaustiveness of data sources for GDP estimates within “EUROSTAT-OECD Project for improving measurement of the non-observed economy (NOE) in the West Balkan Countries”. The estimates were made using an instrument called “Tabular Approach”. The Project was implemented into two phases.

During the first phase, the preliminary estimates were produced for 2003, on the basis of available data and, largely based on experts' estimates. In the second phase of the Project, the NOE estimates made in the first phase of Project were refined and the estimates for the period 2000-2007 were made. The estimates for all years were made using the same method applied in 2003. Estimates were produced in line with the OECD experts' recommendations and using mentioned “Tabular Approach”.

For the period 2000-2007, the estimates were made by all non-exhaustiveness type N1-N7, with exception of N2 (illegal producer that fails to register) as well as estimate of imputed rental value – indirectly measured dwelling services for owner-occupied dwellings; and these data were published. Estimations for N2 type, for drug and prostitution were made experimentally and the data were not included in GDP estimations. However, a rough estimate for these illegal activities was made, mainly based on the assumptions and experiences of experts. That is why the estimates for this type of non-exhaustiveness have to be improved.

Estimates for NOE were made following the breakdown into three sub-sectors of the economy:

- Enterprises (legal entities);
- Entrepreneurs (unincorporated enterprises of households) and
- Production of individual agriculture sector.

Government estimates were not made, considering that data have full coverage. The existing data sources, which could be used for improvement of exhaustiveness of GDP estimates, were not exploited in full, so estimates were mostly produced on the basis of assumptions. Thus, the LFS results were not used for NOE estimates, despite the fact that FOS had LFS data for 2006 and 2007. HBS data were not used either, although FOS had these data for 2004 and 2007.

Within the Twinning project in 2008, entity statistical offices had a technical assistance of an expert from EU-Italy, in relation to the calculation of GDP by production approach. The aim of that mission was recommendations related to the improvement of exhaustiveness in GDP calculation by production approach using the data from LFS. Since the definitions of employment in LFS and NA are different, and procedures for comparison between the data from these two sources have not been established, LFS data for allowances for exhaustiveness are still not in use. Data on HBS have not been in use so far, but it is planned to use these data in the future.

NOE estimates were made for output and Intermediate Consumption, and GVA is calculated as difference at the section and sub-section level of Classification of activities, and in some cases at the lower level of activity.

During the two phases of this Project, FOS conducted two *ad hoc* surveys in Hotels and restaurants activity-entrepreneurs and for individual agriculture sector. Results obtained by *ad hoc* survey in Hotels and restaurants activity have been completely included in NOE calculation for entrepreneurs. Based on data obtained through this survey, adjustments for small enterprises (1 to 3 employees) registered in this activity have been made. Data from *ad hoc* survey in agriculture have not been yet included in calculation of GVA for individual agriculture sector, as additional analyses of data quality and coverage is needed. This is planned for the future period.

Furthermore, it should be mentioned that preliminary estimates of non-exhaustiveness were made with lack of the main assumptions (the main censuses and surveys) which could have been used for comparison and more real derivation of data for non-exhaustiveness. Considering the fact that FOS has LFS and HBS data, further improvements are planned for NOE estimates made on the basis of available data from these surveys. Moreover, there are a lot of problems in basic statistics such as register that is not updated, non-response of reporting units, as well as under development of basic statistics (there are neither Structural Business Statistics – SBS, nor the economic accounts in agriculture) as inputs for NA.

7.1 Adjustments by type of the non-exhaustiveness N1-N7

In FB&H, the adjustments for all non-exhaustiveness types have been made by identifying activities which are within a production boundary according to the SNA93 and ESA95, and which should be included in GDP calculation, but have not been covered. The description of some of the non-exhaustiveness types in National Accounts coverage (N1-N7), on the basis of which NOE estimation was made are shown in the following table, in line with the Eurostat's Tabular Approach.

Description of the Non-Exhaustiveness Types (N1 to N7)

N1	Producer should have registered (underground producer)	<ul style="list-style-type: none"> ➤ Producer fails to register in order to avoid tax & social security obligations. These are often small producers with turnovers which exceed the thresholds above which they should register their income. ➤ Producers that fail to register because they are involved in illegal activities that fall under N2, rather than N1. ➤ Type N1 does not include all underground activities, some of which are associated with type N6.
N2	Illegal producer that fails to register	<ul style="list-style-type: none"> ➤ N2 covers activities of producers that avoid registration entirely. ➤ N2 excludes illegal activities by registered legal entities or entrepreneurs that report (or misreport) their activities under legal activity codes.
N3	Producer is not obliged to register	<ul style="list-style-type: none"> ➤ Producer is not required to register because it has no market output. Typically, these are non-market household producers involved in: (a) production of goods for own consumption or for own fixed capital formation and (b) construction of and repairs to dwellings. ➤ Producer has some market output but it is below the level at which the producer is expected to register as an entrepreneur.
N4	Registered legal person is not included in statistics	<ul style="list-style-type: none"> ➤ The legal person may not be included in the statistics for a variety of reasons. E.g., the business register is out of date or updating procedures are inadequate; the classification data (activity, size or geographic codes) are incorrect; the legal person is excluded from the survey frame because its size is below a certain threshold; etc.
N5	Registered entrepreneur is not included in statistics	<ul style="list-style-type: none"> ➤ A registered entrepreneur may not be included in the statistics for many reasons. E.g., the administrative source with lists of registered entrepreneurs may not always pass on complete or up to date lists to the statistical office. ➤ Even if there is a regular flow of accurate and comprehensive information from the administrative source to the statistical office, the registered entrepreneur may not be included in the business register for several reasons

		(see those given under N4).
N6	Miss-reporting by the producer	<ul style="list-style-type: none"> ➤ Miss-reporting invariably means that gross output is under-reported and intermediate consumption is over-reported in order to evade (or reduce) income tax, value added tax or social security contributions. ➤ Miss-reporting often involves: the maintenance of two sets of books; payments of <i>envelope salaries</i> which are recorded as intermediate consumption; payments in cash without receipts; and VAT fraud.
N7	Statistical deficiencies in the data (For more background, see Annex C of the <i>Guidelines</i> .)	<ul style="list-style-type: none"> ➤ In Figure I above, type N7 is sub-divided between N7a - data that is incomplete, not collected or not directly collectable, and N7b - data that is incorrectly handled, processed or compiled by statisticians. This distinction is useful because it helps one to better understand the huge variety of possible statistical deficiencies. However, in practice, N7a and N7b cannot always be easily separated. ➤ Statistical deficiencies: the following list is not comprehensive but these topics should be investigated for non-exhaustiveness:- <ul style="list-style-type: none"> • Handling of non-response; • Production for own final use by market producers; • Tips; • Wages & salaries in kind; • Secondary activities. ➤ Clearly, not all statistical deficiencies result in the under-estimation of GDP. (The focus here has been to identify and target those areas which are likely to lead to non-exhaustiveness in the NA.)

7.1.1 N1 Producer should have registered (underground producer)

Producers engaged in legal activities who fail to register in order to avoid tax and social security obligations are included in this non-exhaustiveness type. This category should cover small producers and entrepreneurs with turnovers which exceed the thresholds where they are legally required to declare their income i.e. to register but they have not done it.

It is considered that N1 is not significant in the FB&H and total adjustments for 2007 amounted to 0.2% of GVA of the original data. In fact, according to the existing Tax Authority legislation, the threshold of total income when some business activity should be registered is not known. From this reason, significant adjustments have been done for N3, and perhaps it should be for N1. It is assumed that entrepreneurs, who were required to be registered, have done so. One of the reasons to for it is an easy way of registration for entrepreneurs. It is considered that there are no particular reasons for whatever activity not to be registered.

This type of adjustment was made only for entrepreneurs. Expert estimates on the basis of informal information was made for activity D - Manufacturing industry and G -Trade. Adjustment was made as particular percentage (10.0%) of the official data only in D-20 (Manufacture of wood and of products of wood and cork, except furniture) for wood joinery producers, producers of different things from wood, as well as production of things from knitted materials. In section G-Trade, estimate was made as 2.0 % of the data based on surveys on repair and cleaning of cars, repair of household goods and sales by trade agents.

Also, adjustments were made for activities N-Health and I-Transport by imputation of number of entrepreneurs and their earnings, on the basis on available statistical data sources and knowledge of experts in Tax Authority office. In the activity N-Health, adjustment was made for doctors and dentists who besides their main job work in private clinics and their own flats (second job). And for activity I-Transport, adjustment was made for taxi and truck drivers (for them this is a main job) but they are not

registered in order to avoid a payment of tax obligations. Adjustments for this type of exhaustiveness were made for Output, GVA and intermediate consumption, concerning the calculation method of the main GDP categories explained in Chapter 3.

Although it is very difficult to identify when some activity should be registered and when not, it is considered that additional adjustment can be made for this type of non-exhaustiveness, precisely in household service sector, such as providing services of health care for the elderly, hairdressers that carry out their work in their own houses or in customers' flats, for road transport activities, and in agriculture production activity for sale.

7.1.2 N3 Producers is not obliged to register

Non-exhaustiveness type N3 is significant type in FB&H and amounted to 21.3% of total adjustment in 2007, or 1.3% of GDP. Adjustments for N3 were made only for household sector and mostly for entrepreneurs, while particular adjustments were made for agriculture production in households.

For entrepreneurs, adjustments were made for activity D-Manufacturing industry as a percentage of the original data (5.0%-10.0 %). Adjustments have been related to food producers (production of smoked ham, cakes, sandwiches and pies and their sale on market places, in front of schools and by order), wood joinery production and different things from wood, things from knitting materials, sewing for a fee tailor made textile clothing.

Significant adjustments were done in the activity F-Construction for individual housing construction. Output calculation was made on the basis of data on individual housing construction value from Construction Department. Intermediate consumption for this adjustment was done based on intermediate consumption share in output for enterprises, some estimates for intermediate consumption, a share in output made for this kind of production for 1990 and opinion of experts engaged in construction of dwellings nowadays. According to this, it is estimated that intermediate consumption in output for individual housing construction amounts to 65.0%. The GVA increased for 122 761 thousands KM in 2007. It is assumed that large part of these construction activities could not be done without some skilled labour (gas installations, plumber work, electricity installation so most households must engage construction workers for bricklaying, painting and similar work). Therefore, the total amount of these adjustments have been divided into 70.0% for entrepreneurs and 30.0% for construction activities of household for own account.

For section A-Agriculture, hunting and forestry, non-registered incomes from selling of agriculture products are estimated as experts' judgement in % of the official data, considering that LFS and HBS data were not available in the period of the first estimations. Production of agriculture products for own consumption have been already included in GDP calculation through regular statistical survey. Specific small-scale market activities, such as child minding, repairs of electro-machines and similar, have been included in this type of non-exhaustiveness. Adjustment for child minders in M-Education activity has been made on the basis of data available within FOS -demographic department, on the number of children by age groups, data from employment statistics and information on number of children in kindergartens. Number of child minders and their monthly net wage is estimated on the basis of this data.

Significant adjustments were also made in activity G-Trade for entrepreneurs. By analyzing entrepreneur register in section G-Trade, it was found out those traders on market places (open and closed) had not been completely included in register, and as a result the estimate of number of stalls on market places in the FB&H was made. The number of workers was estimated through the survey carried out in all cantons in the FB&H about market places capacity and their average annual use. For the number of workers determined in this way, the monthly net wage and related part of material costs are imputed on the basis of available statistical data.

7.1.3 N4 Registered legal entities are not included in statistics

Adjustments for producers not covered by survey were not considered significant by all NACE activities, as the data for this group of institutional units are collected with annual account on the special statistical forms that are substitute for administrative data source. Conducting the Pilot census of industrial enterprises (conducted in 2001) showed that the NA coverage was complete.

Adjustments for this type of non-exhaustiveness have been 2.0% of total NOE or 0.1% of GDP. Adjustments were made in a way that enterprises whose statistical statements were not covered were identified by comparing the list of reporting units in three successive years. In this way, adjustment was made for enterprises which submitted statement for previous and following year, and not for referent year. Output, intermediate consumption and GVA for enterprises which have not submitted the statement for the current year were calculated in a way that these categories for observed group of enterprises were extrapolated by index of growth of GVA for the following and previous year.

7.1.4 N5 Registered entrepreneurs are not included in the statistics

No estimates for non-exhaustiveness type N5 were made for any activity. According to the Tax Authority Law in FB&H, passed in 2002, and the rules for assigning identification (ID) codes and taxpayers registration in the territory of FB&H, the Register of entrepreneurs was established for the first time and according to existing legislation of FB&H, these entrepreneurs are obliged to have permission for work. As mentioned earlier, the registration of taxpayers is jointly conducted by Tax Authority and FOS.

