National Accounts of Pakistan

change of base from 1999 - 2000 to 2005 - 2006

Pakistan Bureau of Statistics
Statistics Division
Government of Pakistan

April 2013
Islamabad

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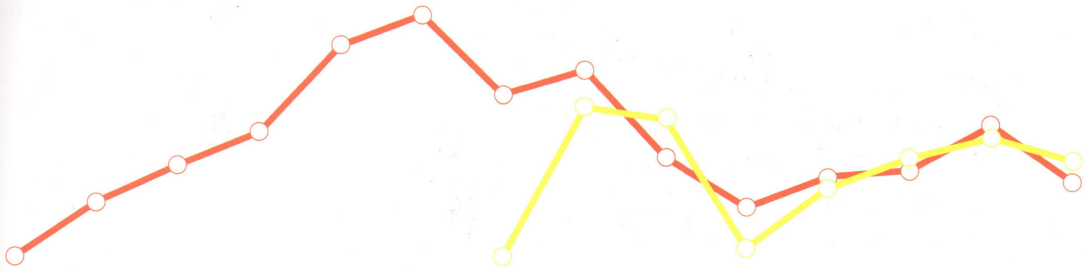

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Foreword

Statistics play an important role in policy formulation and informed decision making. Economic indicators are highlighted in media more than ever. With the passage of time data sources improve, new fields emerge, and as a result the frame work needs, revisions. To cope with international standards and improved versions of the frameworks, frequent revisions are required. In the developed statistical systems five years period is considered appropriate. In developing systems the need to change the base is more emergent as the sources of data and methods of estimation are improving along with the capacities of the statistical organizations. Due to the availability of documented information more sophisticated statistical techniques are being adopted. Instead of changing the sources and methods fragmentally, the preferred method is to introduce their changes in a holistic manner so as to enable comparison with the old system.

History of change of base of national accounts of Pakistan is not so rich. It remained a rather neglected activity. In 1952 the national accounts estimates were prepared from 1949 onwards at current prices. In 1962-63 the base of 1959-60 was adopted. In 1987 the base of 1980-81 was adopted. Then in 2003, the base of 1999-2000 was adopted. The rebasing was done with classifications of the 1968 SNA. The need for the change of base was realized during the 2003 and work started to have 2005-06 as the base year.

The process of the latest updation of national Accounts began with the approval of a development scheme costing Rs. 283 million in 2005-2006. Work began in earnest with the commissioning of a number of surveys, census and studies during the period 2006-2010. Emphasis was laid more on census and surveys rather than on studies. During this period the SNA 2008 also become available and was adopted for use in the rebasing exercise. This helped in the rectification of errors like double counting, and valuation of omissions. Conceptual changes like exploration costs, intellectual property products, basic prices valuation, etc. have been used. Measurement of financial and insurance services through “Financial Intermediation Services Indirectly Measured (FISIM)” is a structural change now incorporated in the national accounts of Pakistan. Coverage has been enhanced. Censuses, surveys and studies are the main sources. Secondary data has been used where primary data was not available. Consultation on different subjects with the national as well as international experts resulted in the improvement of methodology and its documentation. The result is the change of base of national accounts from 1999-2000 to 2005-06 conforms to the latest methods and is based on latest data available. Conceptual references and details of methodology is a subject of special focus.

This work was carried out by the highly dedicated team of National Accounts professionals at the PBS. This team was very ably supported in capacity enhancement and technical advice by the GIZ and its consultants during the entire exercise. I must also acknowledge the contribution of the Special Committee of Experts designated by the Finance Minister to review the sources and methods applied in the exercise. Advisor to the Prime Minister for Finance encouraged us to expeditiously complete and present the rebasing exercise. The Governing Council in its fourth meeting held on April 29, 2013 approved the change of base from 1999-2000 to 2005-06. The Governing Council also set up a Committee of its members to determine the time frame for the next rebasing exercise most likely to adopt 2014-15 as the base year.

While I acknowledge the hard work put in by the National Accounts team of PBS, led by Mr. Arif Mahmood Cheema, Member, any short comings and mistakes are my responsibility. I would also like to request views and comments on this exercise to help PBS in next rebasing.

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(April 29, 2013)

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Syed Raisul Hasan Rizvi	Senior Expert – National Accounts/Statistics
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Preface

With the documented data the reliability of the estimates improves and the estimation methodologies become refined. But it is a slow process. The national accounts had been estimated on current prices until the base was set as 1959-60 which was adopted in 1962-63. The first change of base took place in 1987 when the year 1980-81 was adopted as base year. The next change of base was adopted in 2003 setting the base as 1999-2000. The need was realized at the same time for the change of base. Year 2005-06 was declared as the new base year. Surveys were planned to evaluate major sectors / industries, studies were preferred to fill in the gaps and capture new activities.

The exercise took long time. Since SNA 2008 and as a resultant ISIC Revision 4 were available, the work was planned to utilize these standards in the change of base. Accordingly PSIC 2010 was released which is parallel to ISIC rev. 4, already collected data were classified utilizing PSIC 2010 and it has been bridged where needed. COICOP, CPC version 2, COFOG have been introduced in the system, new price base and Manufacturing base have been adopted. FISIM has been incorporated for measuring the contribution of finance and insurance. Double deflation and basic prices concepts have been actualized. And this all has got the sustainability due to the adoption of the base 2005-06.

A lot of dedicated efforts are behind the achievement. Thinking process inherited in the System of National Accounts was a driving force for the conceptual issues. At this point of time the services of an experienced expert of national accounts who had a long working in a developed statistical system, Mr. Bernd Struck became available. His long stay with PBS and direct observation of the local system combined with a vision of the PBS is the basis of this leap ahead. It has enriched the document in many ways.

He employed latest techniques for capacity building to update the national accountants of PBS. E-learning courses on national accounts were conducted. On-the-job trainings, in-country courses, by the national experts as well as international experts, out-of-country special courses, visits to developed systems were employed. All techniques were complementing each other. The corner stone of the policy was the sustainable achievements. The contribution of Mr. Struck for the national accounts of PBS is noteworthy. He continued reviewing the draft even after his departure from Pakistan since September 2012. Let me thank him for putting his special skills in the service of national accounts of Pakistan. The support of Dr. Michael Wild after Mr. Struck was an instrumental for the completion of the document.

Senior local experienced national accountants like Syed Raisul Hasan Rizvi and Mr. Shahid Mehmood Butt (DDG) have contributed heavily. Discussions with the sector specialists of the national accounts of PBS have improved the quality of the narrative and it has clarified the conversion of the SNA in to PSNA. Mr. Rais served as an institutional memory. He served in NA for more than 30 years. After retirement his support and guidance remained available up to the completion of the change of base.

Un-wavering support of Mr. Asif Bajwa during his tenure as secretary statistics division and presently as a Chief Statistician of PBS has been a source of strength. His encouragement and interest in the completion of change of base remained a source of enthusiasm and inspiration for the officers and officials of national accounts. The firm support of Mr. Sohail Ahmad, Secretary Statistics Division for the continuation of the exercise was the guarantee for success. He shouldered the responsibility at a very critical time.

The whole exercise is a team work. It was not possible without the inspired team. They rose to the expectation and met all standards. My heartily congratulations to all members of the team, specially to the senior members like Mr. Majeed, Mr. Liaqat, Mr. Younis Khattak, Mr. Afzal Raza, Ms. Shahida Faisal, Ms. Shazia, Mr. Waqar. The contribution of junior team members like Mr. Tahir Khattak, Mr. Mazhar, Mr. Athar, Mr. Adnan Shams, Ms. Hina, Ms. Naeema, Ms. Tayyaba, Mr. Abdulla, is significant. They are the future of NA of Pakistan. I should not forget the contribution of our members who retired during the exercise like Mr. Akram Awan and Fida. Their expertise in their fields was an asset of PBS. The help and support extended by the statistical assistants and other supporting staff is appreciable. Many many thanks to them. This was not

possible without the untiring efforts of the team. My special thanks to Mrs. Suad Rizwan of GIZ. She streamlined the calculations of GGS and this document as well.

The document will serve a vehicle for mounting the future developments. It will serve a baseline for the next change of base exercises. It is documentation as well as reference for the enhancement of sources and methods. Quarterly national accounts, Institutional sectors accounts and supply and use tables and hence input-output tables are the next targets. The identification of the gaps through comparison and analysis of household expenditure surveys and the estimation of household consumption expenditure through residual approach is a subject of continuation exploration.

It was devotion, sincerity, purposefulness, commitment and vision from top to toe that the dream comes true. Thanks God. The success is due to the team, I owe its lacking.

ARIF CHEEMA
Member, National Accounts,
Pakistan Bureau of Statistics
April 29, 2013

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Abbreviations and acronyms	
AF	Acre Feet
CDWP	Central Development Working Party
CFC	Consumption of Fixed Capital
CHASNUPP	Chashma Nuclear Power Plant
CIF	Cost, Insurance, Freight
CNG	Compressed Natural Gas
COFOG	Classification of Functions of Government
COICOP	Classification Of Individual Consumption by Purpose
CPC	Central Product Classification
CPI	Consumer Price Index
CSO	Central Statistical Office
DFI	Development Financing Institution
EU	European Union
FBR	Federal Board of Revenue
FBS	Federal Bureau of Statistics
FDI	Foreign Direct Investment
FISIM	Financial Intermediate Services Indirectly Measured
FOB	Free On Board
FY	Financial Year
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GNI	Gross National Income
GST	General Sales Tax
GVA	Gross Value Added
GWH	Giga Watt Hour
HCE	Household Consumption Expenditure
HDIP	Hydrocarbon Development Institute of Pakistan
HIES	Household Integrated Economic Survey
IBRD	International Bank for Reconstruction and Development
IMF	International Monetary Fund
IPP	Independent Power Producer
IRSA	Indus River System Authority
ISIC	International Standard Industrial Classification
KANUPP	Karachi Nuclear Power Plant
KESC	Karachi Electric Supply Corporation
KIBOR	Karachi Inter-Bank Offered Rate
KSE	Karachi Stock Exchange
LPG	Liquefied Petroleum Gas
LSM	Large Scale Manufacturing
MAF	Million Acre Feet
MMCFt	Million Metric Cubic Feet

MMF	Money Market Funds
MT	Metric Ton
NAC	National Accounts Committee
NBFC	Non-Banking Financial Corporations
NEC	National Economic Council
NEPRA	National Electric Power Regulatory Authority
NGO	Non-Government Organization
NHA	National Health Accounts
NIC	National Income Commission
NPI	Non Profit Institution
NPISH	Non Profit Institutions Serving Households
NTRC	National Transport Research Centre
OECD	Organization of Economic Cooperation and Development
PASHA	Pakistan Software and Hardware Association
PBC	Pakistan Broadcasting Corporation
PBS	Pakistan Bureau of Statistics
PF	Pension Funds
PPI	Producer Price Index
PPP	Purchasing Power Parity
PSEB	Pakistan Software Export Board
PSIC	Pakistan Standard Industrial Classification
PTV	Pakistan Television
QIM	Quantum Index of Manufacturing
RNA	Rebasing of National Accounts
SBP	State Bank of Pakistan
SDR	Special Drawing Rights
SECP	Security and Exchange Corporation of Pakistan
SHMI	Small and Household Manufacturing Industries
SNA	System of National Accounts
SNGC	Sui Northern Gas Company
SSGC	Sui Southern Gas Company
SSM	Small Scale Manufacturing
UNSD	United Nations Statistics Division
USB	US Barrel
WAPDA	Water And Power Development Authority
WB	World Bank
WPI	Wholesale Price Index
WRT	Wholesale and Retail Trade

CHAPTER 1

Overview

Introduction

The system of national accounts consists of a coherent, consistent and interrelated set of economic accounts for sectors or sub-sectors of the economy as a whole. It provides a set of concepts, definitions and classifications within a broad accounting framework. It is designed for purposes of economic analysis and policy-making, including the formulation and monitoring of economic programmes and development planning. Data of a scientific, technological or social nature can be systematically related to economic statistics within the framework of an overall system of accounts.

Work on the formulation of such a system started at individual research level well before the Second World War. The first United Nations System of National Accounts (SNA) was published in 1953. The UN recommended countries to compile their economic accounts within the SNA framework to achieve consistency and facilitate international economic comparison. However, the interest of policy-makers in relating the outcomes of various scientific and technological studies, plans and programmes to the socio-economic status of the population, encouraged the further elaboration of the system. This elaboration included the establishment of links with the distribution of income and consumption; stocks of tangible and intangible assets; a balance sheet; stock of human capital; and various other monetary and quantitative databases relating to different types of activities. However, almost no country in the world has so far fully implemented the full system.

SNA has been revised several times to take account of these wider concerns. The latest version of the system was completed in 2008 and provides measures of production, income, consumption, savings, capital formation and their financing for individual sectors and for the economy as a whole. It also provides linkages with various monetary and quantitative data bases relating to different types of activities through Satellite Accounts. SNA is a powerful and flexible tool to provide the detailed economic information required to meet analytical and policy needs. It should be noted that in the SNA the term “sector” has another meaning than in the common language in Pakistan. The six so-called institutional sectors in the SNA are Non-Financial Corporations, Financial Corporations, General Government, Households, Non-Profit Institutions serving Households and Rest of the World.

The first estimates of national accounts of Pakistan were prepared by the Economic Advisor’s Office in 1949. On the setting up of the Central Statistical Office (CSO) in1950, the job was transferred to CSO, then Federal Bureau of Statistics (FBS) and now Pakistan Bureau of Statistics (PBS). Since then the PBS has been preparing different series of national accounts at current and constant prices.

For improvement of national accounts, several groups and committees were set up from time to time, the prominent being the National Income Commission-1963 (NIC) and IBRD Statistical Mission-1969. As a result the national accounts of Pakistan have undergone modifications and improvements at various stages with respect to timeliness, data availability, coverage and statistical techniques involved in their computation.

In 1972-73, FBS undertook an exercise for switching over the base from 1959-60 to 1969-70. These estimates were presented before the National Accounts Committee (NAC) but could not be adopted due to inconsistencies in the estimates of manufacturing sector. The Committee directed the FBS to prepare estimates with 1975-76 as base. A comprehensive work plan was then prepared for improving the existing data series and plugging the statistical gaps. Some surveys such as wholesale and retail trade, small and household manufacturing industries were conducted for this purpose. The estimates with base 1975-76, on improved data availability, concepts and methodology were prepared for the year 1975-76 through 1983-84 and presented before the Committee but could not be adopted due to persistent inconsistencies.

Despite successive efforts for the improvement of national accounting in Pakistan, the desired results have not been achieved. In particular the revised UN System of National Accounts–1968 could not be implemented even though nearly two decades have elapsed since their adoption.

While considering the Annual Plan for the year 1984-85 certain shortcomings in the compilation of National Accounts were brought to the notice of the National Economic Council (NEC). The Council decided to constitute a Committee under the chairmanship of Mr. A.G.N. Kazi, the then Governor, State Bank of Pakistan (SBP), to look into the matter. Accordingly a Committee on National Accounts was constituted to review the present methodology for preparation of National Accounts and to propose improvements considered necessary by the Committee. The result was the 1980-81 base completed in 1988.

Efforts were made from time to time to shift the base from 1980-81 but due to one reason or the other, the work was postponed. Secretary Statistics Division constituted the committee to expedite the work. Several internal meetings and the meetings of the NAC were held under the chairmanship of the Secretary Statistics Division to change the base from 1980-81 to1999-2000. Ultimately the NAC approved the rebased estimates in the meeting held on 22nd December 2003.

Change of base of National Accounts for 2005-06

National accounts aggregates at constant prices provide important indicators for measuring growth in the activity or economy. All countries are compiling national accounts aggregates at current and constant prices. They also update the base year periodically. Constant price estimates use the price relatives of a particular year to weight together the volume components. Each base year gives a different perspective resulting from those weights. Over time the pattern of relative prices in the base period tends to become progressively less relevant. Therefore it is necessary to update the base period to adopt weights that are more consistent with current conditions. To present consistent time series the old series is required to be linked to the series based on the new base year.

The 1999-2000 base was established totally on the studies and the need was felt to change the base establishing it on the surveys which are definitely preferred to studies. Survey information is more reliable and objective than studies. Therefore the efforts started to rebase the national accounts and 2005-06 was selected as a base year and the CDWP approved a project named “Rebasing of National Accounts (RNA) from 1999-2000 to 2005-06”. The project continued up to June 2010. Surveys were conducted for the major sectors and studies were designed to fill the small gaps and to capture emerging fields.

Observing the performance of the economy and its main macro-economic variables requires fairly long time-series of data which are comparable to those of other countries. Therefore, it is necessary for National Accounts to keep the methods, concepts and definitions of the respective figures constant over time and space. All necessary changes are to be stalled and then implemented as a bundled exercise called “rebasing” or “revision”. According to international recommendation such a revision should be undertaken every five to seven years. Pakistan has now completed its rebasing for the year 2005-06 (“base year”) and the succeeding years. The new base year will replace the existing one of 1999-2000. It implemented

- new censuses, surveys, studies
- new price basis
- new concepts (System of National Accounts)
- changes in classifications

New censuses, surveys, studies

A number of censuses, surveys and studies were launched to generate an update data base for National Accounts. The most relevant of them were:

- Census of Large Scale Manufacturing (which also provided the base for the revision of the Quantum Index of Manufacturing)
- Small and Household Manufacturing Industries (SHMI) Survey
- Family Budget Survey (which delivered the new basis 2007-08 for the basket of the Consumer Price Index and the Sensitive Price Indicator and which enables to cater for a new Rent Survey)

- Survey on wholesale & retail trade, hotels and restaurants
- Construction Survey
- Rent Survey
- Survey of Non-Governmental Organisations (NGO's)
- Survey of Social, Recreational, Community and Personal Services
- Various studies for updating prices and input structure of crops and livestock and for estimating output and intermediate consumption of inland fishing and marine fishing
- Studies on transport activities and on selected communication services
- Studies on exchange companies, stock exchanges and stock exchange brokers

The variables to be updated mainly are output, intermediate consumption, value added, government consumption and gross fixed capital formation. In Pakistan, the above mentioned censuses, surveys and studies cannot be carried out each year because of resource constraints. Thus, for the years succeeding the base year National Accounts utilizes factors, ratios and keys for extrapolating the figures of the base year forward. One common practice is to have proxies for extrapolating output (e.g. production index QIM for value added of large scale manufacturing) and then to apply input-output ratios which stem from the base year. Another common practice is to apply constant growth rates delineated from two subsequent censuses or surveys, e.g. the inter-surveys growth rate of small scale manufacturing. The proxies and ratios cannot be applied for a long time. Therefore, it is one of the main issues of this rebasing to review them.

For the rebasing 2005-06 the extrapolation practice will be applied backward, also. The aim is to provide a longer time-series than that starting with the new base year. Too short time-series hamper economic analysis and are not sufficient to apply modern techniques of time-series analysis and smoothing adjustments.

New price basis

In ideal case the base year for National Accounts and the base year for the price indices coincide. This could not be achieved as the field work of data collection for all the censuses, surveys and studies related to the rebasing needed to be dispersed over several years. Thus, the revision / rebasing of the CPI and SPI are based on the Family Budget Survey which was conducted for the year 2007-08. Along with a lot of other price information the new CPI will serve as an updated source for:

- deflating figures which have been compiled at current prices
- inflating figures which have been compiled in terms of quantities (e.g. production index QIM, livestock production or crop production).

Conceptually it is not a problem to have a price basis which differs from the base year of National Accounts. However, for the users of National Accounts it is not easy to comprehend that figures at "constant prices" are those of the base year of National Accounts (2005-06) while the base year for the price statistics lies two years ahead.

New concepts (System of National Accounts)

Another important component of this rebasing is to implement as far as possible the internationally agreed standards for National Accounts. They are outlined in a conceptual framework called "System of National Accounts", released by United Nations, IMF, World Bank, OECD and Eurostat. The latest version to be achieved is that of SNA 2008. When possible without frictions of concepts this rebasing refers to the new SNA, already.

SNA 2008 as well as its predecessor, SNA 1993, recommends the application of basic price valuation for output and value added instead of factor cost (which is 1953 SNA price concept). While "factor cost" means to value output without any indirect taxes but including subsidies, the basic price concept differs between (indirect) taxes on the products as such (e.g. varying with the output) and subsidies, respectively, and those taxes (less subsidies) which are levied on the production process as such (e.g. taxes on the production factors such as land or vehicles). The basic price is the price the producer gets on his output excluding any taxes on the products and including any subsidies on the products. It should be noted that according to the SNA subsidies on the products also cover

payments of the government to its public corporation which are meant for compensating for persistent losses. For Pakistan the adoption of the SNA's price concept has a minor impact, only.

Factor cost
+ taxes (less subsidies) on production (e.g. on land, vehicles)
= basic prices
+ taxes (less subsidies) on products (e.g. excise duties)
= producer's prices
+ trade and transport margins + non-deductible VAT
= purchaser's prices

With the rebasing 2005-06 we will finally mainly focus on Gross Domestic Product (GDP) instead of GNP. The term "Gross National Product" is out-dated, meanwhile. It is replaced by "Gross National Income" (GNI). GNP and GNI are conceptually the same. GDP and GNI differ by net factor income from abroad.

Much more important is the introduction of new or improved methods:

- Replacing single deflation by double deflation, e.g. deflating output and inputs separately (with consequences for Gross Value Added of industries like transport which heavily suffered from price hikes in imported oil products during the last years)
- Compensation of employees of government to be enhanced by some salaries in kind (will have upward consequences for GVA, GDP and collective consumption)
- Subsidies have to be enhanced by those given for coverage of persistent losses of public corporations (with upward consequences for GVA and GDP at basic prices or factor cost, neutral for valuation at market prices)
- Water supply and sanitation to be treated as non-market production (with upward consequences for GVA, GDP and collective consumption)
- Introduction of calculating bank service charge for financial intermediation
- State Bank to be treated as non-market producer (main activity) while its market production (secondary activity) is confined to services covered by commissions
- Introduction of insurance service charge

Changes in classifications

International comparisons require application of internationally agreed classifications. For National Accounts this is mainly important for the classification of economic activities. The rebasing 2005-06 employs a national adaptation of United Nations' "International Standard Industrial Classification of all Activities" (ISIC), revision 4. The adaptation is called "Pakistan Standard Industrial Classification" (PSIC 2010). Switching to this modern classification implies to show the output and the value added of government units under the headings of their respective activities, e.g. public administration & defence, education, health, social services and the like. For a transition phase it is envisaged to continue to bundle these activities under "government", also. The number of commodity groups and their composition by items has been incorporated in the prices base change of consumer price index (CPI) and wholesale price index (WPI). Now the commodities and items within commodities for consumption are internationally comparable. In WPI the composition of the groups has changed though the number of groups remained same.

Extension of the system

So far, National Accounts in Pakistan are calculated on annual basis. When the rebasing 2005-06 is finalized then the annual time-series will be quarterized and quarterly accounts will be launched. Supply and use tables for the base year 2005-06 will also be prepared. It will help in future to produce the supply – use tables along with the future rebasing which will provide the synergy to the estimation. Parallel to that PBS will enter into the compilation of institutional sector accounts.