Regulation stipulates an obligation that all changes (change of address data, activity, termination of business and similar) should be timely notified. But in practice, entrepreneurs do not follow the rules, and that is why the register has not been updated. This is the reason for the presence of this type of non-exhaustiveness. However, the Tax Authority has complete records of all active entrepreneurs, for timely and comprehensive taxes collecting. Entrepreneurs are obliged to submit the tax declaration form about generated income. According to the existing tax legislation, if taxpayer does not submit tax declaration in due time, the Tax Authority office will do it instead of him. Since Tax Authority office is a reporting unit for entrepreneurs, it is assumed that all such taxpayers have been covered by existing statistical report. This is the reason why there is no ground for this type of non-exhaustiveness to exist. Each year, data on number of registered entrepreneurs obtained from statistical survey are compared with the same data obtained from data processing centre within Tax Administration, where tax declaration forms for entrepreneurs are processed. It can be concluded that data are completely comparable.

Income generated from renting of dwellings, houses and business premises that is reported to relevant bodies of Tax Authority is included in N5, but it is not included in statistical coverage for calculation of the official data on GDP. It is known that this type of activities is reported very rarely in FB&H. Estimate of these activities has not been made yet, but it is planned to calculate this type of non-exhaustiveness.

7.1.5 N6 Miss-reporting by producers

This non-exhaustiveness type is the most important in FB&H and amounts to 58.3% of total NOE or 3.59% of GDP. Adjustments were made separately for non-financial sector – enterprises and unincorporated enterprises-entrepreneurs.

7.1.5.1 N6 for enterprises

Reported lower income than real income is common in our country. Estimates were made in the same way for all activities NACE (A-O). Enterprises are grouped in three categories according to the amount of generated revenue.

Enterprises with operating revenues lower than 10 000 KM – For this group of enterprises, value added is mostly negative, implying that revenues are under-estimated. For this reason, it is assumed that compensation of employees should be covered from value added, i.e. value added is equal to the compensation of employees. Due to this fact, adjustment is done for all enterprises with negative value added and enterprises where VA is positive but less than compensation of employees.

Enterprises with operating revenues higher than 10 000 KM but lower than 100 000 KM – For this enterprises value added is equal to the sum of consumption of fixed capital and compensation of employees. It is assumed that compensation of employees and consumption of fixed capital should be covered from value added. Due to this fact, adjustment is done for all enterprises with negative value added and enterprises where VA is positive but less than sum of compensation of employees and consumption of fixed capital.

Enterprises with operating revenues higher than 100 000 KM – Enterprises are grouped according to the number of employees. Enterprises are classified in the following classes: without employees, with 1 to 5 employees, with 6 to 10 employees, with 11 to 25 employees and more than 25 employees. Compensation of employees by employed persons (by classes) is compared because of estimate (assumption) on the reporting the lower compensation of employees. For smaller enterprises (by number of employees) there is an assumption that compensation of employees (by employed persons) is equal to the sum of compensation of employees (by employed persons) in larger classes. In this way, there is a new amount of compensation of employees. A percentage of change in the compensation of employees is also taken for a correction of value added. Adjustment is done at the two digit level of Classification of Activities, where value added is positive, and not at the level of enterprises.

Adjustment based on imputation of number of employees is done in activities H, F and G. For activity H-Hotels and restaurants, adjustment was made on the basis of conducted Ad-hoc survey in this activity for entrepreneurs. Enterprises with small number of employees by the nature of business are similar with entrepreneurs. During the implementation of the Ad-hoc survey in H- Hotels and restaurants, in 2005, it was concluded that there were employees who work in season, members of family and other workers such as students, pupils, retired persons and similar. Two employees were imputed to enterprises with one or two employees. This adjustment related to the activities of restaurants and bars. Adjustment of Gross Output and GVA were made by multiplying the imputed number of employees with average monthly salary. Intermediate consumption for enterprises was the same as before, as it is considered that the costs of business were not under-estimated by enterprise. Adjustment is 7,1% of the data derived from statistical surveys.

For activity F-Construction, estimates based on imputation of number of employees were also done. Adjustment was done on the base of experience and opinions of accountants, information from employees engaged in this activity as well as information obtained from self employed. Structure of employees' qualifications was analyzed in this activity and it was concluded that qualified workers, semi-qualified workers and unqualified workers formed the largest share in the total number of employees; it indicates that these employees could be engaged without probationary period i.e. testing. Two employees are imputed to small enterprises with 1, 2 and 3 employees. Adjustment of Output and GVA were made by multiplying the imputed number of employees with average monthly salary and average number of working months in a year, while Intermediate consumption has not been changed. Adjustment is 2.4% of the data obtained through statistical surveys.

Adjustment in G-Trade was also made for small enterprises with 1 or 2 employees. Adjustment was made on the basis of the information from employees engaged in the trade activity. The information are related to employees who often leave and new ones are hired, employees who have been working unregistered for several months . Then, employees often do some temporary jobs, e.g., packing and arranging of goods; there are often situation when family member is engaged or demobilized soldiers who are numerous at the moment. For this part of NOE, correction of Gross Output and GVA was made, while Intermediate consumption has been the same as before. Adjustment is 1.1% of data obtained through statistical surveys .

Adjustment based on revenues from renting made for the previous years is really significant. The adjustment was made by comparing the data on costs and revenues from renting from statistical survey ‘Statistical Annex’, because the costs of renting were much higher than revenues from renting. The reason for this is that revenues from renting were a part of account 638-Other revenues and not separate account, while account of costs was separated. The differences could occur because some enterprises were shown their revenues from renting on the account 638-Other revenues and not as a separate value (revenues from renting). However, in 2007 the revenues from renting were shown in account 607-Revenues from renting (from “Statistical Annex“), and data were reported more correctly, thus mentioned adjustments (*Adjustment based on revenues from renting*) have been significantly lower. Total adjustments in 2007 amount to 25 millions KM.

It is very difficult to find out an adequate way for classification of this adjustment by activities, that is why because activity K-Real estate, renting and business activities were corrected for the total amount of this adjustment.

7.1.5.2 N6 for entrepreneurs

For this type of non-exhaustiveness, adjustment is 65.0 % of total adjustments made for entrepreneurs. Adjustments were made by imputation of number of employees and their monthly net salary. Also, corrections were made by increasing existing monthly income of self employed, but according to the average monthly salary in FB&H or to the average monthly salary in observed activity.

The largest adjustment was made in H-Hotels and restaurants activity, and increase of GVA amounts to around 124.0% in comparison with the original data in H-Hotels and restaurants. The adjustment was made on the basis of results derived from Ad-hoc survey, by increase of owner’s income and by imputation of number of employees and their monthly net salary. In fact, according to the original data derived from statistical survey ‘DV-DZ’, the average number of employees by owner for all activities in Hotels and restaurants was less than one employee. But, according to the Ad-hoc data, the average number of employees in Hotels and motels activity is around 8, and in restaurants, bars and cafes are around 3. Since intermediate consumption and consumption of fixed capital are measured in FOS by using specific coefficients and not taken over from the Tax declaration forms (§ 3.3.3) and could not have been overestimated, calculation of IC and consumption of fixed capital for this imputed amount was made in the same way.

Similarly to the Hotels and restaurants activity, the adjustment was made in G-Trade, starting from the assumption that each owner employs two workers. Thus, the number of employees and their monthly net salary were imputed. Intermediate consumption and consumption of fixed capital were calculated in the same way as for the original data, and correction of all production elements was made. Therefore, increase of GVA for this part of the original data for entrepreneurs is 79.0% in Trade activity.

The significant adjustments were made for correction of number of employees in activity O-Other community, social and personal service activities. Especially for hairdressers, starting from the assumption (based on analyses of hairdressers registered as legal entities) that each craftsman

registered as hairdresser in primary activity employees 1,5 workers, and two workers in additional activity. Thus the number of employed persons has been increased by around 4 times.

Some corrections were made also in activities K- Real estate, renting and business activities, M- Education and N-Health and social work, by income self employed and imputation of employees and their monthly net salaries. Corrections of intermediate consumption and consumption of fixed capital were made by using coefficients in the same way as calculation of the original data.

7.1.6 N7-Statistical deficiencies in the data

The share of this type of non-exhaustiveness in total adjustment is 16.3% or 1.0% of GDP. Adjustments were made for enterprises and entrepreneurs.

7.1.6.1 N7-For enterprises

Adjustment of intermediate consumption for the item “Fees for temporary and part-time jobs and authors fees” was made for all enterprises in all activities, so the intermediate consumption was decreased for mentioned item and GVA increased at the same time. The reason for this statistical deficiency is the fact that ‘Statistical Annex’ contains an item “Temporary and part-time jobs” but this amount was included in the intermediate consumption. Adjustments were made also for tips in hotels and restaurants, hairdressers and beauty parlours and tips given to taxi drivers. Adjustment for tips in hotels and restaurants was calculated on the basis of the Ad-hoc survey for entrepreneurs in Hotels and Restaurants activity. Compensation of employees was increased for calculated amount of tips. As there was no correction of intermediate consumption, total output and GVA were increased.

Further, adjustments for enterprises for this type of non-exhaustiveness were made for all activities (A-O), for:

- Use of cars registered as fixed asset for private purposes;
- Part of per diems for business trips that could be considered as compensation of employees and
- Use of telephone for private purposes.

All adjustments mentioned above were done by expert estimate, starting from a number of enterprises and information from employees and informal information. Intermediate consumption was decreased and GVA increased for the amount of mentioned adjustment.

7.1.6.2 N7- For entrepreneurs

On the basis of the Ad-hoc survey conducted in Hotels and restaurants activity, the calculation of tips which employees receive was made. The adjustment was made for tips the hairdressers’ employees (activity O- Other community, social and personal service activities) receive, taking into account reported and imputed number of employees. Compensation of employees as well as GVA was increased for the amount of the adjustment.

Table 7.1 Exhaustiveness adjustments by type, 2007

	000 KM	Structure	% of GDP
N1 Producer should have registered (underground producer)	17 394	2.0	0.1
N2 Illegal activities			
N3 Producer is not obliged to register	181 688	21.3	1.3
N4 Legal persons not surveyed	17 130	2.0	0.1
N5 Registered entrepreneurs not surveyed	0	0.0	0.0
N6 Miss-reporting by producers	497 015	58.3	3.6
N7 Statistical deficiencies in the data	138 686	16.3	1.0
Total	851 913	100.00	6.2

7.2 Adjustments by institutional sectors

FOS publishes rough estimate by institutional sectors, where institutional units are grouped by the type of statistical questionnaire or annual financial statement. As we can see from the Table 7.2, adjustments were made only for non-financial and household sector. From total adjustments which amount to 8.0% of GVA of the original data, adjustments made for non-financial sector are 3.5%, and for household sector 4.5%.

7.2.1 Adjustments made for non-financial sector

The total adjustments of GVA for NOE in this sector amount to 372 141 thousands KM, and it makes 6.3% of GVA of the original data for this sector. For non-financial sector, smaller adjustments were made for N4 and amount to 0.3% of GVA of the original data for this sector. The estimates were done for enterprises which submitted statement for the previous and following year, but not for observed year. It is considered that this type of adjustment is not so significant, as the data for enterprises are collected through special statistical survey 'Statistical Annex', which is fulfilled by all legal entities required to submit annual financial statements.

Most adjustments for non-financial sector were made for N6—underreporting, which amounts to 3.9% of GVA of the original data for this sector. Enterprises have been divided into 3 groups according to the value of generated revenue and adjustment was separately made for each group of enterprises. Significant adjustments were made for small enterprises that mostly report a loss in their business, by increasing the value added up to the amount that could cover the compensation of employees. Also, significant adjustments for small enterprises were made using the imputation of number of employees in Trade, Hotels and restaurants and Construction. Adjustments for larger enterprises were made on the base of comparison of compensation of employees by employed person in enterprises with smaller and larger number of employees.

Adjustments for all enterprises and by all activities were made for N7 and amount to 2.2% of GVA of the original data for this sector. The adjustments were done for the use of cars and telephones for private purposes, correction of intermediate consumption is made for part of per diems that could be considered as compensation of employees, and corrections were made for tips in hotels and restaurants and hairdressers as well.

7.2.2 Adjustments made for household sector

Most adjustments were made in household sector especially for entrepreneurs. Around 86.0% of total adjustments made in this sector relate to adjustments for entrepreneurs, while smaller adjustments amounting to 5.7% were made in individual agriculture sector, and in construction activity for individual housing construction. Total adjustments of GVA for entrepreneurs are around 85.0% in comparison with the data obtained by statistical survey from Tax Authority.

The largest amount of adjustments for entrepreneurs (around 66.0%) was made for N6 by imputation of number of employees and by increasing monthly income of self employed. Data reported by entrepreneurs in tax declaration forms are very underestimated to avoid payment of their tax obligations, and tax auditing is not significant in this sector. This was one of the reasons for conducting Ad-hoc survey for hotels and restaurants in this sector since a large number of entrepreneurs are registered in this activity.