Gross Domestic Product

In international analyses and comparisons the Gross Domestic Product (GDP) at market prices is the most important and most common macro-economic indicator. As a measure of aggregated production it is the sum of the gross value added of all resident producers plus any taxes on products not included in the value of their output minus any subsidies on products included in the value of their output. For short: GDP at market prices represents the final results of the production activity of resident producer units.

GDP at market prices is also equal to the market value of all final uses of goods and services during a year (which includes exports), less the value of imports. Finally, GDP at market prices is also equal to the sum of primary incomes (payables out of the value added created by production) distributed by resident producers.

GDP may be measured in national (e.g. rupee) or foreign currency (e.g. US$) or in Purchasing Power Parities (PPP). It may be measured in prices of the reference year ("current prices") or in prices of a foregone year ("constant prices").

Gross value added at factor cost is a concept which is not used explicitly any more, neither in SNA 1993 nor SNA 2008. Nevertheless, it can easily be derived from GVA at basic prices by subtracting any taxes, less subsidies, payable out of the value added at basic prices, e.g. land tax or vehicle tax or other indirect taxes which are not varying with the output.

In principle, GDP may be derived in three ways or in combination of them:

1: Production Approach: It measures the contribution to output made by each producer. It is obtained by deducting from the total value of its output the value of goods and services it has purchased from other producers and used up in producing its own output. Total value added by all producers, adjusting taxes and subsidies equals GDP.

Gross Value Added at basic prices= Output at basic prices - Intermediate consumption at purchasers' prices

GDP = Output – Intermediate consumption + Taxes on products – Subsidies on products

or

GDP = Gross value added + Taxes on products – Subsidies on products

2: Income Approach: In this approach, consideration is given to the costs incurred by the producer within his own operation, the income paid out to employees, taxes (less subsidies) on production, consumption of fixed capital, and the operating surplus. All these add up to GDP at market prices.

GDP = Compensation of employees + Taxes - Subsidies + Gross operating surplus / Mixed income

3: Expenditure Approach: This approach looks at the final uses of the output for private consumption, government consumption, capital formation and net of imports & exports.

GDP = Final consumption + Gross capital formation + Exports – Imports

GDP in Pakistan is estimated as per guidelines provided by the SNA. For the purpose of GDP estimation by activities (current & constant prices), the production approach is applied. For some activities, especially for non-market activities, output is measured as the sum of primary incomes (GVA) and intermediate consumption. This is commonly also subsumed under "income approach" though for parts of GDP, only. The expenditure approach is rudimental as only some of the summands (collective consumption, capital formation and export minus imports) are calculated independently while the biggest summand (private consumption) is calculated as residual vis-a-vis the GDP measured through production approach.

There are various ways to sub-classify the economy. One of these is the above mentioned structure of six institutional sectors of the SNA. Others are formal versus informal economy or producing activities versus services and the like. In Pakistan it has been common so far to divide the economy by using the term "sector" as follows.

Presentation of the estimates: The grouping of the industries for the purpose of presentation of estimates is given below. The traditional structure of presentation is preferred due to the comparability facilitation.

I) Commodity Producing Sectors

a) Agriculture

i. Crops (Important Crops, Other Crops, Cotton ginning)
ii. Livestock
iii. Forestry
iv. Fishing

b) Industry

i. Mining & Quarrying
ii. Manufacturing (Large-Scale, Small-Scale, Slaughtering)
iii. Electricity generation and distribution, and Gas distribution
iv. Construction

II) Service Sectors

i. Wholesale & Retail Trade, Hotels and restaurants
ii. Transport, Storage & Communications
iii. Finance and Insurance
iv. Housing Services (including Ownership of Dwellings)
v. General Government Sector
vi. Other Private Services

Chapter 1 is the overview and brief history of the development of national accounts in Pakistan. Chapter 2 consists of the agricultural components of the accounts. Crops and livestock are the major contributing components. Chapter 3 is the documentation of industrial component of the accounts. Large scale manufacturing is the major contributor. Services industries are the subject of the 4^{th} chapter. More than half of the value addition is coming from this sector. Chapter 5 discusses the expenditure on GDP.

Sectoral Estimates of GDP: It should be noted that practically the compilation of GVA (output minus intermediate consumption) uses a more detailed economic classification called Pakistan Standard Industrial Classification (PSIC), derived from the respective International Standard Industrial Classification (ISIC). GDP is computed by a combination of production, income and expenditure methods. Production method is applied to compute value added in agriculture, mining and quarrying, manufacturing, electricity & gas distribution, transport, storage & communication, wholesale & retail trade, finance & insurance, and ownership of dwellings whereas income method is used to work out income accruing from general government and services sectors. Expenditure method is used to estimate value added in construction on the basis of investment made and its value added co-efficients.

The coverage, nature and sources of data used and the methodology followed in compilation of these estimates are explained under respective sectors. Comparisons, for the year 2005-06 at 2005-06 and 1999-2000 bases, of the GDP estimates, sectoral shares and within sectoral shares are given as tables 1, 2 & 3 and figures I, & II highlight the salient features graphically.

Gross National Income (GNI): As mentioned above, GDP can be calculated and understood as the sum of all primary incomes stemming from domestic production. The taxes (less subsidies) on production then are interpreted

as primary income distributed to the government. If GDP is enhanced by the net factor income from abroad then the result is Gross National Income. For Pakistan it is usually higher than GDP and can be interpreted as the income of the population resident in Pakistan and thus including workers remittances from jobs carried out abroad and net property incomes (dividends, interest and the like) flowing into the country. GNI is the term employed in SNA 1993 and 2008. The term "gross national product" (GNP), though still common in Pakistan, has become out-dated. Substantially and from their definition, GNP and GNI are the same.

Expenditure on GDP: The estimation of GDP through expenditure approach is the subject of chapter 5. Final consumption expenditure of household and NPISH, collective consumption expenditure of the general government, gross fixed capital formation, changes in inventories and acquisition and disposal of valuables, exports and imports are the components of this approach. General government consumption expenditures are well documented and available from the budget documents. Gross fixed capital formation is calculated in full detail. The estimation is made according to the public and private sectors. The other dimension of estimation is by industry and by type of assets. Export and import data of merchandise are available from the external trade section of PBS. Data on export and import of services and net factor income from rest of the world are available from the balance of payment statistics of SBP. Ratios are applied for the estimation of changes in inventories. Final household and NPISH consumption expenditure are calculated as residual. Detailed estimation procedures are the subject of chapter 5. The results for the base year along with comparison are given in tables 4, 5 and 6 of this chapter. Features have been highlighted graphically in figures III, IV and V.

Theoretical background as well as the working of PBS has been documented here. It serves as a ready reference and future guideline. Final consumption expenditures of government and GFCF have been covered in detail.

Table 1 Comparison of Gross Domestic Product Base Years 2005-06 and 1999-2000 (Rs. Million)								
		Base 2005-06	Base 1999-2000		Change (%)		Share (%)	
		Year 2005-06 At prices of 2005-06		Year 1999-2000	Col. (3/4)	Col. (3/5)	2005-06	1999-2000
1	2	3	4	5	6	7	8	9
A	**Agriculture Sector**	1775346	1457222	*923609*	21.8	92.2	23.0	25.9
	1. Crops	*766274*	*632737*	*467879*	21.1	63.8	9.9	13.1
	i. Important / Major crops	449025	464276	342200	-3.3	31.2	5.8	9.6
	ii. Other/ Minor crops	256777	168461	125679	52.4	104.3	3.3	3.5
	iii. Cotton ginning	60472						
	2. Livestock	930842	766448	417120	21.4	123.2	12.1	11.7
	3. Forestry	35067	27545	23447	27.3	49.6	0.5	0.7
	4. Fishing	43163	30492	15163	41.6	184.7	0.6	0.4
B	**Industrial Sector**	1616157	1923700	830864	-16.0	94.5	20.9	23.3
	1. Mining and Quarrying	254345	219683	81051	15.8	213.8	3.3	2.3
	2. Manufacturing	*1065323*	*1370794*	*522801*	-22.3	103.8	13.8	14.7
	i. Large scale manufacturing	903323	1003062	338602	-9.9	166.8	11.7	9.5
	ii. Small scale manufacturing	89116	245962	132369	-63.8	-32.7	1.2	3.7
	iii. Slaughtering	72884	121770	51830	-40.1	40.6	0.9	1.5
	3. Electricity generation & dist. and Gas distribution	110109	153338	139626	-28.2	-21.1	1.4	3.9
	4. Construction	186380	179885	87386	3.6	113.3	2.4	2.5
A+B	***Commodity Producing Sectors***	*3391503*	*3380922*	*1754473*	0.3	93.3	44.0	49.3
C	**Services Sector**	4324274	3777608	1807546	14.4	139.2	56.0	50.7
	1. Wholesale and Retail Trade	1523067	1262002	621842	20.7	144.9	19.7	17.5
	2. Transport, Storage and Communication	959499	908409	400983	5.5	139.3	12.4	11.3
	3. Finance and Insurance	282919	364320	132454	-22.3	113.6	3.7	3.7
	4. Housing services (Ownership of Dwellings	504743	184812	110425	173.1	357.1	6.5	3.1
	5. General Government Services	425218	404628	220291	5.1	93.0	5.5	6.2
	6. Other Private Services	628828	653437	321551	-3.8	95.6	8.1	9.0
D	**Total of GVA**	7715777	7158530	3562019	7.8	116.6	100.0	100.0
E	Taxes on products	573718	569077	295815				
F	Subsidies	73335	104399	31724				
G	**Gross Domestic Product (mp)**	8216160	7623208	3826110				
H	Net Factor Income from Abroad	149901	149901	-47956				
I	**Gross National Income**	8366061	7773109	3778154				
J	Population (Million #)	155.37	155.37	137.53				
K	Per Capita Income (Rs.)	53846	50030	27471				
L	Dollar exchange rate (average)	59.86	59.86	51.77				

Table 2 Comparison of Gross Domestic Product and Sectoral Shares, Base Year 2005-06 and 1999-2000					
Sr. No.	**Sector / sub-sector**	**Base 1999-2000**		**Base 2005-06**	
		Estimate	**% Share**	**Estimate**	**% Share**
1	2	3	4	5	6
A	**Agriculture Sector**	**923609**	**25.9**	**1775346**	**23.0**
	1. Crops	467879	*13.1*	766274	9.9
	i. Important/ Major crops	342200	9.6	449025	5.8
	ii. Other/ Minor crops	125679	3.5	256777	3.3
	iii. Cotton ginning			60472	0.8
	2. Livestock	417120	11.7	930842	12.1
	3. Forestry	23447	0.7	35067	0.5
	4. Fishing	15163	0.4	43163	0.6
B	**Industrial Sector**	**830864**	**23.3**	**1616157**	**20.9**
	1. Mining and Quarrying	81051	2.3	254345	3.3
	2. Manufacturing	522801	*14.7*	1065323	13.8
	i. Large scale manufacturing	338602	9.5	903323	11.7
	ii. Small scale manufacturing	132369	3.7	89116	1.2
	iii. Slaughtering	51830	1.5	72884	0.9
	3. Electricity gen. & dist. and Gas distribution	139626	3.9	110109	1.4
	4. Construction	87386	2.5	186380	2.4
A+B	**Commodity Producing Sectors**	**1754473**	***49.3***	**3391503**	***44.0***
C	**Services Sector**	**1807546**	**50.7**	**4324274**	**56.0**
	1. Wholesale and Retail Trade	621842	17.5	1523067	19.7
	2. Transport, Storage and Communication	400983	11.3	959499	12.4
	3. Finance and Insurance	132454	3.7	282919	3.7
	4. Housing services (Ownership of Dwellings)	110425	3.1	504743	6.5
	5. General Government Services	220291	6.2	425218	5.5
	6. Other Private Services	321551	9.0	628828	8.1
D	**Total of GVA**	**3562019**	**100.0**	**7715777**	**100.0**

Table 3 Comparison of Gross Domestic Product and Within Sectoral Shares					
Sr. No.	**Sector / sub-sector**	**Base 1999-2000**		**Base 2005-06**	
		1999-2000	**% Share**	**2005-06**	**% Share**
1	2	3	4	5	6
A	**Agriculture Sector**	923609	100.00	1775346	100.00
	1. Crops	*467879*	*50.66*	766274	43.16
	i Important/ Major crops	342200	37.05	449025	25.29
	ii. Other/ Minor crops	125679	13.61	256777	14.46
	iii. Cotton ginning			60472	3.41
	2. Livestock	417120	45.16	930842	52.43
	3. Forestry	23447	2.54	35067	1.98
	4. Fishing	15163	1.64	43163	2.43
B	**Industrial Sector**	830864	100.00	1616157	100.00
	1. Mining and Quarrying	81051	9.76	254345	15.74
	2. Manufacturing	*522801*	*62.92*	*1065323*	65.92
	i. Large scale manufacturing	338602	40.75	903323	55.89
	ii. Small scale manufacturing	132369	15.93	89116	5.51
	iii. Slaughtering	51830	6.24	72884	4.51
	3. Electricity gen. & dist. and Gas distribution	139626	16.80	110109	6.81
	4. Construction	87386	10.52	186380	11.53
A+B	Commodity Producing Sectors	1754473		3391503	
C	**Services Sector**	1807546	100.00	4324274	100.00
	1. Wholesale and Retail Trade	621842	34.40	1523067	35.22
	2. Transport, Storage and Communication	400983	22.18	959499	22.19
	3. Finance and Insurance	132454	7.33	282919	6.54
	4. Housing services (Ownership of Dwellings)	110425	6.11	504743	11.67
	5. General Government Services	220291	12.19	425218	9.83
	6. Other Private Services	321551	17.79	628828	14.54
D	**Total of GVA**	3562019		7715777	

Table 4 GFCF comparison, Bases 2005-06 and 1999-2000 (Rs. Million)						
Sr. #	**Sectors- Industry / Year**	**Base 2005-06**	**Base 1999-2000**		**Change (%)**	
		Year 2005-06 (at prices 2005-06)		**Year 1999-2000 (prices 1999-00)**	**Col. (3 / 4)**	**Col. (3 / 5)**
1	2	3	4	5	6	7
	Total GFCF(A+B+C)	1456890	1565838	607410	-7.0	139.9
A.	**Private Sector**	1109206	1197740	394749	-7.4	181.0
B.	**Public Sector**	149606	162022	146912	-7.7	1.8
C.	**General Government**	198078	206076	65749	-3.9	201.3
	Private & Public Sector (A+B)	1258812	1359762	541661	-7.4	132.4
1	Agriculture	254795	145575	75434	75.0	237.8
2	Mining and Quarrying	28962	49569	18221	-41.6	58.9
3	Manufacturing	287117	326797	140345	-12.1	104.6
	i. Large Scale	281329	261023	120532	7.8	133.4
	ii. Small Scale	5789	65774	19813	-91.2	-70.8
4	Electricity Generation and Distribution & Gas Distribution	54765	69795	67354	-21.5	-18.7
5	Construction	20972	26106	15117	-19.7	38.7
6	Wholesale & Retail Trade	22095	29157	7111	-24.2	210.7
7	Transport & Communication	294731	392651	80081	-24.9	268.0
8	Financial Institutions	22238	41009	9992	-45.8	122.6
9	Housing Services (Ownership of Dwellings)	190127	149167	77973	27.5	143.8
10	Other Private Services	83010	129936	50033	-36.1	65.9

Table 5 GFCF comparison, Private, Public and General Government Sectors Bases 2005-06 & 1999-2000 (Rs. Million)						
Sr. #	Sectors- Industry / Year	Base 2005-06	Base 1999-2000		Change (%)	
		Year 2005-06 (at prices 2005-06)		Year 1999-2000 (prices 1999-00)	Col. (3 / 4)	Col. (3 / 5)
1	2	3	4	5	6	7
A.	**Private Sector**	1109206	1197740	394749	-7.4	181.0
1	Agriculture	254745	143538	72513	77.5	251.3
2	Mining & Quarrying	22829	31323	13108	-27.1	74.2
3	Manufacturing	283508	320501	119158	-11.5	137.9
	i. Large Scale	277719	254727	99345	9.0	179.6
	ii. Small Scale	5789	65774	19813	-91.2	-70.8
4	Electricity Gen. & Distr'n & Gas Dist.	3307	32372	15169	-89.8	-78.2
5	Construction	14597	19248	12373	-24.2	18.0
6	Wholesale & Retail Trade	22095	29157	7111	-24.2	210.7
7	Transport & Communication	214628	312549	23868	-31.3	799.2
8	Finance & Insurance	20360	38692	6312	-47.4	222.6
9	Housing Services (Ownership of Dwell.)	190127	149167	77973	27.5	143.8
10	Other Private Services	83010	121193	47164	-31.5	76.0
	Public & General Govt. (B+C)	347684	368098	212661	-5.5	63.5
B.	**Public Sector**	149606	162022	146912	-7.7	1.8
1	Agriculture	50	2037	2921	-97.5	-98.3
2	Mining & Quarrying	6133	18246	5113	-66.4	19.9
3	Manufacturing	3609	6296	21187	-42.7	-83.0
4	Electricity Gen. & Distr'n & Gas Dist.	51458	37423	52185	37.5	-1.4
5	Construction	6375	6858	2744	-7.0	132.3
6	Transport & Communication	80103	80102	56213	0.0	42.5
7	Financial Institutions	1878	2317	3680	-18.9	-49.0
8	Other Private Services		8743	2869		
C.	**General Government**	198078	206076	65749	-3.9	201.3
	i. Federal	37307	53522	24980	-30.3	49.3
	ii. Provincial	122774	113512	31763	8.2	286.5
	iii. District Governments	37997	39042	9006	-2.7	321.9

Table 6 Comparison of Expenditure on GDP base 2005-06 and 1999-2000 for the year 2005-06 and 1999-2000 (Rs. Million)						
Description	Base 2005-06	Base 1999-2000		Change (%)		
	year 2005-06 at Prices of 2005-06		Year 1999-2000	Col. (2/3)	Col. (2/4)	Diff. Col. (2-3)
1	2	3	4	5	6	7
Households Final Consumption Expenditure	6379481	5720225	2884020	11.53	121.20	659257
General Government Final Consumption Expenditure	857461	824300	330691	4.02	159.29	33161
Gross fixed capital formation	1456889	1565838	607410	-7.17	139.30	-108949
Changes in inventories	131459	121971	51700	7.74	154.19	9487
Exports of goods and non-factor services	1161269	1161257	514280	0.00	125.80	12
Less imports of goods and non-factor services	1770399	1770386	561990	0.00	215.02	13
Expenditure on gross domestic product (at mp)	8216160	7623205	3826111	7.74	114.67	592955

Table 7 Shares of components of consumption expenditures in the bases 2005-06 and 1999-2000					
Sr. #	Components	Base & Year 2005-06	Share (%)	Base & Year 1999-2000	Share (%)
1	2	3	4	5	6
1	Households Final Consumption Expenditure	6379481	77.7	2884020	75.4
2	General Government Final Consumption Expenditure	857461	10.4	330691	8.6
3	Gross fixed capital formation	1456889	17.7	607410	15.9
4	Changes in inventories	131459	1.6	51700	1.4
5	Exports of goods and non-factor services	1161269	14.1	514280	13.4
6	Less imports of goods and non-factor services	1770399	(21.6)	(561990)	(14.7)
7	Expenditure on gross domestic product (at mp)	8216160	100.0	3826111	100.0

Figure I: Comparison of total of GVA for the year 2005-06, Bases 1999-2000 and 2005-06 (Rs. Billion)

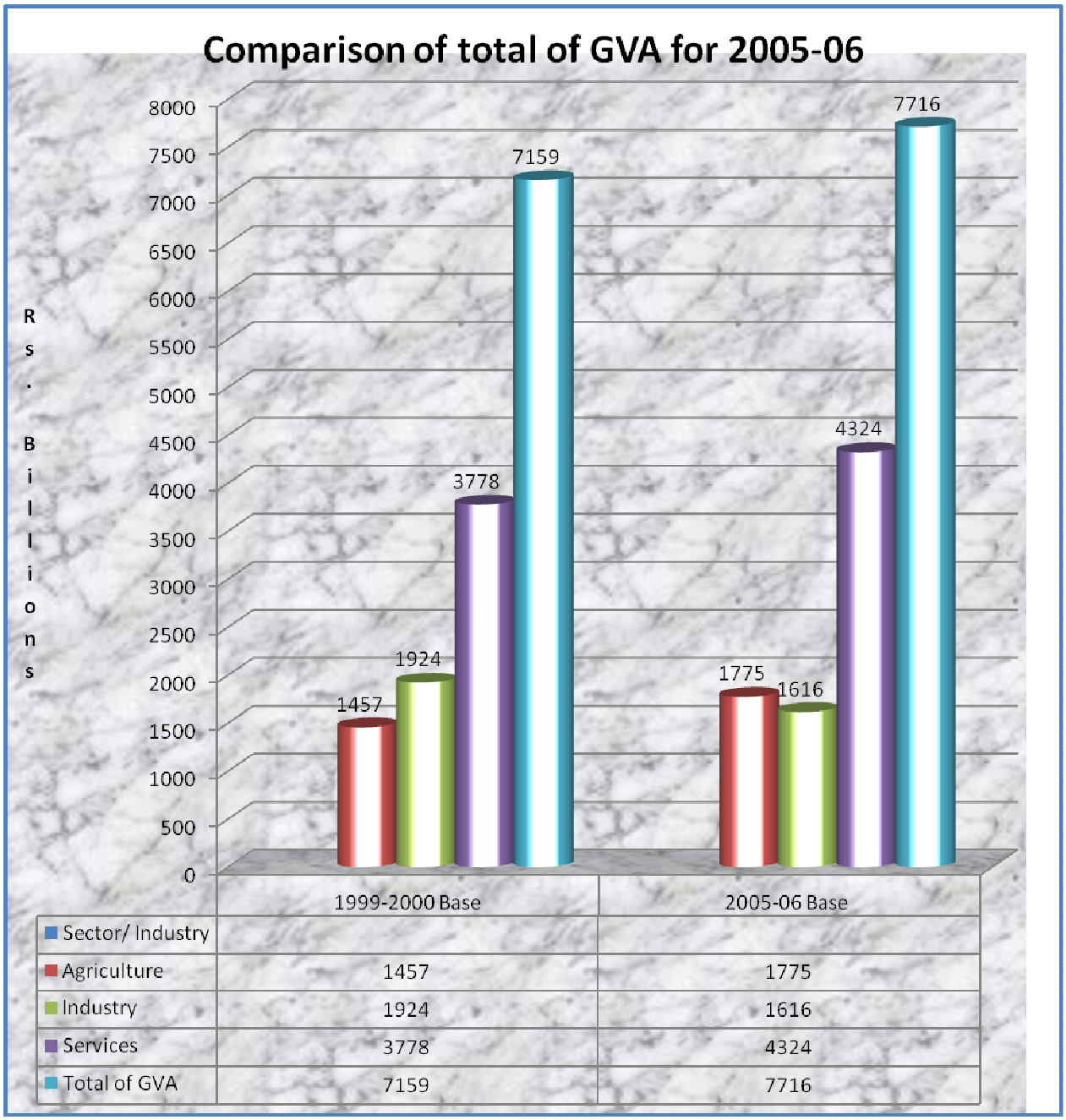


Figure II: Comparison of sectoral shares of the bases 1999-2000 and 2005-06 (%)