Entrepreneurs should pay their taxes and contributions for real earned salary, and they are obliged to state it in tax declaration form.. However, in accordance with the Tax Authority Law, minimal monthly basis for calculation of taxes and contributions for all entrepreneurs and their employees in 2007 amounted to 55.0% of average monthly salary in FB&H (365 KM). Almost all self employed in their tax declaration forms presented this minimal amount as generated salary, thus paying taxes and

contributions for this (365 KM) minimal salary. So far, Tax Authority has not controlled enough this type of enterprises. That is why, all owners reported exactly the lowest salary as monthly net salary (even the lawyers, accountants, private doctors and similar). At the beginning of 2009, our country started to apply a new category of payroll tax – “Income tax”. With this new Income tax, earlier mentioned shortcomings will be overcome, e.g., lawyers and accountants will have to give more for taxes and contributions than taxi drivers do.

The significant adjustments relate to small entrepreneurs whose total revenue is so low that they are not required to register, such as traders at market places, child minders, persons who carry out minor repairs of electrical machines at homes. In agriculture activity, significant adjustments were not made, only some adjustments based on expert estimates. The reason for this is that data sources for making more real estimates, such as Agriculture census, Register of farms and Survey on livestock, are not available. In household sector, significant adjustments were made for individual housing construction in Construction activity.

Table 7.2 Exhaustiveness adjustments by type and institutional sectors, 2007, 000 KM

	Total	S.11- Non-financial corporation	S.12- Financial corporation	S.13- General Government	S.14- Household	S.15- Non-profit institutions
N1	17 394				17 394	
N2	0					
N3	181 688				181 688	
N4	17 130	17 130				
N5	0					
N6	497 015	227 195			269 820	
N7	138 686	127 816			10 870	
Total	851 913	372 141	0	0	479 772	0
% of GVA						
without NOE	8.0	3.5	0.0	0.0	4.5	0.0
Structure by sectors	100.0	43.7	0.0	0.0	56.3	0.0

7.3 Adjustments by NACE activities

Analysing the following table (Table 7.3), where adjustments of GVA of the original data by activities are shown, it could be seen that the largest adjustments were made in Trade activity, for enterprises as well as for entrepreneurs, and amount to 25.1% of total NOE. Around 68.0% of adjustments made in this activity relate to underreporting of smaller enterprises and entrepreneurs. The significant adjustments (around 18.0%) made in this activity are related to statistical deficiencies (N7) mostly made for enterprises where intermediate consumption was corrected and GVA was increased for amount of temporary and part-time jobs and authors fees, and for using business cars and telephones for private purposes. Around 9.0% of total adjustments made in G-Trade activity are related to adjustments in household sector for persons that work in market places, services provided to household as repairs of electrical machines, sewing tailor made clothes and selling various things at home.

Significant adjustments forming 19.3% of total adjustments for NOE were made in Hotels and restaurants for entrepreneurs and for small enterprises as well. Adjustments mostly relate to underreporting (around 92.0%) and it was made by imputation of number of employees and by increase of self employed income for entrepreneurs. The minor adjustments were made in this activity for statistical deficiencies, particularly for tips received in hotels and restaurants, the use of telephones and cars for private purposes.

Besides these two activities, the significant adjustment was made in Construction especially for individual housing construction, as this activity has not been covered by the calculation of GDP categories through regular surveys.

As it is shown in the following table, the significant adjustments were made in activities D-Manufacturing industry, K-Real estate, renting and business activities and O-Other community, social and personal service activities for underreporting, while in other activities (A, B, C, E, I, M, N) adjustments were not particularly significant.

7.3 Exhaustiveness adjustments by activities as included in published GDP, 2007

NACE activities	000 KM	Structure	% of GVA by survey	% of GDP
A	35 619	4.2	0.3	0.3
B	384	0.1	0.0	0.0
C	4 465	0.5	0.04	0.03
D	95 848	11.3	0.9	0.7
E	5 328	0.6	0.1	0.04
F	156 903	18.4	1.5	1.1
G	213 637	25.1	2.0	1.5
H	164 138	19.3	1.6	1.2
I	35 487	4.2	0.3	0.3
J	5 877	0.7	0.1	0.04
K*	72 011	8.5	0.7	0.5
L	0	0.0	0.0	0.0
M	8 859	1.0	0.1	0.1
N	10 149	1.2	0.1	0.1
O	43 208	5.1	0.4	0.3
P	0	0.0	0.0	0.0
Total	851 913	100.0	8.0	6.2

* Without gross value added of dwelling activities of owner-occupiers.

b) RSIS OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS OF GDP BY PRODUCTION APPROACH

7.0 Introduction

During a first meeting organised by OECD and held in Paris in September 2004, the need for initiation of the project in the area of non-observed economy was recognized. This project involved countries from Western Balkans. Taking into account the mentioned problems connected with data sources which are the basis for GDP checks, the Project was focused on the improvement of exhaustiveness of data sources for GDP estimates. (Project for improving measurement of the non-observed economy in the West Balkan Countries)

During 2004 and 2005, a number of working meetings were held, aimed to overview the coverage of national accounts and to define different types of non-exhaustiveness and main shortcomings of the available data sources, as basis for the calculation of macroeconomic aggregates. The use of recommended tabular approach required evaluative indication of underrated production or overrated expenses. In 2007, the second phase of EFTA OECD project continued. It was necessary to find new sources for estimate of NOE, and in connection to this, to revise estimates made in the previous phase. The improvement of cooperation with relevant institutions, implementation of labour force survey and HBS, introduction of VAT and Annex which accompanies financial statements, and better understanding of the situation and trends in economy led to changes and certain improvements in the NOE measurement. Within this project, two *ad hoc* surveys were conducted, one for construction and the other one for health care. By tabular approach, all exhaustiveness adjustments are summarized in Table 7.1 showing non-exhaustiveness by type, activity and by institutional sector.

Table 7.1 Non-exhaustiveness economy adjustments by activities and by institutional sectors, 2007

Institutional sectors/Kind of activity (NACE)	NOE adjustments by type							Total NOE adjustments		Official GVA (includes NOE adjustments) 000 KM
	N1	N2	N3	N4	N5	N6	N7	Absolute data	Share of GDP	
	000 KM								%	
Non-financial corporat.				29 903		204094	2 149	236 146	3.2	2 707 278
Financial corporat.						133		133	0.0	192 775
General government										1 079 965
Household	5 823		109920			151034	11 723	278 500	3.8	1 953 941
NPISH				3 306				3 306	0.1	49 508
NACE A				102		18 803		18 905	0.3	917 799
NACE B			5			1 040		1 045	0.0	5 286
NACE C						7 832		7 832	0.1	125 897
NACE D	2 000			9 283		80 113	1 853	93 249	1.3	674 703
NACE E						10 544		10 544	0.1	310 861
NACE F	216			4 899		49 536		54 651	0.7	398 131
NACE G	2 680			13 185		78 951	2 057	96 873	1.3	870 388
NACE H			883	394		30 094	6 962	38 333	0.5	116 669
NACE I	373			305		30 418	2 506	33 602	0.5	458 122
NACE J	87					568		655	0.0	197 385
NACE K			109 032	687		35 974		145 693	2.0	686 143
NACE L										634 362
NACE M	115					726		841	0.0	232 610
NACE N	215					4 490	376	5 081	0.1	247 462
NACE O	137			4 354		6 172	118	10 781	0.2	107 649
TOTAL	5 823		109 920	33 209		355261	13 872	518 085	7.1	5 983 467
% of total adjust.	1.1		21.2	6.4		68.6	2.7	100.0		

7.1 Exhaustiveness adjustments by type according to tabular approach

7.1.1 N1 Deliberately non-registering activities

The one part of entrepreneurs who deal with activities which belong to the households sector, deliberately fail to register their activities to avoid paying tax and other obligations. It is assumed that the number of these entrepreneurs is very small and adjustment for the non-exhaustiveness type N1 is also small, based on experts' estimate by using % to the output for the entrepreneurs, depending on the type of activity that they refer to. The adjustments are made for the following activities: manufacture industry, construction, trade, transport, financial intermediation, education, health and other service activities. The rate of deliberately failing to register for 2007 amounts to 0.08 % of GDP.

7.1.2 N2 Producers involved in illegal activities - illegal activities

According to the SNA and ESA methodologies, illegal production should also be included in the calculation. Estimates for illegal activities for the period 2003-2006 were made for drugs and prostitution, within the scope of the project Eurostat-OECD "To improve of the exhaustiveness of the National Accounts" for Western Balkan countries, in which BHAS and entity institutions took part. However, these estimates have not been included in GDP calculation still. The main problem for the calculation of illegal activities are data sources. Estimates of illegal activities are based on information

delivered by the Ministry of the Interior and Ministry of Health. Calculation for drugs was made according to supply and usage, using information on drugs seized, purity of drugs, street price, types of drugs, dosage, estimated number of users and patients on treatment. Estimates for prostitution were difficult to make, because no institution delivered reliable information on this subject. Calculation was made according to the experiences of other countries.

Estimate of illegal activities for 2007 was not made at all.

7.1.3 N3 Not obliged to register

This non-exhaustiveness type refers to the households sector, which, according to our legislation is not obliged to register. From the total GDP, 1.5 % goes to the non-exhaustiveness type N3. Adjustments are made for the following areas:

- Real rent;
- Private accommodation for tourism;
- Students' work;
- Copyright fees;
- Contractual work;
- Fishing for one's own needs.

Real rent calculation is done on the base of number of flats let out and the average rent paid at the territory of RS. Real rent share within GVA for K activity is 3.5 %. Intermediate consumption for real rent is done on the basis of National Accounts experts' estimates. The estimates for real rent are included in the households sector in the K activity.

The estimates of components relevant for calculating the data for private accommodation for tourism are done on the basis of the existing data for the entrepreneurs' (2% of the output for entrepreneurs in H activity) which is included in the households sector in the H activity.

The calculation of estimates for students' work is done according to the report of the Association of youth and students' co-operatives at the level of RS. The estimates are made based on the number of registered members, calculated gross payments for students and calculated commissions. In National Accounts, it is necessary to make corrections concerning students' work for those units that provide intermediation services for students' temporary jobs, (KD 74.5), and which include their service charge for intermediation in their annual financial statements.

Expert estimate for copyright fees and contractual work is based on the item of the personal income tax, included in the Budget Report of the RS Ministry of Finance.

Since fishing does not have an important role in the economy as a whole, this adjustment is not significant, even though it exists.

7.1.4 N4 Legal persons not surveyed (non-reporting)

RSIS has Administrative register of legal entities (and their units); ID number and a code of principal activity is assigned to each legal entity at the time of registration. Update of the Administrative register is done by using databases of different administrative sources, such as Register of financial statements – APIF, register of taxpayers – Tax Authority, and information obtained through statistical surveys. As there is no Business register, this Administrative register serves as a standard framework for comparison of coverage of all collected data. Each year, after taking over database with final annual statements of legal entities, comparison is made with the enterprises included in the register. For the enterprises that have not submitted their financial statements, the calculation is imputed. It is assumed that such legal entity has some turnover, and it should be included in the calculation. This non-exhaustiveness type has a share of 0.5 % in the total GDP. Gradual decrease of adjustments for

this type is noticeable; being a result of increased efficiency of Tax Authority. According to the Law on enterprises and cooperatives, religious institutions are obliged to register in the administrative register as well, but they are not required to submit their financial statements. The Pension Insurance Fund has been contacted as persons employed in religious institutions are insured. On the basis of the number of insured persons and reported salaries in O activity, it is possible to do the adequate calculation. This adjustment is included in NPISH for the O activity.

7.1.5 N5 Registered entrepreneurs not surveyed

Individual entrepreneurs are not included in the Administrative register of RSIS. Municipalities deal with registration and establishment of individual entrepreneurs. When it comes to the registration of entrepreneurs, the biggest problem is activity codes not taken from the Classification of activities. According to the Law on craft and entrepreneurial activities, entrepreneurs have a possibility to decide about reporting on their business, by using double-entry or single-entry accounting. Number of submitted financial statements based on double-entry accounting system is very small, so there are much more of those who are in system of flat taxation. Tax assessment forms do not provide much information relevant to the calculation of GVA. Labour statistics conducts semi-annual survey on number of employees in the entrepreneurship sector, the data are derived from the Health Insurance Fund, according to the number of reported entrepreneurs and their employees. In addition, labour statistics is the data source on gross and net wages by activities. Based on these data, the calculations are done for the sector of entrepreneurship, until 2007. Since the existing sources of data were not reliable, RSIS conducted the survey on entrepreneurs for 2007, on the sample of those who employ five or more workers. Collected data relate to revenues, costs, compensation of employees, number of employees, investments and inventories. When calculating the components relevant for the calculation of GVA, evaluation of data is done for entire entrepreneurship sector based on number of entrepreneurs and their employees from labour statistics. Therefore, additional adjustment is not necessary for non-reporting of registered entrepreneurs.