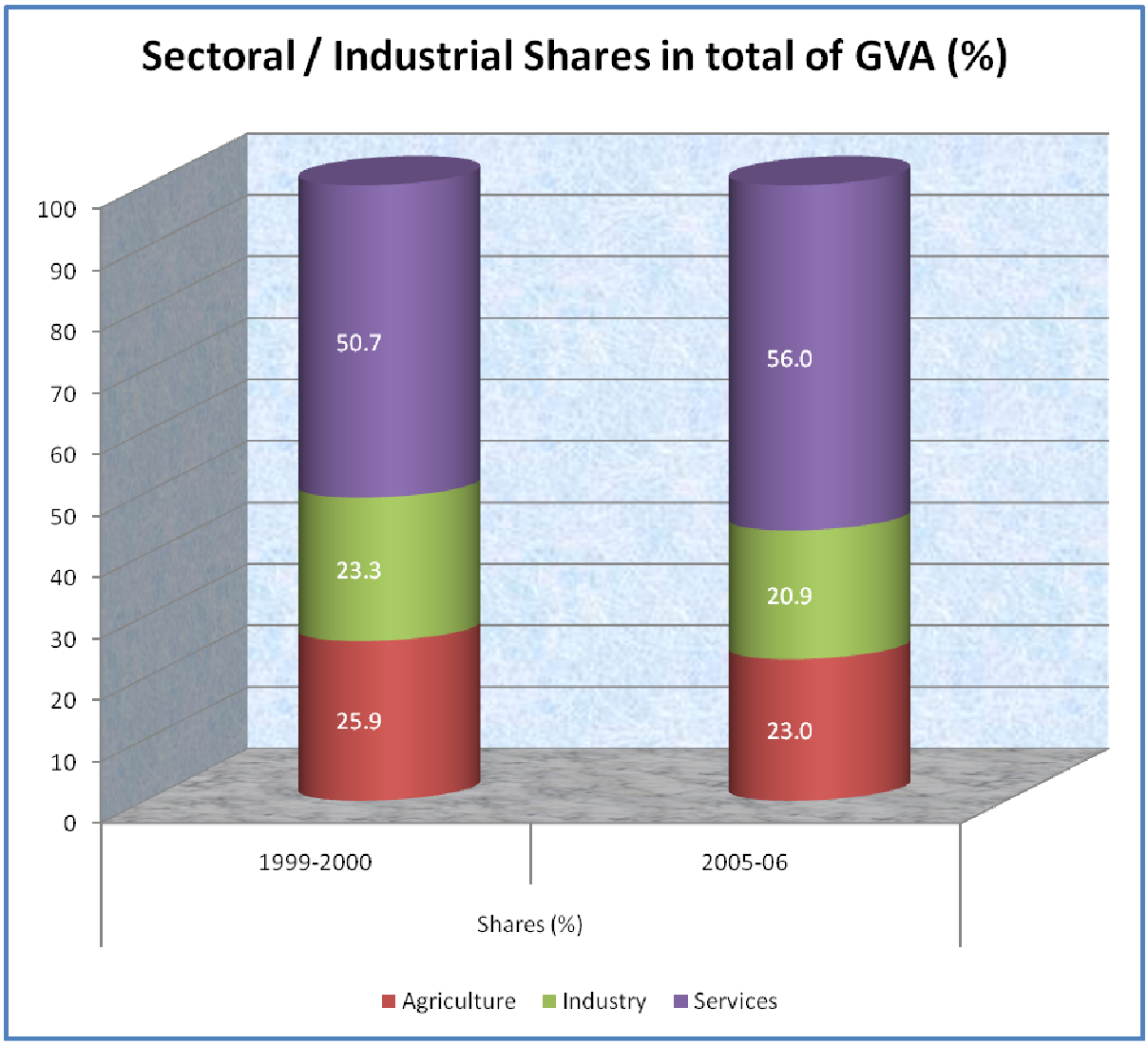


Figure III: Comparison of GFCF for the bases 2005-06 and 1999-2000

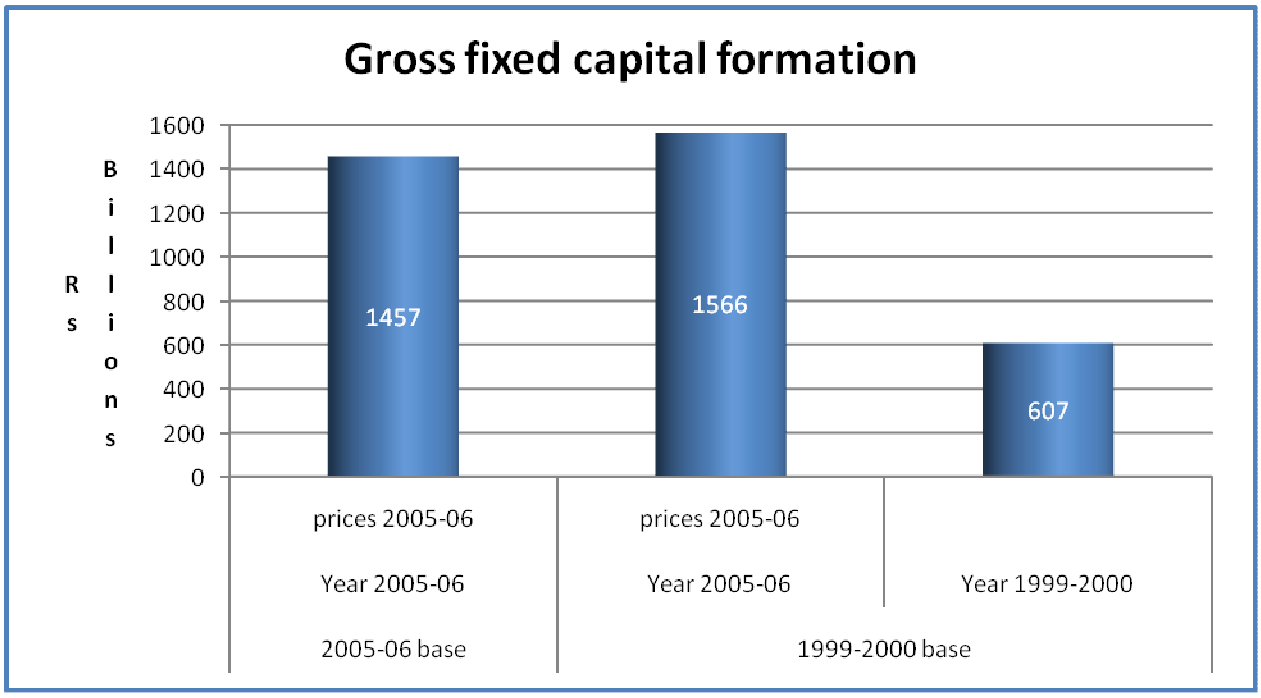


Figure IV: Comparison of GFCF by sectors for the bases 2005-06 and 1999-2000

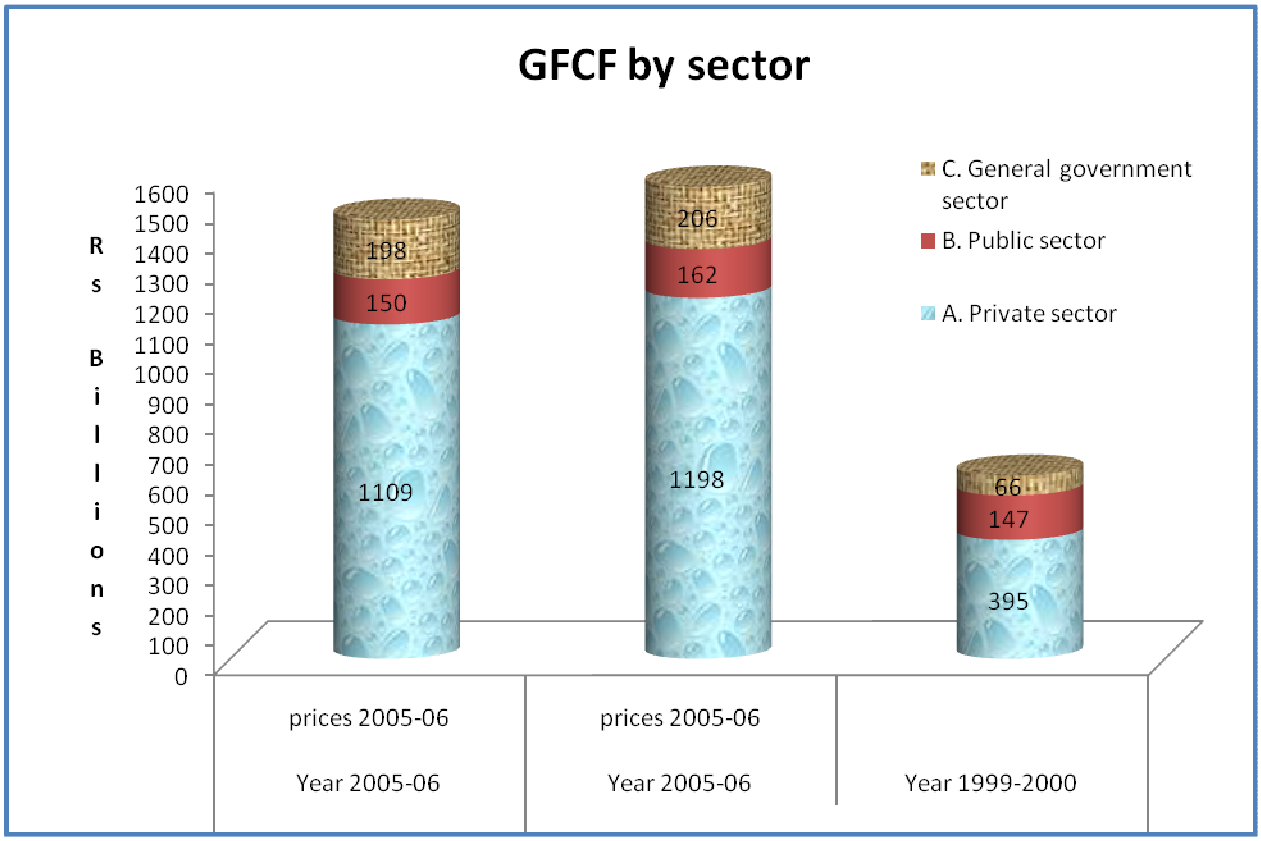
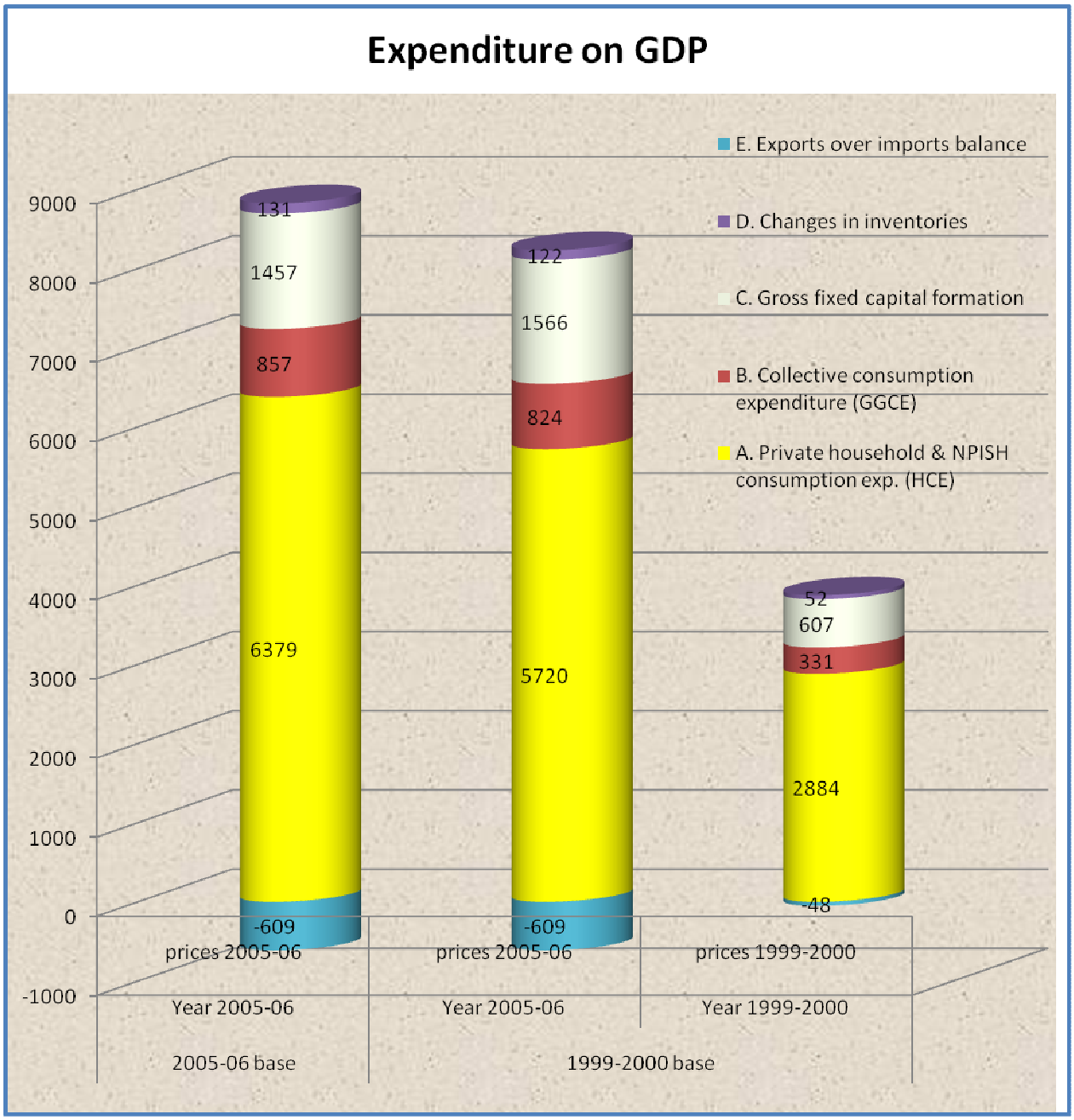


Figure V: Comparison of expenditures on GDP by component for the bases 2005-06 and 1999-2000 (Rs. Bill.)



CHAPTER 2

Agriculture, Forestry and Fishing

Agriculture constitutes the largest sector of our economy. The majority of Pakistan's population is directly or indirectly dependent on it[1]. Crops and livestock are the two major sub-sectors of agriculture. It is necessary to revise and upgrade the valuation of agriculture which is based on valuation of the inputs and the outputs, separately. After conceptual clarifications, the crops, livestock, forestry and fishing industries will be taken up separately

Conceptual reasons for measuring crops and livestock production separately

The basic economic entity in National Accounts is the institutional unit. The institutional unit is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities. In case of agriculture these units are almost exclusively the private households of the farmers.

The System of National Accounts (SNA) foresees that institutional units can further be sub-divided into establishments if there is diversity in their production or production is carried out in various locations. Hence, even in case of private households, institutional units may consist of more than one establishment. The SNA even recommends recording a secondary activity within a separate establishment if it is important, or nearly as important as the principle activity (SNA 2008, para 5.15).

> "5.15 Although the definition of an establishment allows for the possibility that there may be one or more secondary activities carried out, they should be on a small scale compared with the principal activity. If a secondary activity within an enterprise is as important, or nearly as important, as the principal activity, then that activity should be treated as taking place within a separate establishment from that in which the principal activity takes place."

For Pakistan it is considered that in most farms crop production as well as livestock production are carried out simultaneously. The farmers utilize the common factors of production but produce different products of almost equal importance. The contribution of crops and livestock to GDP is almost at the same level. The only internal relationship and interdependence is that livestock gets the input of fodder from crops growing activities and crops get the input of ploughing and planking for the preparation of fields and for sowing crops from the livestock related activities. The output of one activity (fodder) becomes the intermediate consumption for the other activity (livestock) and vice versa. The GVA will be invariant but the output and intermediate consumption will increase accordingly. The output of each activity will be separately and independently available. The advantage is that the figures for the output of crops will comply with those of the crop reporting system. Similarly the published data on livestock will be compatible with the data entering in to the estimation of livestock contribution to national accounts. The only problem is that some overhead inputs have to be allocated to one of the activity or has to be distributed to the different activities by some sort of key. For most farms in Pakistan the overhead inputs are minor or even negligible.

The above mentioned option of the SNA has been chosen to make use of data which refer to products mere than to establishment. The data situation allows for recording output, intermediate consumption and value added for certain kinds of agricultural products as if they were produced in homogeneous production units. Homogeneous production units in the SNA are foreseen for input-output tables. It may be seen as a paradox on that in the informal sector of agriculture figures for enterprises or establishments are lacking but figures for the most challenging form of statistical units (which is the homogeneous production unit) are available. The reason lies in the excellent empirical basis which in Pakistan refers to products and not to their producers.

Some remarks should clarify the concept of statistical units commonly applied for crop production as well as for livestock in the light of System of National Accounts (SNA 2008):

[1] Agriculture contributes (2005-06) more than 20 % to Gross Domestic Product, provides food for more than 150 million people, earns about 60 % of the country's exports, employs about 40 % of the country's labour force, provides the main sources for livelihood for the rural population, provides basic ingredients for many other industries.

- ❖ It is a huge advantage that in Pakistan the different kinds of inputs can easily and fully be assigned to either crop production or livestock though most of the farms combine both kinds of activities. There are almost no inputs which have to be considered overhead cost and serve both activities.
- ❖ The same is true for the output side. All products, either sold or consumed by the farmers' households themselves, are easily to be classified as either crops or livestock. Both kinds of activities are independent from each other with the only exception that livestock is used as draught power and is getting its fodder out of crop production.
- ❖ The result may at first glance be astonishing: in a sector which can almost completely be characterized as "informal" we, nevertheless, have a quality of data which is much better than in most parts of Pakistan's "formal" economy, e.g. large scale manufacturing.
- ❖ For the economy at large with its heterogeneity of products and services the SNA recommends the establishment as the appropriate statistical unit to study production and production functions in detail. It considers it as the best compromise between observability and homogeneity of production (SNA 2008, par. 2.38). The statistical unit chosen for this survey is even below the establishment level. It covers each of the two kinds of activity which most farmers in Pakistan practice: crops and livestock and comes quite close to a concept of units of homogeneous production which in the SNA is meant for pure analytical purposes related to input-output estimates.
- ❖ As we can clearly separate data on crops from those on livestock we can even go a step further: with some assumptions we can even allocate the inputs on crop production at large to the various kinds of crops. This is considered to be done during the preparation of the Supply and Use Table 2005-06 which is also part of rebasing of National Accounts
- ❖ For the livestock part it had been decided to skip asking for the inputs (mainly oil cakes, pharmaceuticals and veterinarian services) during this round of rebasing and to estimate them on the basis of the study carried out for 1999-2000 rebasing, instead. But an additional questionnaire was utilized to cater for the data on animal production.

A Agriculture

Crops production and livestock are the two major activities covered under this heading. Cotton ginning has been classified as agriculture activity instead of manufacturing, hence shifted to crops sub-class. Flower production has been estimated through survey and included in the sub-class. Animal husbandry and hunting (both other than government and hence private) are the new additions adjusted along with livestock.

AI Crops:

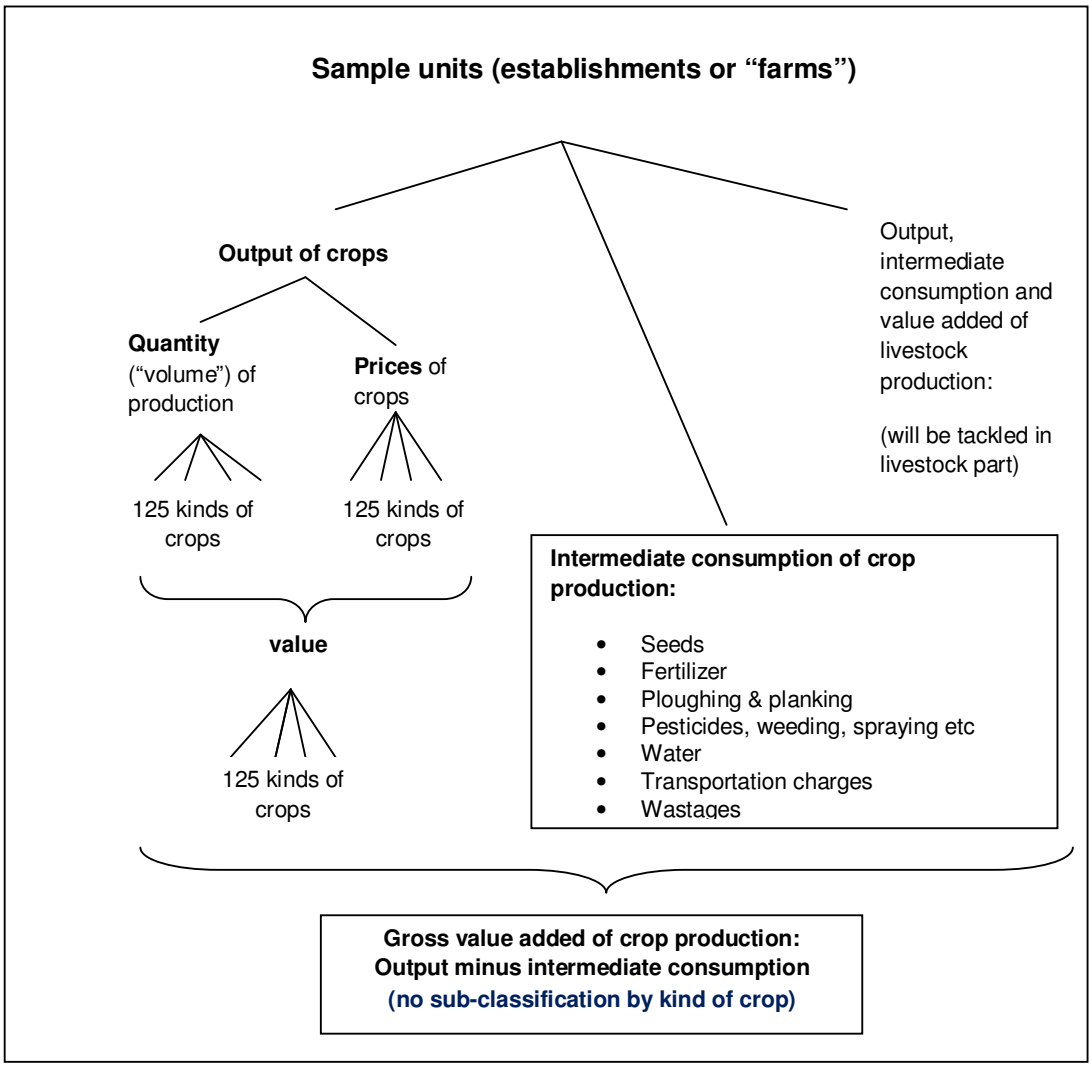
To assess the latest changes in agriculture during 1999-2000 to 2005-06, the prices to be applied for the valuation of output and, most of all, for updating the ratios of inputs to outputs have been up-dated. For this purpose a study on "Agricultural Input Output 2005-06" has been conducted. Production of flowers has been estimated from the field survey. Cotton ginning has been shifted from manufacturing to agriculture and it has been adjusted in crops sub-sector.