7.1.6 N6 Producers deliberately misreporting

The major part of NOE relate to non-exhaustiveness type N6 - Misreporting, and it amounts to 4.8 % of the total GDP. It is assumed that certain number of legal entities do not present correct financial statements, aiming to evade taxes and contributions. By analysing output, intermediate consumption and GVA by an employee, some underrated and overrated data have been obtained, so the corrections within this non-exhaustiveness type have been directed towards increasing output or decreasing intermediate consumption. After completing analysis of the components of GVA by an employee, more realistic image and the basis for estimate of the non-exhaustiveness type are obtained. Output by data sources for enterprises and entrepreneurs is adjusted using rate of 1-5%, depending on the activity and size. Intermediate consumption, after conceptual corrections have been made, is adjusted by 4%.

7.1.7 N7 Other statistical deficiencies

In the total GDP, non-exhaustiveness type N7 has a share of 0.2 %. Adjustments in this group refer to tips in those activities where they can appear, such as craft services, trade, hotels and restaurants, transport – taxi drivers, doctors, and hairdressers. The value of tips, according to experts' estimates, is in the range of 1-5 % of output by activities for different services.

c) BHAS OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS OF GDP BY EXPENDITURE APPROACH

So far the exhaustiveness analysis of GDP by the expenditure approach has not been done.

CHAPTER 8

THE TRANSITION FROM GDP TO GNI

8.0 Introduction and reference framework

Gross national income (GNI) is obtained by adding primary income receivable from the rest of the world (compensation of employees) to the GDP and by subtracting primary income payable to the rest of the world. In 2007, GNI amounted to 22 218 millions of KM or 102. 6% of GDP; it is estimated as the sum of the GDP at market prices at 21 647 millions of KM plus primary income receivable from the rest of the world at 571 millions of KM.

Table 8.1 Transition from GDP to GNI, 2007, millions KM

	2007
Gross domestic product	21 647
Net primary income from the rest of the world	571
Gross national income	22 218

Transition from GDP to GNP is entirely based on the balance of payments (BoP) data. Net primary income estimation is based on the item „income“ of the BoP. BoP is compiled by the Central bank of BH. The balance of payment statistics is compiled in accordance with the methodology of the IMF's (Balance of Payments Manual, fifth edition BPM5).

In the balance of payments for B&H, income is expressed in two forms of transactions: compensation of employees and income from investment.

8.1 Compensation of employees

Compensation of employees consists of two main components, wages and salaries and employers' social contributions. Wages and salaries include all gross payment in cash as well as goods and services in kind provided by employers to the employees for the work done in the observed period. Payments to the rest of the world relate to non-resident employees of the resident institutional units and receipts from the rest of the world to resident employees of the non-resident institutional units. In 2007, net compensation of employees from the rest of the world amounted to 829 millions of KM.

On the basis of the IMF BoP Manual, the foreign staff employed in international organizations in B&H is treated as residents, since they reside in the country for more than a year. Compensation of employees, inflows, are estimated as the amount of wages and salaries paid to B&H residents and resident foreign staff employed by the embassies and international civil and military organizations, and also earnings of seasonal, occasional and temporary workers abroad.

Compensations to employees, outflows, are estimated as the amount of wages and salaries to non-residents who are temporary or seasonally employed in B&H by local, resident employers and do not reside for more than one year, and so not treated as residents.

8.2 Investment Income

Investment income for monetary authorities and general government sector – credit is related to interest on deposits with non-resident banks and data of the Central Bank of B&H and commercial banks are used.

Investment income for monetary authorities and general government sector – debt is related to paid interest based on deposits and loans received from non-residents and the data of the Central Bank of B&H, commercial banks and ministry in charge of BH foreign debt repayment are used.

In other sectors, investment income – debt includes interest on loans to non-government sector, which is estimated, and income for foreign direct investment obtained from results of the Central Bank of B&H direct survey on foreign investments.

Gross national disposable income (GNDI) is obtained by adding net of current transfers with the rest of the world to gross national income. In 2007, GNDI amounted to 25 882 millions of KM or 116.49% of GDP; it is estimated as the sum of GNI at 22 218 millions of KM plus net current transfers from the rest of the world at 3 664 millions of KM.

Table 8.2 Transition from GNI to GNDI, 2007, millions KM

	2007
Gross national income	22 218
Net current transfers from the rest of the world	3 664
Gross national disposable income	25 882

8.3 Current transfers

8.3.1 Government sector

Current transfers of the government sector include donations from abroad which are estimated according to the data on official development assistance to B&H published by the OECD (DAC) and data collected from the local institutions and directly from the donors present. The evaluations are done because of the lack of reliable data of local institutions, which record received and sent official aid of B&H government sector.

8.3.2 Other sectors

Current transfers to other sectors are remittances to/from abroad, money transfers of the returnees in B&H, insurance based claims and premiums and foreign pensions to B&H residents, i.e. pension paid in foreign countries. BHAS data on the structure of sources of income of households, i.e. the amount of assistance from non-residents and data of the Ministry for Human Rights and Refugees on the number of refugees and displaced persons and B&H emigrants, and the data of commercial banks and Western Union system are the basis for the evaluation of the foreign currency remittances from abroad and money transfers of returnees in B&H. Data on pensions from abroad are collected from commercial banks, and pensions paid out abroad are directly collected from pension funds in B&H.

CHAPTER 9

FUTURE IMPROVEMENTS TO THE ACCOUNTS

The future improvements to the National accounts in B&H are defined by the Master plan prepared in the framework of CARDS TWINING project in 2006/2007. Due to the highly complicated organizational situation in the country, Master plan proposed how to organize the work in situation of three statistical institutes and lack of resources.

For further development of National accounts in B&H, three main problems must be solved as soon as possible:

1. Institutional arrangement and organization of accounting data collecting, processing and availability for National accounts purposes,
2. Institutional arrangement and responsibilities among statistical authorities in B&H for compilation of National accounts for B&H as whole, in line with the current regulations and agreement,
3. Insufficient number of staff currently employed in the National Accounts departments of all three statistical institutions.

The speed and the way of further improvement of the statistics of national accounts will depend on the speed and the way in which the above-mentioned issues are solved.

Concerning data sources there is no unique list of data sources which should be available for national accounts in the near future. The Master plan has dealt with the broad groups of data sources that have to be developed or improved for needs of National accounts. Those are as following:

- Provide detailed accounting data of non-financial and financial corporation, general government units, non-profit institutions and unincorporated sector through the financial reports, statistical surveys or from the tax administration;
- Implementation of the all relevant classification;
- Detailed government finance statistics data, including the most detailed list of taxes;
- Economic accounts for agriculture;
- Household budget survey based on COICOP and ESA 95;
- Retail trade statistics based on COICOP;
- Statistics on other services;
- Construction statistics (buildings, safety permits, data on own-account construction, statistics on value of construction put in place by type of construction made by legal person and by households as investor);
- Survey on Gross fixed capital formation based on the Classification of Products by Activities;
- Data from the statistical register of employment or labour force survey;
- VAT declaration;
- Labour cost survey;
- Data for FISIM calculation;
- Price indices (producer price indices, construction indices, export – import unit value indices.

Above listed data sources are only the most important ones. The statistical authorities of B&H will have to follow the needs of national accounts compilation to cover all those that will eventually emerge in the future.

The Master plan also gave the list of action to be done in the national accounts department until the end of 2009 and after 2009. It is important to note that the prerequisite for the implementation of action after 2009 is the implementation of activities planned until the end of 2009.

Main actions after 2009:

- Establish standards for routine (annual) and major revisions of national accounts data with timeliness regarding finalisation and publishing of national accounts data (all major and methodological revisions in the future should be done also backward to inclusive 2005)
- Start with delimitation and compilation of taxes and social security contributions (1 step 2009) and with the work on complete bridge table between transactions in public government finance accounts and national accounts (2 step 2010)
- Improvement in data sources and methods needed for supply and use tables (2009)
- Start with arrangements for estimation quarterly GDP for B&H as whole for GDP by the production approach at fixed constant prices (first step 2011)
- Compilation of accounts for non-financial sector (2011)
- The rest of the world account (annual and quarterly), first step (annual 2012, quarterly 2013)
- General government accounts and tables (annual and quarterly), second step (2013 annual, 2014 quarterly)
- Other sectors accounts (2016)

The dynamics of the implementation of this plan will primarily depend on the dynamics of fulfilling aforementioned conditions.

The Master Plan was included in the statistical Programme for period 2008 to 2012 that was adopted by Council of Ministers of Bosnia and Herzegovina. In this way, the Master Plan became the basic document for planning the development of statistics of Bosnia and Herzegovina.

PART B PRICE AND VOLUME MEASURES

a) FOS, GDP BY PRODUCTION APPROACH

CHAPTER 10 GENERAL PROCEDURES

FOS has conducted a calculation of annual GDP by production approach at constant prices for FB&H, while BHAS is responsible for calculation of annual GDP by expenditure approach at constant prices, done at the state level and not at the level of entities. As a result, balancing of GDP by production and expenditure approach is responsibility of BHAS.

In 2008, FOS published data series for GDP by production approach at constant prices for the period 2001-2007. Data on GVA in absolute amount and real growth indices were published at the level of activity (code letter) of Classification of Activities, as well as the data on GDP (also in absolute amount and real growth index). Implicit deflator data have not been published. The base year and the reference year is previous year, meaning that calculation at constant prices was done only at previous year prices.

Method of single indicators was applied for the calculation of constant prices. The only exception has been activity F (Construction) where double deflation method has been applied. Dominant approach is deflation approach for current values of output and usage of volume index for given variable as a single indicator for extrapolation of intermediate consumption. This procedure is equivalent to deflation of output by applying intermediate consumption share in output for the previous year at current prices to output at constant prices in order to measure intermediate consumption at constant prices. The reason for the calculation of intermediate consumption at constant prices in this way is unavailability of data on structure of intermediate consumption at the relevant level of diversity. GVA at constant prices equals to the output less intermediate consumption. For some service activities, extrapolation approach was used applying physical and volume indicators. The volume index for value added was calculated by using Laspeyres's formula:

$$L_q^{VA} = (\sum p_{t-1} Q_t - \sum p_{t-1} q_t) / (\sum p_{t-1} Q_{t-1} - \sum p_{t-1} q_{t-1})$$

GVA at constant prices for each activity is obtained by summing up GVA for lower levels (divisions).

CHAPTER 11 GENERAL INFORMATION ON MAIN SOURCES USED

The main sources used for the calculation of annual GDP by production approach at constant prices are:

- Producer price indices (PPI);
- Consumer price indices (CPI);
- Volume indices of industrial production and
- Indices of number of employed persons.

11.1 The producer price index (PPI)

Producer price index (PPI) presenting a measure of the change in the prices of products that industrial enterprises produce and sell on domestic market excluding value added tax and excises. For calculation of producer price indices, the Classification of Activities, according to which the business entities are classified in sections C, D and E and Nomenclature of Industrial Products are used. The PPI in FB&H is calculated on the basis of the representative List of products consisting of 462 products. The prices are collected from 238 producers. All relevant goods and services produced and

sold on domestic market are covered by this index. From selected enterprises, each month over 780 prices are being collected and included in index calculation.

Based on data about value of sales on domestic market from Industry Statistics, products and enterprises are selected on the basis of Register of business entities. Procedure of sampling is being conducted once a year when chain linking indices is being done. Weights applied for calculating of PPI are calculated on the IND-21 survey basis (Annual Survey on Industrial Production) and sales value of industrial products on domestic market for 2000, and applied since 2002. At the beginning of a year, weights are updated according to changes in prices for previous year.

Calculation of PPI starts with calculation of average monthly prices for certain products produced by more producers. On this basis, monthly indices by products are calculated. Elementary aggregate indices are calculated by using Laspayer formula for weighted arithmetic mean starting from the level of representative products indices to the overall index at the level of FB&H.

When one of characteristics for pricing (physical characteristics, quantity unit, and applied unit of measurement, payment and delivery conditions) is changed, then reporting unit should eliminate its influence on price. Quality adjustment occurs also when product is not produced any more, but unit of observation can replace product with new one, as well as when unit of observation stops production, but change of this enterprises is possible with a new one. The method called price-overlapping method is used for quality adjustment.

11.2 The consumer price index (CPI)

Consumer price index (CPI) presenting a measure of price change of goods and services that are purchased by the resident households for satisfying their needs. Consumer price is price that is paid by consumers for purchased goods and services, including all taxes and excluding any subsidies on products.

The CPI in FB&H is calculated on the basis of the representative List of products consisting of 646 products for 2007. Each month over 10 000 prices are being collected in a fixed panel of geographical locations and outlets. The prices are being collected at five geographic locations (towns) of FB&H (Bihać, Mostar, Sarajevo, Tuzla and Zenica) chosen by the criterion of their weight in terms of population and their roles with respect to the geographical areas they belong to.