Coverage:

The groups 011 and 014 of Division 01 "Agriculture, hunting and related service activities" mentioned in Pakistan Standard Industrial Classification 2007 have been covered in this sub-sector. Cotton ginning was a part of manufacturing, now it is a part of agriculture. It has been covered under class 0140. PBS has prepared PSIC 2010, rev. 4 in order to implement the internationally agreed latest version of the International Standard Industrial Classification (ISIC) which now is ISIC rev.4. According to the PSIC 2010, crop production will be covered under codes 011, 012 and partly 016.

Below is the scheme for the calculation of GVA for the crops sub-sector.

Figure 1 : The approach to calculate GVA of crop production for rebasing of National Accounts 2005-06



Data:

In general the data situation for crop production in Pakistan is very good. Figures on the volume of output of crops (except flowers) are provided by the crop reporting system of the provinces. Figures on the volume of inputs such as water, fertilizer or seeds are widely available from different sources. Figures of increases in prices are available from price statistics. The missing links are the prices of the aforementioned outputs and inputs and prices as well as volumes of the remaining inputs such as lubricants, energy and the like as well as output and input of flower production. The study and the underlying survey have provided the missing links. The overall idea is to have comprehensive figures for the base year 2005-06 which allow estimating overall production and value added (output minus inputs) for the subsequent years until another survey or study has to update the underlying ratios and assumptions for the next rebasing / revision.

Area of crops 2005-06:

The crop area is being provided by the provincial agriculture crop reporting systems. The system provides two to three estimates, the crop area estimate (provisional), the crop area estimate (final) and crop production estimate (provisional) and crop production estimate (final). The province-wise area sown for all crops,

pulses, vegetables, fruits, condiments, oilseeds and other crops are shown at ***annexure I***. The area of important crops is given below in ***table 1***.

Production of crops 2005-06:

The figures for crop production are covered by the crop reporting system of the provinces. However, this system does not cover production of flowers. It has been adopted from the study, details of which have been given in the study. The province-wise production for all crops, pulses, vegetables, fruits, condiments, oilseed and other crops are shown at ***annexure II***. The production of important crops is given below in ***table 1***.

Table 1 Area and production of important crops 2005-06

Important Crops	Area ('000' hectares)			Production ('000' Tones)		
	1999-2000	2005-06	% change	1999-2000	2005-06	% change
Wheat	8,463.0	8,447.9	-0.2	21,078.6	21,276.9	0.9
Cotton*	2,983.1	3,103.0	4.0	11,240.0	13,018.9	15.8
Rice	2,515.4	2,621.4	4.2	5,155.6	5,547.2	7.6
Sugarcane	1,009.8	907.3	-10.2	46,332.6	44,665.6	-3.6
Maize	961.7	1,042.0	8.3	1,652.0	3,109.6	88.2

* '000' bales of 375 lbs. each

Production of flowers:

The production of flowers and their value is not available with any department. Pakistan Bureau of Statistics National Accounts Wing has worked out a method for an estimate. It is based on the overall leading equation that supply matches use while supply in principle is domestic production plus imports and use in principle is consumption plus exports.

Production + Imports = Consumption + Exports

For this approach consumption of flowers has been decomposed into industrial consumption and consumption of private households. Two separate surveys have been carried out to cover both components. These surveys may also serve as a base for future valuation. Inputs from horticultural experts were also sought. For the purpose of estimate, three groups have been formed. Export/ import of flowers, industrial consumption and household consumption were estimated separately. Summary results are given below in the ***table 2***. The details may be seen from the study.

Table 2 Expenditure on flowers 2005-06

Kind of expenditure	Rs. Million
Net Export (2005-06)	3.38
Industrial use	133.58
Household use	1883.33
Total	2020.29

Harvest prices 2005-06:

Harvest prices are equivalent to producer prices. For calculating the value of output of crops the harvest prices of the study have been used. The data about the harvest prices and other variables were collected through survey from the sample villages of all the provinces. The survey was conducted on area sampling base. However, data on monthly average wholesale and retail prices for the years 2005-06, regarding agricultural and livestock commodities, for important markets of Pakistan, were collected from Agricultural and Livestock Products Marketing & Grading Department Karachi, for checking of consistency of field data. The prices of crops with insignificant production and for which prices were not reported in this survey have been imputed keeping in view of the inflation of similar crops during the period 1999-2000 to 2005-06. Province-wise harvest prices of crops are given at ***annexure III***.

Output of crops 2005-06:

Output is the product of production and harvest prices. Both, production and harvest prices, are available at provincial level through the survey results, incorporated in the study. The detailed output is at ***annexure IV***. The group wise output value of crops for the year 2005-06 is as under in ***table 3***. By-products have been included in the crops to which these belong. The figures for the flowers have been taken from the study.

Table 3 Group–wise output of crops 2005-06 in million Rs

Crop/Item	Punjab	Sindh	NWFP	Balochistan	Pakistan	Share (%)
Cereals	303930	56008	28031	18000	405970	42.85
Leguminous (Beans & pulses)	13439	2132	907	1166	17644	1.86
Oil seeds	6694	4100	642	408	11844	1.25
Vegetables	32191	12357	8158	15163	67868	7.16
Sugar cane	39977	19606	6637	20	66239	6.99
Tobacco	654	4	3229	92	3979	0.42
Cotton	144106	37833	66	1421	183426	19.36
Fodder	64452	11276	3376	2294	81398	8.59
Flowers	1212	606	162	40	2020	0.21
Others	31	0	0	0	31	0.00
Fruits	54163	12709	9717	22750	99338	10.48
Spices	2142	4062	866	697	7767	0.82
Total output	662990	160693	61791	62050	947525	100.00
Share (%)	69.97	16.96	6.52	6.55	100.00	

Intermediate consumption:

Intermediate consumption for crops consists of the value of seed, fertilizer, pesticides, irrigation water and ploughing and planking. Local transport charges on seed, fertilizer and pesticide have also been in the inputs. Losses of crops during the transport of output from fields to home or market have also been taken as intermediate consumption. Details may be seen from the referred study. Each category along with its valuation have been briefly discussed there.

a. Valuation of seed

The average use of seed per acre and its price varies from region to region due to soil fertility and climatic conditions. The data have been collected from the farmers in selected areas of four provinces. The seed of perennial fruits have not been taken into account as it becomes mature for production after few years. Rate of seed per unit and quantity of seed per hectare is the indicator of the cost of seed used per hectare. Area of each crop is available from the provincial crop reporting systems. Value of seed used has been estimated from these estimates. The value of seed calculated for the year 2005-06 is 49664 million rupees as compared to 24186 million rupees for 1999-2000 which shows an increase of 105.3% over previous base. The detailed sheets are at ***annexures V to VI***.

b. Valuation of off-take of fertilizer

The data on off-take of fertilizer and its value is collected from National Fertilizer Development Centre, Planning & Development Division Islamabad. The province-wise detail of fertilizer off-take along with value is given below in ***table 4***. The valuation based on varieties is given in the study. The value calculated for new base is 98,796 million rupees. This shows an increase of 101.5% when compared with the figure which has so far been estimated on the old base year 1999-2000 which was 49,029 million rupees.

Table 4 Province-wise off-take of fertilizer 2005-06					
Description	Punjab	Sindh	NWFP	Balochistan	Pakistan
Quantity ('000' Nutrient Tonnes)	2,672.4	799.7	222.6	109.4	3,804.1
Value (Million Rs.)	69,405	20,769	5,781	2,841	98,796

c. Valuation of pesticides used

The data on use of pesticides have been taken from "Agricultural Statistics of Pakistan and Trade statistics of FBS". ***Table 5 and 6*** shows significant fluctuations in use of pesticides during 1999-2000 to 2005-06. Table 5 shows the availability and table 6 highlights the use of pesticides.

Table 5 Pesticides used in crop production in M-Tons (quantity) and in million Rs (value)						
Year	Imports		Production		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1999-2000	26123.9	4691.7	27365.1	1455.8	53489.0	6147.5
2000-01	21255.0	3476.5	33190.5	2879.5	54445.5	6356.0
2001-02	31783.2	5320.5	26961.3	1945.0	58744.5	7265.5
2002-03	22241.7	3440.9	51773.3	4023.1	74015.0	7464.0
2003-04	41406.4	7156.7	62459.1	3208.3	103865.5	10365.0
2004-05	41561.4	8280.6	75819.6	3204.9	117381.0	11485.5
2005-06	33953.9	6804.0	40416.1	1338.5	74370.0	8142.5

Table 6 Consumption of pesticides (Quantity = M. Tons, Value = Rs. Millions)						
Year	Imports consumed		Production consumed		Total consumption	
	Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7
2005-06	12721	2549	30855	3357	43576	5906
2006-07	17939	3606	76326	6928	94265	10534
2007-08	9282	2112	29904	4828	39186	6940
2008-09	5825	1814	34818	5834	40643	7648
2009-10	10899	3837	62733	10018	73632	13855

d. Valuation of irrigation water

As no direct valuation is available, indirect estimates through expenditure approach has been prepared. Three separate strata have been formed for the purpose i.e., canal water, tube wells run by electricity and diesel.
`

i. **Canal water:** Different options were considered. The revenues collected by Provincial Boards of Revenues for irrigation water charges have been taken and used as value of the water.

ii. **Tube well (Electrical):** The number of electrical tube wells running in private sector has been taken from the annual publication "Agricultural Statistics of Pakistan" Ministry of food and Agriculture (Economic Wing) Islamabad. Electricity consumed by agriculture sector has been taken from the Pakistan Energy Year Book, published by Hydrocarbon Development Institute of Pakistan. The rates of electricity for agriculture have been taken from the Economic Survey of Pakistan. (Total electricity consumed has been broken into public and private tube wells run by electricity, according to their numbers.)

iii. **Tube well (Diesel):** Consumption of light speed diesel oil for agriculture has been taken from the Energy Year Book 2007 along with its price.

Details have been documented in the study. The overall valuation of canal and tube well water for the year 2005-06 is shown in the following ***table 7***.

Table 7 Province-wise valuation of canal and tube well water 2005-06					
Detail	**Punjab**	**Sindh**	**NWFP**	**Balochistan**	**Pakistan**
1. Canal Water(Million Acre Feet, MAF)*	figures for provinces not available				97.00
2. Private tube well Water (MAF)	figures for provinces not available				40.38
3. Value of Canal Water** (Million Rs.)	3129	387	385	146	4046
4. Value of tube well Water (Million Rs.)	6532	1132	450	992	9078
Total Value -Million Rs. (3+4)	9661	1519	835	1137	13124
Province wise share (%)	73.45	11.55	6.35	8.65	100.00
Unit Value of Canal Water (Rs. / AF)	figures for provinces not available				41.71
Unit Value of Private tube well Water (Rs. / AF)	figures for provinces not available				224.81

* At farm gate (ground water of public & scarp tube wells included)

** On the basis of revenue collected by Provincial Governments

Data on water availability at farm gate by provinces is missing, however quarterly water availability below canal heads (below rim stations) by provinces is given below in ***table 8***.