All relevant goods and services bought by the reference population for the purpose of final consumption are included in the index. They are selected with the aim of presenting the diversity of products available at the market, thus to cover the complete range of consumption in line with COICOP classification (Classification of Individual Consumption by Purpose), and to take into account weight of each COICOP category as requested by European Regulative No. 1749/96. Used weights in calculation are results of 2004 Household Budget Survey conducted in cooperation with ISTAT. Weights are updated every year according to changes in prices for previous year. The coverage of goods and services is reviewed regularly to ensure the representativeness of the basket with respect to the tastes of the consumers and purchasing habits.

CPI presents Laspeyer's price index, showing price change between current and referent period eliminating the influence of other factors. Price collecting is done for different COICOP groups of products: food, fruits and vegetables, alcoholic beverages and tobacco, apparel, household maintenance services, household equipment and furniture, health goods and services, fuel and transport, recreation services, education, coffee shops, restaurants and hotels, insurance services and other goods and services.

In general the replacement of an elementary item is due to a change in at least one of the four aspects that identify each elementary item:

- Brand - the brand for which the price was collected until the previous month is no longer available or it has lost the requisite of 'most sold' brand;
- Variety - the variety for which the price was collected until the previous month is no longer available or it has lost the requisite of «most sold» variety;
- Package - that specific package for which the price was collected until the previous month is no longer available or it has lost the requisite of «most sold» package and
- Outlet - the outlet where the price collection was carried out has been closed down. Therefore, a substitution is necessary for all the products available in the outlet closed.

Value of quality change between the replaced and the replacing item is estimated as a difference in their prices collected in a period in which both products was available. Recalculation of a new base for micro index is done by following proportion:

$$P_N : P_O = B_N : B_O$$

where:

P_N = previous month price for the new item,

P_O = previous month price for the old item,

B_N = calculation base for the new item (unknown term) and

B_O = calculation base for the old item.

11.3 Volume indices of industrial production

Data are collected from enterprises and their parts which have the main activity within the sections C, D and E in Classification of Activity, as well as from parts of non-industrial enterprises that predominantly perform industrial activities. All enterprises with ten or more persons are covered. Only legal entities (legally registered entities) could be considered reporting units, according to the survey coverage, while entrepreneurs could not be considered as reporting units. Every year the list of statistical units is updated using data obtained by surveys of National Account Department and results from own Industry Department surveys. Later, the data from Statistical business Register will be used.

The threshold approach is used for the selection of population of interest. The threshold is applied on the value of production and the following criterion should be met: summary production value of selected enterprises in every class of activities of the Classification of Activity has to be higher or equal to 90% of the total production value.

Total production = sold products + net increase in stocks of finished goods and work in progress + production for further processing

Combination of data from previous year is used as measure of total production value for targeted population, i.e. production value of enterprises covered by industrial survey and total turnover for other enterprises obtained through National Account Department surveys (based on registered main activity). After establishing of Statistical Business Register and conducting of Structural Business Statistics (SBS) surveys, data from this register will be used adjusted with SBS data and more precisely related to the actual not to the registered activity. At the beginning of each calendar year the coverage of responding units i.e. population of interest for previous year has to be defined on the basis of update address lists of respondent units for the survey.

Total volume indices of industrial production are calculated according to the Laspeyer's formula. Data on total production in quantities, defined in accordance with Nomenclature of Industrial Products and weights for these products, representing the value added for production unit are the base for index calculation. Total volume index of total industry sector is calculated by computing section activity indices and the shares according to which the activities respectively participate in the total value added of industry (division structure).

11.4 Index of number of employed persons

The data on employed persons includes employed persons in legal entities (legal entities with ten and more employees), owners and persons employed in crafts and trades, freelances, government bodies including employees in defence and police, institutions and other organizations.

The survey on persons employed in legal entities includes all persons who have signed a work contract, regardless of the type of work contract and whether they work full time or less than full time. The survey on persons in crafts and trades and freelances includes owners and employees registered in the Offices for Health Insurance. Annual average of the number of employed persons is calculated as arithmetic mean of monthly data.

CHAPTER 12 METHODS USED FOR CALCULATION AT CONSTANT PRICES

For calculation of constant prices, the method of single indicators is applied. The only exception is activity F (Construction) where method of double deflation is applied. Dominant approach is deflation approach for current values of output. The calculation of intermediate consumption at constant prices is done by applying the intermediate consumption share in output for the previous year at current prices to output at constant prices. The main reason for intermediate consumption calculation at constant prices in this way is unavailability of data on structure of intermediate consumption at the relevant level of diversity. GVA at constant prices equals to the output minus intermediate consumption. For some service activities extrapolation approach was used applying physical and volume indicators.

Estimations for enterprises, entrepreneurs, individual agriculture, general government activities and NOE are made separately. Estimations are done at the level of 2, 3 or 4-digits of Classification of Activities depending on available indicators used in calculation.

Table 12.1 Constant prices – real growth indices (previous year = 100)

Activities	2006	2007
A Agriculture, hunting and forestry	104.8	95.4
B Fishing	251.4	122.1
C Mining	101.1	106.0
D Manufacturing industry	113.2	114.4
E Electricity, gas and water supply	103.1	104.0
F Construction	103.8	112.4
G Wholesale and retail trade; repair of motor vehicles, motorcycles;	109.6	113.1
H Hotels and restaurants	108.4	107.0
I Transport, storage and communications	106.4	103.4
J Financial intermediation	113.0	118.6
K Real estate, renting and business activities	110.2	100.2
of which: imputed rent	100.1	100.1
L Public administration and defence, compulsory social security	100.0	98.4
M Education	102.7	101.5
N Health and social work	102.3	102.1
O Other community, social and personal service activities	113.7	107.2
Total by activities	107.1	106.2
FISIM	120.0	120.4
Gross value added (basic prices)	106.7	105.6
Taxes on products and services and import less subsidies	107.1	106.2
Gross domestic product (GDP)	106.8	105.8

12.1 Agriculture, hunting and forestry (A)

Estimation at constant prices for individual agriculture production is done at the 3-digit level of Classification of Activities. Revalorization of each product is done by using the average price of previous year. Just a small part of output for those producers does not have available and broken down quantities and prices. A method used for those products was deflation of their total value by implicit price for the remaining part (derived from products having detailed data for quantities as well as for prices). For enterprises, volume index is derived by deflation of output with implicit output deflator for individual production.

12.2 Fishing (B)

Deflation output method with Consumer price index (CPI) of fresh Fish is used.

12.3 Mining (C)

Deflation output method with relevant Producer price index (PPI for Mining) at the 4-digit level of Classification of Activities is used. PPI relates only to sale on local-domestic market, and export price index has not been calculated yet. Export prices could have significant differences, but in the case of FB&H, a huge part of output for Mining was used for internal purposes. Only a small part is exported (2-3%) and because of that, PPI is used for deflation of total output.

12.4 Manufacturing industry (D)

Extrapolation output method with relevant volume indices of industrial production at the 2-digit level of Classification of Activities is used. With this index, enterprises with ten and more employed persons are included, and because of that, estimation at constant prices is done for enterprises with ten and more employed persons and for enterprises with less than ten, separately. For enterprises with ten and more employed persons, extrapolation of output with volume index of industrial production is done. For enterprises with less than ten employed persons, deflation of output with implicit deflator of output for enterprises with ten and more employed persons is done.

12.5 Electricity, gas and water supply (E)

Deflation output method with relevant PPI, PPI for Electricity, gas and water, at the 4-digit level of Classification of Activities is used.

12.6 Construction (F)

Method of double deflation at the 3-digit level of Classification of Activities is applied. Deflation of output is done with construction price index derived by using index of wages and CPI of building materials. Deflation of intermediate consumption is done with CPI of building materials.

12.7 Wholesale and retail trade; motorcycles and personal and household goods (G)

Calculation is done at the level of the 3-digit of Classification of Activities. Output at constant prices is calculated by using real growth index of trade revenues derived by deflation of trade revenues with relevant CPI. By this method, changes in trade margin rates are recognized as changes in prices, though changes in quality of trade services should be reflected in trade margin rates.

12.8 Hotels and restaurants (H)

Calculation is done at the 3-digit level of Classification of Activities, using deflation output method by CPI for restaurants and hotels.

12.9 Transport, storage and communications (I)

Calculation is done at the 3-digit level of Classification of Activities by using deflation output method with relevant CPI (CPI for transport by railway, road, air and post and telecommunication services).

12.10 Financial intermediation (J)

In calculating the data at constant prices for financial intermediation, a difference between two kinds of services is made: financial services that can be directly measured (as fees and commission charges) and Financial Intermediation Services Indirectly Measured (FISIM). Estimation of financial services that can be directly measured has been made by using deflation method by total CPI.

Calculation of FISIM is estimated in the following way:

- Average value of bank's assets and liabilities (arithmetic mean for opening and closing bank's assets and liabilities) has been deflated by total CPI;
- Interests received from borrowers and the interests paid to depositors have been extrapolated by volume index of assets and liabilities;
- Just as in case of estimation of FISIM at current prices, estimation of FISIM at constant prices is obtained as the difference between the interests received from borrowers and the interests paid to depositors at constant prices.

Output for insurance services and secondary financial activities at constant prices has been calculated by deflation of total CPI.

12.11 Real estate, renting and business activities (K)

Calculation is done at the 2-digit level of Classification of Activities by using deflation output method with total CPI. Output based on imputed rental at constant prices is done using extrapolation method with population growth index (mid-year estimate).

12.12 Public administration and defence; compulsory social security (L)

In this activity, there are institutional units that belong only to general government sector. Estimates at constant prices are calculated by cost components at the 4-digit level of Classification of Activities. Output is estimated by using the cost approach as the sum of following estimations: compensation of employees, intermediate consumption, consumption of fixed capital and other taxes on production. Compensation of employees and other taxes on production are extrapolated with index of number of employed persons. For intermediate consumption deflation with total CPI is done, and consumption of fixed capital is calculated using volume index of intermediate consumption and wages and benefits of employed persons.

12.13 Education (M)

For private enterprises, calculation is done at the 4-digit level of Classification of Activities by using deflation output method with CPI for educational services. For institutional units within general government sector, estimates at constant prices are calculated by cost components at the 4-digit level of Classification of Activities. Output is estimated by using the cost approach as a sum of the following estimations: compensation of employees, intermediate consumption, consumption of fixed capital and other taxes on production. Compensation of employees and other taxes on production have been extrapolated with index of number of employed persons. For intermediate consumption, deflation with total CPI is done, and consumption of fixed capital has been calculated using volume index of intermediate consumption and wages and benefits of employed persons.

12.14 Health and social work (N)

For private enterprises, calculation is done at the 2-digit level of Classification of Activities by using deflation output method with CPI for health services. For institutional units within general government sector, the estimates at constant prices are calculated in the same way as for institutional units within general government sector in the activity Education.

12.15 Other community, social and personal service activities (O)

Calculation is done at the 2-digit level of the Classification of Activities, using extrapolation method with index of number of employed persons.

Table 12.2 Tabular overview of indicators used for calculation of output at constant prices

Activities	Used indicators
A Agriculture, hunting and forestry	Volume index of agricultural production
B Fishing	CPI for fresh Fish
C Mining	PPI for mining
D Manufacturing industry	Volume indices for manufacturing
E Electricity, gas and water supply	PPI for Electricity, gas and water supply
F Construction	Construction price index
G Wholesale and retail trade; repair of motor vehicles, motorcycles	Real growth index of trade revenues derived by deflation of trade revenues with relevant CPI
H Hotels and restaurants	CPI for restaurants and hotels
I Transport, storage and communications	CPI for transport by railway, road, air; telecommunications and postal services
J Financial intermediation	Banks – total CPI, volume index of assets and liabilities; Insurance and secondary financial activities – total CPI
K Real estate, renting and business activities	Total CPI
L Public administration and defence; compulsory social security	Index of number of employees for compensation of employees and other taxes on production; total CPI for intermediate consumption; volume index of intermediate consumption and wages for consumption of fixed capital
M Education	Market output – CPI for education services; Non-market output - Index of number of employees for compensation of employees and other taxes on production; total CPI for intermediate consumption; volume index of intermediate consumption and wages for consumption of fixed capital
N Health and social work	Market output – CPI for health services; Non-market output - Index of number of employees for compensation of employees and other taxes on production; total CPI for intermediate consumption; volume index of intermediate consumption and wages for consumption of fixed capital
O Other community, social and personal service activities	Index of number of employees

12.16 Calculation at constant prices for entrepreneurs

Calculation at constant prices for entrepreneurs has been obtained for data without NOE, and for NOE at the 2-digit level of Classification of Activity, separately.

Table 12.3 Tabular overview of indicators used for calculation of output and intermediate consumption for entrepreneurs at constant prices

Activities	Data sources		NOE	
	Output	Intermediate Consumption	Output	Intermediate Consumption
D, E, F, H, I, K, M, N	Deflation by implicit output deflator of enterprises	IC share in output for previous year - entrepreneurs	Deflation by implicit output deflator for entrepreneurs	Deflation by implicit deflator of IC for entrepreneurs
G	Deflation by total cost of living goods index	IC share in output for previous year - entrepreneurs	Deflation by implicit output deflator for entrepreneurs	Deflation by implicit deflator of IC for entrepreneurs
O	Deflation by CPI for relevant services	IC share in output for previous year - entrepreneurs	Deflation by implicit output deflator for entrepreneurs	Deflation by implicit deflator of IC for entrepreneurs

12.17 Non-observed economy for enterprises (non-financial sector) at constant prices

Estimates at constant prices are done by deflation of output with implicit output deflator, and for intermediate consumption with implicit intermediate consumption deflator at the level of each activity (2-digit level of Classification of Activities), obtained from estimates at constant prices for enterprises. The reason for using mentioned approach as regards NOE, is the fact that the single volume indicator for output could not be consistent with NOE estimates, since only output or intermediate consumption were adjusted in some cases.

12.18 Classification of methods for output calculation into A, B and C method

Table 12.4 Classification of methods for output calculation into A, B and C method

Activities	A, B, C method
A Agriculture, hunting and forestry	B
B Fishing	B
C Mining	B
D Manufacturing industry	B
E Electricity, gas and water supply	B
F Construction	B
G Wholesale and retail trade; repair of motor vehicles, motorcycles	B
H Hotels and restaurants	B
I Transport, storage and communications	B
J Financial intermediation	C
K Real estate, renting and business activities	C
L Public administration and defence, compulsory social security	C
M Education	market – B; non-market - C
N Health and social work	market – B; non-market - C
O Other community, social and personal service activities	C

12.19 Taxes and subsidies on products at constant prices

Calculation of subsidies and taxes on products has not been done separately. The extrapolation method was used for net taxes on products at constant prices. Net taxes on products are extrapolated with real growth index of total gross value added. This method is classified as C method.

b) RSIS GDP BY PRODUCTION APPROACH

CHAPTER 10 GENERAL PROCEDURES

GDP calculation at constant prices represents an important indicator of the dynamics and level of economic development, and it shows economic growth between different periods, while the influence of price changes is eliminated.

The GDP calculation at constant prices was done and published for the first time in 2004, with continuous expert support and direct involvement of IMF's consultant for the real sector in B&H. On the basis of the same methodology, the data series for the period 2001-2007 were calculated. For the first time, the calculation at constant prices was done at the A60 level of activities for 2007. The real growth rate at the A60 level is released at the same time as GDP at current prices, by production approach in the middle of July.

The calculation of GVA at constant prices is done according to the classification of activities, which is harmonised with international classification of activities Nace REV 1.1. Table 10.1 shows GVA at constant prices and real growth rates by activities. GVA at constant prices for each activity is obtained by summing up GVA for lower levels (divisions, subdivisions). GVA at constant prices is calculated as a difference between the calculation output and intermediate consumption at constant prices. The calculation of constant prices is applied to current values that include estimates of NOE as well.

When it comes to the calculation of constant prices, the term base year is very important. In our case, it means that the previous year is the base year for the current year. This means that 2006 is the base year for GDP calculation at constant prices for the year 2007.

For the GDP calculation at constant prices for 2007, the single deflation method or the single extrapolation method for output was used, depending on available indicators. The use of single indicator implies the assumption of fixed I/O coefficients of the base year (the previous year).

Consumer prices index (CPI) was used as a deflator for the first time in 2007. It differs methodologically from the retail prices index used for the previous years. Besides CPI, important data sources are industrial production volume index, index of number of employees and gross wages index.

RSIS Price Statistics Department collects and processes data on industrial products prices (PPI) based on the sample of industrial enterprises, which were not published for 2007. Therefore, they were not used for the calculation of constant prices for 2007. Price Statistics Department has an intention to start publishing producer price indices beginning from 2008.

Real growth index is calculated by dividing values at constant prices in the current period and values from the previous year expressed at current prices (value at constant prices in 2007/value at current prices in 2006). Real growth rate for 2007 is 6.2 %.

Notwithstanding the fact that the double deflation method seems to be the best choice for the estimate of GVA at constant prices, it is not always applicable. Restrictions on data, especially lack of adequate deflators of intermediate consumption, might prevent the double deflation use. Existing data sources do not allow for possibility of using double deflation, but the works are oriented towards improvements and finding possibilities to start using previously mentioned calculating method in the near future.

Table 10.1 Gross value added at constant prices and growth real rates by activities, 2007

Activity	Gross value added	Growth real rates
	000 KM	%
A Agriculture, hunting, forestry	901 121	5.0
01 Agriculture, hunting and related service activities	804 220	6.5
02 Forestry, logging and related service activities	96 902	-6.4
B 05 Fishing	3 861	28.1
C Mining and quarrying	116 245	2.2
10 Mining of coal and lignite, extraction of peat	53 888	2.7
13 Mining of metal ores	49 150	-3.4
14 Other mining and quarrying	13 207	27.2
D Manufacturing	623 945	4.1
15 Mfr. of food production and beverages	165 117	-0.6
16 Mfr. of tobacco products	2 267	-24.4
17 Mfr. of textiles	16 488	79.4
18 Mfr. of wearing apparel, dressing and dyeing of fur	34 260	27.8
19 Leather tanning and dressing: luggage, saddlery handbags, shoes etc manufacture	26 033	-16.1
20 Mfr. of wood and wood, cork, straw and plaiting mat. products	67 550	-8.7
21 Mfr. of pulp, paper and paper products	14 372	17.0
22 Publishing, printing and reproduction of recorded media	25 298	-3.2
23 Mfr. of coke, refined petroleum products and nuclear Fuel	13 893	8.6
24 Mfr. of chemicals and chemical products	7 021	-2.8
25 Mfr. of rubber and plastic products	19 602	-3.9
26 Mfr. of other non-metallic mineral products	39 727	7.3
27 Mfr. of basic metals	26 300	-15.1
28 Mfr. of fabricated metal prod., except machinery and equipment	72 812	5.7
29 Mfr. of machinery and equipment n.e.c.	8 956	30.9
30 Mfr. of office machinery and computers	3 919	37.8
31 Mfr. of electrical machinery and apparatus n.e.c.	12 616	-10.0
32 Mfr. of radio, television and common. equipment and apparatus	1 838	-66.7
33 Mfr. of medical, precision and optical instr., watches and clocks	5 837	-7.6
34 Mfr. of motor vehicles, trailers and semi-trailers	3 250	14.9
35 Mfr. of other transport equip.	4 980	13.7
36 Mfr. of furniture, manufact n.e.c.	42 519	74.0
37 Recycling	9 290	51.5
E Electricity, gas and water supply	295 418	-5.4
40 Electricity, gas, steam and hot water supply	264 857	-5.4
41 Collection, purification and distribution of water	30 561	-5.4
F 45 Construction	338 363	16.7
G Wholesale and retail trade	837 687	6.3
50 Sale, maintenance and repair of motor vehicles	100 024	16.7
51 Wholesale trade and commission trade	369 063	12.4
52 Retail trade, except of motor vehicles; repair	368 600	-1.4
H 55 Hotels and restaurants	106 427	-5.2
I Transport, storage and communication	448 480	8.9
60 Land transport	111 541	13.8
61 Water transport		
62 Air transport	157	67.0
63 Supporting and auxiliary transport activities; travel agencies activities	24 560	-13.6
64 Post and telecommunications	312 222	9.4

Table 10.1 Gross value added at constant prices and growth real rates by activities, 2007 (continued)

Activity	Gross value added	Growth real rates
	000 KM	%
J Financial intermediation	168 324	23.1
65 Financial intermed., exc. insur. and pension funding	143 527	24.5
66 Insurance and pension funding	17 250	10.4
67 Activities auxiliary to financial intermediation	7 547	29.7
K Real estate,renting and business	702 984	9.2
70 Real estate activities	375 939	0.5
71 Renting of machinery and equipment	3 3339	55.4
72 Computer and related activities	10 946	23.0
73 Research and development	4 855	13.4
74 Other business activities	307 904	21.0
L 75 Public administration and defence	581 107	6.5
M 80 Education	214 697	4.6
N 85 Health and social work	221 976	4.4
O Other community,social services	94 847	11.9
90 Sewage and refuse disposal and similar activities	19 329	4.5
91 Activities of membership organizations n.e.c.	25 855	8.6
92 Recreational, cultural and sporting activities	43 513	17.4
93 Other service activities	6 149	14.4
FISIM	100 085	13.9
Total by sections	5 555 397	6.2
Taxes on products	1 407 430	6.2
Subsidies on products (minus)	29 321	6.2
Gross Domestic Products	6 933 506	6.2

CHAPTER 11 GENERAL INFORMATION ON MAIN SOURCES USED

Main data sources used for the annual calculation of constant prices are volume indices, CPI and number of employees' indices taken over from branch statistics in RSIS.

11.1The producer price index (PPI)

Producer Price Index is a short-term statistical indicator that shows the dynamics of price changes.

Weights used for calculating the PPI present a relative share of selected products in the total value of industrial production of the domestic market. Main data source for weights calculation is the Annual Survey on Industrial Production IND-21 from 2006. Scheme of weights is changed every five years, while weights are corrected every year for the growth in prices occurring that year.

PPI is calculated on the basis of the representative list of products that encompasses 411 products. Each month 976 prices are collected. The most important products by industrial sections are covered. Questionnaire on producer prices is submitted monthly by 294 chosen enterprises. These are the largest producers, i.e., those that have the largest turnover by industrial sections.

For calculating PPI, it is necessary first to calculate elementary indices at the level of products (EPI), which represent ratios between current prices and the base price (December of the previous year), and then simple geometric mean of these ratios. From the elementary indices at the level of products, aggregate indices are calculated, that is, indices of class, division, subsection, section, as well as the total index, using Laspeyres's formula for weighted arithmetic mean.

Although collecting and processing of producer prices of industrial products are based on previously mentioned methodology, indices of producer prices of industrial products were not published for 2007. The intention of Price Statistics Department is to start publishing PPI in 2009, retroactively for 2008. PPI was not used for the calculation of constant prices for 2007.

11.2 The consumer price index (CPI)

CPI represents a measure of the average price changes for products (goods and services) which consumers buy for their own personal needs.

In RS, CPI is calculated using the representative list of products which comprises 624 products. Each month, 11 000 prices are collected in line with the defined sample of retail stores and towns. The most important products and services that residents buy for their final consumption needs are included. Sample of goods and services are revised regularly to maintain the representative list of products, considering consumers' choice and their shopping habits.

Weights used for the calculation of CPI represent the structure of average consumer consumption. They show a relative share of chosen products and services in entire purchasing process. Main data source for calculating the CPI weights is the HBS from 2004. Weights are annually adjusted to price fluctuations of the previous year.

For the CPI, it is necessary to first calculate elementary indices (product indices) and indices of representative items at the level of towns. For this, geometric mean is used as a measure of average value. Aggregate indices are then calculated using the Laspeyres formula for weighted arithmetic mean, beginning with the lowest level of indices of representative items towards the level of total index for RS. Reference basis for the index calculation is 2005.

For the CPI calculation, it is necessary to use a Classification of Individual Consumption by Purpose – COICOP that divides products and services into twelve basic divisions for which indices are calculated.

11.3. Industrial Production Volume indices

Data on industry production are obtained through Monthly report on industry (IND-1). The monthly report is submitted by enterprises working with fixed assets in state, cooperative, mixed and private property. The enterprises are, according to the Classification of economic activities, classified into the following sections: Mining and quarrying, Manufacturing and Electricity, gas and water supply. These data also cover units which are, although parts of non-industrial enterprises, working in industry production.

Industrial Production Index (IPI) presents the result of industrial activity and represents summary of activities of all levels of activity classification.

The enterprises are classified in the classes of activities, according to the principle of so-called “homogeneous production” by dominated production into appropriate class, irrespective of the principal activity of enterprise. The monthly report collects volume and value data on industrial product (as defined in Nomenclature of Industrial product).

IPI shows a real production for a certain month, from which seasonal and monthly variations, caused by different number of working days, are not eliminated.

An Index of Physical Volume of Production is calculated using the Laspeyres formula. Weights are calculated at the basis of the sales values for each individual product, taken from the Annual Industry report (IND-21 form) for 2003. IPI Calculation is done in several phases:

- Index for the class (4-digit level of product code) is calculated by dividing quantities in the current period by quantities in the based period and multiple with the product weight;
- Index for the division (2-digit level of product code) presents a sum of the product class index and class weight; (weighted average of class indices)
- Index for section (C, D, E) presents a sum of products of the division index and division weight;(weighted average of division indices)
- Index for the total industrial production presents a sum of products of the section index and section weight; (weighted average of section indices)

11.4 Index of number of employed persons

The data on employed persons are taken from the Labour Statistics Department. Data on number of employed persons are obtained through Semi-annual survey on employed persons and their salaries and wages (RAD-1 March / RAD-1 September). Semi-annual survey on employed persons and their salaries and wages covers all legal entities and their territorially separated units with employees. This survey does not cover employed persons in defence, employed persons who conduct their activities on their own agricultural holdings, employees in international organizations and in business units of legal entities whose headquarters are not in RS, as well as RS citizens employed in BIH agencies abroad.

Employed persons are all persons who are employed for unlimited or limited period of time and who work full or part time.

Data on number of employed persons are classified according to the Classification of activities which is based on Classification of Economic activities NACE Rev 1.1, which is an obligatory EU statistical standard, comparable with the International Classification UN ISIC Rev 3.

Nominal index of employed persons is a ratio between number of employed persons in current year and number of employed persons in previous year.

CHAPTER 12 METHODS USED FOR CALCULATION OF GDP AT CONSTANT PRICES

For the GDP calculation at constant prices for 2007, single deflation method or single extrapolation method for output was used, depending on available indicators. The use of single indicator means the assumption of fixed I/O coefficients of the base year (the previous year 2006).

Single extrapolation method presents extrapolation of output in the base year with adequate indices of physical quantity.

Single deflation method presents deflation of output in the current year, with adequate indices of prices.

Data sources and indicators used for constant prices calculation do not allow strict classification of the constant prices calculating method (A/B/C). According to this, we could say that method for the calculation of output at constant prices at the level of activities could be classified as the B method. The method used for intermediate consumption calculation at constant prices, due to the lack of data on IC structure at relevant level of diversity, could be classified as the C method.

Table 12.1 Summary table with indicators used for constant prices calculation by activities , 2007

Activity	Used indicators
A Agriculture, hunting, forestry	- The index of physical scope of agricultural production and average purchase prices of agricultural products - The index of physical scope of forest assortments
B Fishing	- CPI of raw fish
C Mining and quarrying	- The indices of the physical scope of industrial production
D Manufacturing	- The indices of the physical scope of industrial production
E Electricity,gas and water supply	- The indices of the physical scope of industrial production
F Construction	- CPI for components of construction expenditure
G Wholesale and retail trade, repair	- The revenue from sale of goods - Total CPI
H Hotels and restaurants	- The index of tourist nights - CPI for restaurants and bars - The number of students and pupils
I Transport,storage and communication	- CPI for passengers transport by railway - CPI for road transport - CPI for transport services - CPI for telecommunications and postal services
J Financial intermediation	- The indices of the volume of assets and liabilities of banks - The index of earned premiums - Total CPI
K Real estate,renting and business	- Total CPI - The number of population
L Public administration and defence	- The index of number of employed persons for the L activity -Total CPI
M Education	- The index of number of employed persons for the M activity - CPI for education services - Total CPI
N Health and social work	- The index of number of employed persons for the N activity - CPI for health services - Total CPI
O Other community, social services	- The index of number of employed persons for the O activity - Total CPI

12.1 Agriculture, hunting and forestry (A)

For the calculation of GVA for agriculture, the index of physical volume of agricultural production is used at the level of agricultural crops. For calculating the index of physical volume of agricultural production, data on produced quantity of crops and livestock products are used. These data are obtained through regular surveys in agricultural statistics. The data on average purchasers' prices of agricultural products are also used. Output for livestock production at current prices is deflated with changes of average purchasers' prices for meat, milk and eggs (data available in agriculture statistics).

For GVA calculation for forestry, we use the index of physical volume of forest assortments. Data source is forestry statistics.

The intermediate consumption at constant prices is calculated through fixed I/O coefficients for 2006, i.e. based on structure of intermediate consumption at current prices in the base year, which is applied to the output at constant prices of the current year.

The real growth rate for A activity is 5.0 %.

12.2 Fishing (B)

Output for fishing at current prices is deflated with index of consumer's prices of raw fish.

The calculation of intermediate consumption at prices from previous year is done by using I/O ratio for previous year (2006) at current prices.

The real growth rate for B activity is 28.1 %.

12.3 Mining and quarrying (C)

GVA calculation at constant prices within C activity is done at disaggregated level (2-digit level). Output at current prices in the base year is extrapolated with indices of the physical volume of industrial production at the level of divisions. The data source is industry statistics.

Intermediate consumption is calculated by using I/O ratio for the previous year (2006).

The real growth rate for C activity is 2.2 %.

12.4 Manufacturing (D)

GVA calculation at constant prices in D activity is done at the 2-digit level of the activity code. Output at current prices of the base year is extrapolated with indices of physical volume of industrial production at the level of divisions. Industry statistics is the data source.

Intermediate consumption is calculated by using I/O ratio for the previous year (2006).

The real growth rate for D activity is 4.1 %.

12.5 Electricity, gas and water supply (E)

GVA calculation at constant prices in the E activity is done at the disaggregated level (2-digit level). Output at current prices in the base year is extrapolated with indices of physical volume of industrial production at the level of divisions. Data source is industry statistics.

Intermediate consumption is calculated using I/O relation for the previous year (2006).

The real growth rate for E activity is - 5.4 %.

12.6. Construction (F)

This activity is, by nature, very special which is visible in usage of different indicators. Since there are no available adequate indices of prices for construction, construction output is deflated with structured inferred index compiled as weighted average of prices rate for main components of building costs (work, material, transport).

Intermediate consumption calculation at constant prices is done using fixed I/O coefficients, i.e. based on the share of intermediate consumption at current prices of the base year (2006), which is applied to output at constant prices of the current year.

The real growth rate for F activity is 16.7 %.

12.7 Whole and retail trade, repair of motor vehicles, motorcycles and personal and household good (G)

GVA calculation for trade at constant prices is done in two steps. First step is to deflate nominal indices of revenue from sales of goods, at the 2-digit level of activity code, with total consumer price

indices CPI. In the next phase, with these real indices of sale, extrapolation of output at current prices in the base year is done. This approach implicates the assumption that trade margin rates at constant prices are fixed.

Intermediate consumption calculation at constant prices is done using fixed I/O coefficients from 2006, which are applied to output at constant prices for 2007.

The real growth rate for G activity is 6.3 %.

12.8. Hotels and restaurants (H)

Separate estimates at constant prices are calculated at the level of each of these four groups of activity, that is, for hotels, restaurants, catering trade and dormitories for students and pupils (at the 3-digit level of activity codes). Data on number of tourist nights are obtained from the tourism statistics, based on regular monthly surveys on tourist arrivals and overnights, with whose index the output for hotels at current prices in the base year is extrapolated. Output at current prices for catering services and restaurants is deflated with the corresponding consumer price index (consumer price index for restaurants, cafés and bars). Output for students' and pupils' dormitories at current prices in the base year is extrapolated with index of number of students and pupils taken from education statistics.

The calculation of intermediate consumption at constant prices is done by using fixed I/O coefficients, i.e. according to share of intermediate consumption at current prices in the base year (2006), which is applied to the output at constant prices in the current year.

The real growth rate for H activity is - 5.2 %.

12.9 Transport, storage and communication (I)

When it comes to indicators of volume that could be obtained from transport statistics, there is lack of detailed coverage, especially for road transport, both for passengers and freight. Therefore, the best approach to generating the index of the volume of production value is deflation of production value with the corresponding price index. Output at current prices at the 2-level of activity code is deflated with the corresponding CPI, railway transport is deflated with the CPI for passengers transport by railway, divisions 60 and 62 of the classification of activities with CPI for road transport, and division 63 of the classification of activities with CPI for transport services. Output for telecommunications and postal services (division 64) is deflated with the corresponding price index for post and communication services.

The calculation of intermediate consumption at constant prices is done by using fixed I/O coefficients, i.e. according to share of intermediate consumption at current prices in the base year (2006), which is applied to the output at constant prices in the current year.

The real growth rate for I activity is 8.9 %.

12.10 Financial intermediation (J)

For financial intermediation (division of monetary institutions – 65), when calculating constant prices, two types of services are differentiated: implicitly paid services and FISIM. For implicitly paid services, aggregate index is derived according to nominal index of revenue from implicitly paid services, as well as according to the total CPI. With this calculated index, the output for the base year is extrapolated. For the calculation of FISIM at constant prices, we use calculated indicator of the volume, using measurements of the scope of bank fund stocks (assets) and obligations (liabilities) which include generation of flow of paid and received interests. Put differently, interests received by the bank are extrapolated with index of the volume of stocks of bank fund (credits, loans to clients).

On the other hand, index of the volume of bank obligations in the form of deposits held by clients is used as an indicator of the volume for extrapolation of paid interest by the bank. Same as in cases of estimate of current prices of FISIM, estimate of FISIM at constant prices is equal to the difference between received and paid interests at constant prices. Index of the volume of bank fund and obligations is estimated through deflation of nominal indices of assets and liabilities with the total CPI.

Indicator of the volume of output for insurance services is obtained through deflation of values of earned premium during the period. Deflator of the earned premium is the total CPI. Output at current prices of the base year for the insurance area is extrapolated with this indicator of the volume.

Ratio I/O for the previous year (2006) is applied to the estimate of output at constant prices for the calculation of intermediate consumption in prices of the previous year.

The real growth rate for J activity is 23.1 %.

12.11 Real estate, renting and business activities (K)

For the most business activities in the K activity, there are no available prices indices, so the output at the 2-level code is deflated with the total CPI.

Data on imputed rent at current and constant prices are calculated and delivered to RSIS RS by BHAS. The calculation of real rent at constant prices is done by extrapolation with the index of the population.

Calculation of intermediate consumption at constant prices is done using fixed I/O coefficients, i.e. on the basis of the share of intermediate consumption at current prices in the base year (2006), which is applied to the output at constant prices of the current year.

The real growth rate for K activity is 9.2 %.

12.12 Public administration and defence, compulsory social security (L)

Calculation at constant prices for government activities is done by costs components. Output at constant prices is the sum of estimates at constant prices of compensation of employees, intermediate consumption, other taxes on production and consumption of fixed capital. GVA at constant prices is the sum of all these elements, apart from intermediate consumption. Compensation of employees at constant prices is calculated by extrapolation of output for the previous year using the index of number of persons employed for the L activity. Data source for the number of persons employed is labour statistics. Since there is no specific deflator for intermediate consumption of government, total CPI is used as its deflator. The value of consumption of fixed capital is extrapolated by the aggregated index of costs (intermediate consumption and compensation of employees).The value of other taxes on production is deflated with total CPI.

The real growth rate for L activity is 6.5 %.

12.13 Education (M)

In the education activity, for direct and indirect budget users, output at constant prices is the sum of estimates at constant prices of compensation of employees, intermediate consumption, other taxes on production and consumption of fixed capital. GVA at constant prices is the sum of all these elements, apart from intermediate consumption. Compensation of employees at constant prices is calculated by extrapolation of output for the previous year using the index of number of employees for the M activity. Source for the number of employees is labour statistics. Since there is no specific deflator for intermediate consumption of these budget users, total CPI is used as its deflator. The value of consumption of fixed capital is extrapolated by the aggregated index of costs (intermediate

consumption and compensation of employees). The value of other taxes on production is deflated with total CPI.

Calculation at constant prices for the private sector is derived by deflation, using the CPI for education services. Calculation of intermediate consumption for the private sector at constant prices is done using fixed I/O coefficients, i.e. based on the share of intermediate consumption at current prices in the base year (2006), which is applied to the output at constant prices of the current year.

The real growth rate for M activity is 4.6 %.

12.14 Health and social work (N)

In the activity of health care, output at constant prices for indirect budget users is the sum of estimates at constant prices of compensation of employees, intermediate consumption, other taxes on production and consumption of fixed capital. GVA at constant prices is the sum of all these elements, apart from intermediate consumption. Compensation of employees at constant prices is calculated by extrapolation of output for the previous year using the index of number of employees for the N activity. Data source for the number of employees is labour statistics. Since there is no specific deflator for intermediate consumption of indirect budget users, total CPI is used as its deflator. The value of consumption of fixed capital is extrapolated by the aggregated index of costs (intermediate consumption and compensation of employees). The value of other taxes on production is deflated with total CPI.

The calculation at constant prices for private sector is derived by deflation, using CPI for health care services. The calculation of intermediate consumption for the private sector at constant prices is done using fixed I/O coefficients, i.e. on the basis of the share of intermediate consumption at current prices in the base year (2006), which is applied to the output at constant prices of the current year.

The real growth rate for N activity is 4.4 %.

12.15 Other community, social and personal service activities (O)

The calculation at constant prices for the O activity is done at the 2-digit level of the classification of activities, using extrapolation approach with number of employees for O activity. What is different from the previously mentioned is that the calculation at constant prices for entrepreneurs is done by deflation of output with the total CPI.

The real growth rate for O activity is 11.9 %.

12.16 Taxes on products

Due to the lack of information on tax basis and calculated tax, calculation at constant prices for taxes on products is done by extrapolation with the index of real growth of the total GVA.

The real growth rate for taxes on products is 6.2 %.

12.17 Subsidies on products

Calculation at constant prices for subsidies on products is done in the same way as for taxes on products, that is, by extrapolation with the index of real growth of the total GVA.

The real growth rate for subsidies on products is 6.2 %.

c) BHAS Brcko GDP BY PRODUCTION APPROACH

CHAPTER 12 METHOD USED FOR CALCULATION AT CONSTANT PRICES

The calculation of GDP at constant prices is done at the section level. In calculation of constant prices method of single indicator is used. Applying a single indicator has implicit the assumption of fixed I/O coefficients.

12.1 Agriculture, hunting and forestry at constant prices (A)

Output at constant prices is obtained by using a revaluation method. The estimate at prices of previous year is obtained by multiplying the quantities of the current year by the basic price of previous year. Intermediate consumption at constant prices is simply derived by applying the I/O ratio of previous year to the estimate of output at constant prices.

12.2 Manufacturing industry at constant prices at constant prices (D)

Output at current prices is extrapolated by index of industrial production on level of section.

12.3 Electricity, gas and water supply at constant prices (E)

Output at current prices is extrapolated by the corresponding index of industrial production.

12.4 Construction at constant prices (F)

Output at current prices is deflated by construction price index which is derived by using index of wages and CPI of building materials.

12.5 Wholesale and retail trade; motorcycles and personal and household goods at constant prices (G)

Output at current prices is deflated by total consumer price index.

12.6 Hotels and restaurants at constant prices (H)

For hotels and restaurants a composed price index of output can be the simple average of CPI for restaurants and hotels and the index of wages and salaries.

12.7 Transport, storage and communications at constant prices (I)

Output at current prices on section level is deflated by the corresponding CPI (CPI for transport by railway, road, air and post and telecommunication services).

12.8 Financial intermediation at constant prices (J)

Output at current prices is deflated by total consumer price index.

12.9 Real estate, renting and business activities at constant prices (K)

Output at current prices is deflated by total consumer price index.

12.10 Public administration and defence; compulsory social security at constant prices (L)

Calculation at constant prices for government activities is done by cost components. Compensation of employees at constant prices is extrapolated by index number employees. Intermediate consumption and consumption fixed capital are deflated by total CPI.

12.11 Education at constant prices (M)

Calculation at constant prices for education is done by cost components. Compensation of employees at constant prices is extrapolated by index number employees. Intermediate consumption and consumption fixed capital are deflated by total CPI.

12.12 Health and social work at constant prices (N)

Calculation at constant prices for health and social work is done by cost components. Compensation of employees at constant prices is extrapolated by index number employees. Intermediate consumption and consumption fixed capital are deflated by total CPI.

12.13 Other community, social and personal service activities at constant prices (O)

Output at current prices is deflated by index of number employees for O activity.

12.14 Taxes and subsidies on product at constant prices

Net taxes on product are extrapolated by real growth index of total gross value added.

d) BHAS GDP BY EXPENDITURE APPROACH

CHAPTER 10 GENERAL PROCEDURES

Statistical institutions in B&H compile GDP by the production and by the expenditure approach at current and constant prices (at previous year prices). GDP by the production approach is the primary approach determining GDP the volume growth of annual GDP.

It should be noted that due to the fact that neither Input/output framework nor Supply/Use tables has been developed yet, the discrepancy between the two approaches of GDP estimates has not been reconciled. (See Table 1.1)

Although there is a significant discrepancy between two approaches the both GDP estimates are published.

GDP by the expenditure approach at constant prices is published on the level of the main expenditure categories. The nominal and real indices for each expenditure categories are published as well.

Table 10.1 GDP by the expenditure approach at constant prices, 2007, Mio KM

Expenditure categories	2007	
	Nominal indices	Real indices
1	2	3
Household final consumption expenditure	109.6	105.3
Final consumption expenditure of NPISH	116.2	106.7
General government final consumption expenditure	109.8	99.9
Individual government consumption	110.3	100.3
Collective government consumption	109.5	99.5
Gross capital formation	149.7	142.3
Gross fixed capital formation	136.3	129.5
Changes in inventories	-	-
Export of goods and services	114.3	110.1
Goods (fob)	115.1	110.0
Services	111.9	110.3
Import of goods and services (minus)	117.8	111.3
Goods (fob)	118.7	111.9
Service	102.8	101.2

CHAPTER 11**GENERAL INFORMATION ON MAIN SOURCES USED**

Estimates of GDP by the expenditure for the year 2005 were calculated at prices of 2004, thus allowing for the comparison of the data in volume terms. These estimates have been produced in spite of the lack of price indices. Estimates may improve in the future if appropriate price indices are developed, including at least imports and exports price indices, a producer prices index and construction price indices. The detailed data on the CPI being compiled were available for 2005 but only on the basis of December 2004, thus requiring the use of assumption to fill gap for a deflator referred to the average prices of 2004. Starting with the data of 2006, the CPI has become the main price index for deflating the components of household consumption expenditures.

Table 11.1 GDP by the expenditure approach at constant prices, 2007, Mio KM

Expenditure categories	2007	Structure (%)
1	2	3
Household final consumption expenditure	19 026 708	81.6
Final consumption expenditure of NPISH	188 866	0.8
General government final consumption expenditure	4 050 530	17.4
Individual government consumption	1 922 671	8.2
Collective government consumption	2 127 859	9.1
Gross capital formation	6 494 137	27.8
Gross fixed capital formation	6 161 955	26.4
Changes in inventories	332 182	1.4
Export of goods and services	7 697 913	33.0
Goods (fob)	5 782 347	24.8
Services	1 915 567	8.2
Import of goods and services (minus)	14 131 847	60.6
Goods (fob)	13 335 784	57.2
Services	796 063	3.4
Gross domestic product – at market prices	23 326 307	100.0

The most important indicators that have been used for GDP constant price estimates:

- CPI of B&H;
- Export and import price indices;
- Construction deflator;
- General government deflator;
- PPI of Germany and Italy.

The detailed description of CPI was given in FIS part 11.2. The description of other indicators is given in the parts that follow.

CHAPTER 12

METHODOLOGY BY PRODUCT

12.1 Estimate of Final consumption expenditure by households at constant prices

Two methods were applied for the calculation of consumption at constant prices:

- Revaluation of quantities;
- Deflation.

Revaluation of quantities consumed in 2005 using the average prices of 2004 was used for the estimates on consumption of agriculture products, for which data on quantities were available. For all other items, where only values were available, the deflation by the most relevant component of the CPI was used.

Except for agriculture products, the estimates at constant prices were made at the four-digit level of COICOP by matching the estimates with the respective items in the CPI. Since the CPI was first compiled for the year 2005, with December 2004 as the price reference period, assumption had to be made to calculate an index for 2005 with a 2004 average as the price reference period. The direct use of the retail price index was discarded because the RPI was also not calculated for the whole country and not all the items needed were represented. An additional, although minor difficulty, in using the RPI is that it is not classified in accordance to COICOP.

Estimate of direct purchases abroad by resident households and direct purchases on the domestic market by non-resident households were calculated at prices of 2004, separately for travel and the other services, by using relevant items of the most visited country CPI or Bosnian CPI.

Table 12.1 GDP by the expenditure approach at constant prices: Methods and indicators applied, 000 KM

Code	C O I C O P	2004 current prices	Methods	Indicator	2005 constant prices	Real increase
1	2	3	4	5	6	7
01.00	Food and non alcoholic beverages	5 009 303	Deflation and revaluation	B&H CPI	5 252 637	101.3
02.00	Alcoholic beverages, tobacco and narcotics	968 691	Deflation	B&H CPI	945 525	101.3
03.00	Clothing and footwear	788 867	Deflation	B&H CPI	998 448	113.7
04.00	Housing, water, electricity, gas and other fuels	2 436 878	Deflation	B&H CPI	2 443 659	102.0
05.00	Furnishing, household equipment and routine household maintenance	1 127 924	Deflation	B&H CPI	1 231 311	109.8
06.00	Health	626 608	Deflation	B&H CPI	712 797	113.1
07.00	Transport	1 299 044	Deflation	B&H CPI	1 346 643	109.5
08.00	Communication	447 243	Deflation	B&H CPI	472 303	106.4
09.00	Recreation and culture	651 721	Deflation	B&H CPI	786 662	111.2
10.00	Education	176 693	Deflation	B&H CPI	187 138	110.7
11.00	Restaurants and hotels	1 177 064	Deflation	B&H CPI	1 250 248	105.3
12.00	Miscellaneous goods and services	992 481	Deflation	B&H CPI	1 064 789	113.4
	Net purchases abroad	685 000	Deflation	B&H and Croatian CPI	745 828	113.1
Household final consumption expenditure – national concept		15 017 526			15 946 332	105.3

12.2 Estimates of General government consumption expenditure at constant prices

Estimates of general government consumption at constant prices were calculated by applying implicit deflator of general government output taken from the GDP by the production approach at constant prices estimates.

Table 12.2 Estimate of the General government final consumption expenditure at constant prices, 000 KM

	2004 current prices	Methods	Indicator	2005 constant prices	Real increase
1	2	3	4	5	6
General government final consumption expenditure	3 535 079		Implicit deflator of the government output	3 526 451	99.7
Individual government consumption	1 587 314	Deflation		1 584 550	99.8
Collective government consumption	1 947 765	Deflation		1 941 902	99.7

12.3 Estimates of Gross fixed capital formation at constant prices

Estimates of construction assets (buildings and assets) were deflated by the overall implicit deflator of output of the construction industry calculated within the compilation framework of GDP by production.

Estimates of machinery and equipment were calculated at constant prices using the overall producer price index of the main trade partner for capital goods.

Table 12.3 Estimate of the Gross fixed capital formation at constant prices, 000 KM

Purpose of investment	2004 current prices	Methods	Indicator	2005 constant prices	Real increase
1	2	3	4	5	6
Machinery and equipment	1 694 458	Deflation	Composite PPI	2 041 666	135.5
Construction	2 206 443	Deflation	Implicit deflator of the construction output	2 600 883	123.2
Other investment	143 538	Deflation	Overall CPI	150 170	183.6
Gross fixed capital formation	4 044 439			4 792 719	129.5

12.4 Change in inventories at constant prices

Changes in inventories at constant prices were calculated using a general price index (CPI), as there is no information on the composition of the inventories and no price indices available to deflate the data if it were available.

12.5 Exports and imports of goods at constant prices

Estimates of exports and imports at constant prices were calculated by deflating by unit value index. There were no price indices or unit value indices of imports and exports of goods available, so unit value indices of imports and exports were specifically calculated for the compilation of constant prices and used as deflator of corresponding flows of goods.

For export of goods, unit value indices were calculated for a sample of goods representing about 80% of total export in 2005. Data on exports were arranged in descending order and all products falling within the 80% cut-off threshold were included in the calculations. Calculations of unit value indices were performed at the ten-digit level of the classification. Unit value changes between 2005 and 2004 were analyzed and validated whenever possible with price indices or prices of commodities obtained from external sources. It was found that for commodities representing the most significant shares in Bosnian exports (like aluminium), the changes in unit value were similar in magnitude and direction to the respective price change in the world markets. Moreover, atypical values of the unit value changes from 2004 to 2005 were examined. Only a few products were considered outliers. A unit value index of the Paasche type was calculated as the ratio of the current price data of 2005 and the corresponding estimate at price of previous year was obtained by dividing the current price data in 2005 by the ratio of the unit values between 2005 and 2004. The overall unit value index was calculated as weighted average of the indices calculated at the level of each of the 97 chapters of Combined Nomenclature. The shares of each chapter in total export were used as weights.

A unit value index of imports of a Paasche type was calculated as a weighted average of the indices calculated at the level of each of the 97 chapters of Combined Nomenclature. A cut-off sample was selected within each chapter with coverage of at least 80% of total value of imports within the respective chapter. The unit value index derived from each sample was used for the deflation of the

total value of the respective chapter The overall unit value index was obtained by dividing the total current value of imports in 2005 by the estimates of total imports at prices of previous year (obtained as the sum across all chapters of the corresponding estimates at constant prices). As in the case with imports, the changes in unit values for specific commodities were validated with corresponding data from external sources. In addition, identified outliers were eliminated from the calculation.

12.6 Exports and imports of services at constant prices

Estimates of imports and exports of services were calculated separately for travel and the other services. For import of travel services items of the CPI in Croatia was calculated as representative of the changes faced by Bosnian travellers abroad. For export of travel services, the relevant components of the Bosnian CPI were taken as representative of the price changes in this item. Until more sophisticated methods are established for the calculation at constant prices of other components of exports and imports of services, the deflators used for exports and imports of goods were applied to the corresponding flows of services.

PART C QUARTERLY NATIONAL ACCOUNTS

According to the Master plan development of the Quarterly National accounts in B&H is planned in 2011. Development of Quarterly National accounts should be based on the available quarterly indicators. Due to the fact that sufficient number of indicators for establishment of a quarterly compilation system has not been developed yet the whole process will take several years.