Table 8 Availability of water at canal heads* 2005-06 in MAF					
Province	July-September	October-December	January-March	April-June	Total
Punjab	20.275	10.245	6.153	14.430	51.103
Sindh	19.960	7.518	4.612	10.064	42.154
NWFP	0.510	0.434	0.207	0.559	1.710
Balochistan	1.600	0.469	0.421	0.549	3.039
Total	42.345	18.666	11.393	25.602	98.006

*Below rim stations

Source: Indus River System Authority (IRSA), Government of Pakistan, Islamabad

The increase in quantity of water available for irrigation is 3.08% as compared to its value which shows a decline of 9.9% which is attributed to categorization of water into three categories and its estimation separately.

e. Ploughing and planking cost

The results used for ploughing and planking are based on figures of the survey related to the study. The results have been derived from the data by multiplying number of ploughs for each crop and rate of ploughing/ acre for that province. To update the cost of ploughing and planking, some adjustments have been made in the light of the studies conducted by Agricultural Policies Institute (formally Agricultural Prices Commission). The data for those crops which could not be covered in survey has been imputed on the basis of similar crops/ fruits/ vegetables, for the base year. Crop-wise detail for each province has been given in the ***annexures VII and VIII***. The results show an increase of 207.4 % when compared with the previous base data. The high increase may be attributed to significant increase in prices of petroleum products during 1999-2000 to 2005-06. For future guidance and reference, the questionnaire is given as ***annexures IX***

f. Transport charges

The prices used for fertilizer, pesticides and seeds do not include any cost of local transport. Thus, some transport charges had to be estimated, separately. A uniform rate of 1.25% has been applied on fertilizer and pesticides values to reach at market prices whereas rate of 1% has been applied to seed value. This practice was also used in last base year of 1999-2000 as a result of study conducted for the base year 1999-2000.

It is worth noting that in the Supply and Use tables these transport charges are fully to be recorded as intermediate consumption of the farms and as output of transport although some transport might be carried out by the retailers or by the farmers themselves.

g. Wastage charges

The System of National Accounts does not foresee to record wastages or losses during the transport of the crops from the field to the markets / homes of the farmers. For SNA output is the production net of losses. It was considered here to deviate from SNA in this regard and to show output including these losses in order to avoid a puzzling mismatch between output as recorded in National Accounts and output as recorded by the crop reporting systems. As a consequence these wastages (or losses) have to be recorded as intermediate consumption in order to arrive at correct figures of value added. For application of this practice, a rate of 0.5% has been applied on the gross output value of all crops as recommended in the study conducted for the base year 1999-2000.

Gross value added

It is the difference between output and intermediate consumption, as outlined in the previous paras. The present official National Accounts figures of agriculture are based on the study results and had more accurately been calculated for the base year 2005-06. Two comparisons are of special interest:

a. What is now the revised growth of production and value added during the period between the two base years 1999-2000 and 2005-06?
b. What would be the discrepancy between the so far extrapolated figures and the now updated ones for the year 2005-06?

The final figures show an increase of 51.8% when compared with 1999-2000 figures (question "a" above). The change over 2005-06 as extrapolated according to the base 1999-2000 which is soon to be replaced is 6.8%. The following table shows that on the basis of 1999-2000 the value of GVA for the year 2005-06 is under-estimated by about 47 billion rupees. The details have been given in the following ***table 9***.

Table 9 Comparison of output and GVA of crops for 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 in million Rs

Description	Base 1999-2000		Base 2005-06	% Change	
	results 1999-2000	results 2005-06 at prices of 2005-06		column 4 over 2	column 4 over 3
1	2	3	4	5	6
A. Output (production)	**588079**	**864325**	**947525**	**61.1**	**9.6**
B. Inputs and other charges	**120200**	**231589**	**237169**	**97.3**	**2.4**
I) Seed	24186	31920	49664	105.3	55.6
ii) Fertilizer	49029	106759	98796	101.5	-7.5
iii) Pesticides	8099	6403	5906	-27.1	-7.8
iv) Water	14574	51552	13124	-9.9	-74.5
v) Ploughing& Planking	20407	29443	62732	207.4	113.1
vi) Transport charges	962	1190	1805	87.6	51.7
vii) Wastage	2941	4322	4738	61.1	9.6
viii) Inputs of flower production	-	-	404	-	-
C. Gross value added (A-B)	**467879**	**632736**	**710356**	**51.8**	**12.3**

The figures of the table are not easy to interpret as a certain base year stands for a certain empirical base of accurately measured production, input-output ratios and the like. But it also stands for a certain price basis. Column 5 of table 9 indicates an increase of value added of crop production of 52%. This increase reflects changes in volume as well as in value which thus includes a price component (inflation). Column 6 of table 9 reflects the change in volume accruing from improving of data sources. The change of the data sources includes those reflecting the price changes.

Own-account capital formation, according to the SNA, is also output. Details may be seen from chapter 5, GFCF component. It is, for the base year 2005-06, Rs. 13666 millions which will be included in the results.

Cotton ginning

The results of cotton ginning have been excluded from manufacturing and included in the crops sub-sector of agriculture. According to PSIC 2007and 2010 it falls under class 0140 and 0163 respectively. The raw data were taken from the CMI 2005-06 files and edited. The results are given below in ***table 10***.

Table 10 Gross value added of cotton ginning 2005-06	
Description	**Value (Rs. Million)**
Output	217829
Taxes less subsidies on products (to producers)	350
Output (basic prices)	217479
Intermediate consumption	170673
GVA (basic prices)	46806

Comparison of the impact of the previous and of the present rebasing

For the previous shifting of base year, i.e. from 1980-81 to 1999-2000, a study had also been conducted. It had covered crop production (major and minor crops) for the then new base year 1999-2000. The following ***table 11*** shows the results of that study as compared with the figures which had come out of the old base 1980-81 which at that time had to be replaced.

Table 11 Comparison of GVA of major and minor crops 1999-2000 based on 1999-2000 with that of base year 1980-81 in million Rs							
Description	**Base year 1980-81**			**Base year 1999-2000**			**% of revision**
	At prices of 1999-2000						
	Major Crops	Minor Crops	Total	Major Crops	Minor Crops	Total	
Gross Output	433,712	129,164	562,876	435,967	152,112	588,079	4.5
Inputs & other charges	124,590	20,237	144,827	93,767	26,433	120,200	-17.0
Gross Value Added	309,121	108,927	418,048	342,200	125,679	467,879	11.9

The results clearly show how important it is to change the base year from time to time and to refresh the assumptions of, for example, the input-output ratio. According to the then new base 1999-2000, the “inputs and other charges” for 1999-2000 had to be revised downward by 17% and for the output there was a revision of 4.5%, also. Thus, for gross value added the result was a mark-up revision by 12 %.

The results of the study for 2005-06 are given in ***table 12***. They show that the impact of the present revision is even bigger than that of the previous one. According to that we have underestimated so far output as well as the inputs. As the overall result gross value added has to be enhanced by 12%. The time-series between the two base years 1999-2000 and 2005-06 have to be revised accordingly. This means that the impact of the revision has to be applied pro rata temporise on proportional basis.

Table 12 Comparison of GVA of crops 2005-06 based on 1999-2000 with that based on 2005-06 in million Rs			
Description	**Base year**		**% of revision**
	1999-2000	**2005-06**	
	At prices of 2005-06		
Output	864,325	947,525	9.6
Inputs & other charges	231,589	237,169	2.4
Gross Value Added	632,736	710,356	12.3

Final results to be used in the rebasing **2005-06** are given below in ***table 13***.

Table 13 Final results				
Description	**Crops**	**Cotton Ginning**	**Own-account capital formation**	**Total**
Output	947525	217479	13666	1178670
Inputs & other charges	237169	170673		407842
Gross Value Added	710356	46806	13666	770828

Limitations

The following topics need further work for proper reflection in the national accounts.

- To bring the un-reported crops in the system
- Growing of nurseries products, growing of flower seed, fruit seed and vegetable seed.
- Services incidental to crop production

The latter position (services) includes harvesting and preparation of crops for primary markets (cleaning, trimming, grading, disinfecting, wax covering, and polishing, wrapping, decorating, retting, cooling or bulk packaging), trimming of fruit trees, transplanting of rice, and landscape gardening for construction, maintaining and redesigning landscape such as parks and gardens for private and public housing, public and semi public buildings (school, hospitals, administrative buildings etc.), municipal grounds (parks, green areas, cemeteries) highways greenery (road, train lines, waterways , ports), greenery for buildings (roof gardens. facade gardens, indoor gardens), sports grounds, play grounds and other recreational parks (sports grounds, play grounds, lawns for sun bathing ,golf courses). In former versions of the industrial classification, rice husk had been part of agriculture. PSIC 2007 and 2010, however, now subsumes “Rice husking” activity under “manufacturing”. This report thus excludes rice husking.

All Livestock

Livestock is raised and crops are grown by the Pakistani farmers simultaneously. Nevertheless, crops contribution to gross domestic product (GDP) has been valuated separately. The reasons for that have been explained at the beginning of crops sub-sector under the conceptual issues. This part will deal with the practice of raising livestock and hence its contribution to output and gross fixed capital formation (GFCF) as *cultivated biological assets*. Poultry and poultry products, animal husbandry and hunting will also be dealt within this part.

The growth and regeneration of livestock under the control of farmers is treated as process of production in an economic sense. Many animals take some years to reach maturity. The increase in their value is taken as output and treated as increase in fixed capital (if raising is for breeding purposes or for dairy production or for draught power) or as inventories (if the animals are raised to be slaughtered) according to the System of National Accounts (Para 6.138 of SNA 2008). The animals produced on own account for breeding purposes and the like which are immature and not ready to be used in the production process, are treated as gross fixed capital formation and being acquired by their producers at the time of their production (Para 10.89 to 10.91 of SNA 2008). Incidental losses of animals due to occasional deaths from natural causes form part of Consumption of Fixed Capital (CFC) (Para 10.94 of SNA 2008).

> "6.138 Some plants and many animals take some years to reach maturity. In this case, the increase in their value is shown as output and treated as increases in fixed capital or inventories depending on whether the plant or animal yields repeat products or not. (There is more discussion of this distinction in chapter 10.) The value of the increase in the plants or animals should take account of the delay before the yield from them is realized as explained in chapter 20. Once the plant or animal has reached maturity, it will decline in value and this decline should be recorded as consumption of fixed capital.
>
> 10.88 Cultivated biological resources cover animal resources yielding repeat products and tree, crop and plant resources yielding repeat products whose natural growth and regeneration are under the direct control, responsibility and management of institutional units.
>
> 10.89 In general, when the production of fixed assets takes a long time to complete, those assets whose production is not yet completed at the end of the accounting period are recorded as work-in-progress. However, when the assets are produced on own account they are treated as being acquired by their users at the same time as they are produced and not as work-in-progress. These general principles also apply to the production of cultivated assets such as animals or trees that may take a long time to reach maturity. Two cases need to be distinguished from each other: the production of cultivated products by specialized producers, such as breeders or tree nurseries, and the own-account production of cultivated assets by their users.
>
> 10.90 In the case of the specialist producers, animals or trees whose production is not yet complete and are not ready for sale or delivery are recorded as work-in-progress. Examples are one-year-old horses bred for sale as two year- old race horses, or young fruit trees that need further growth before being marketable. Such work-in-progress is recorded and valued in exactly the same way as that originating in any other kind of production.
>
> 10.91 However, when animals or trees intended to be used as fixed assets are produced on own account by farmers or others, incomplete assets in the form of immature animals, trees, etc. that are not ready to be used in production are treated not as work-in-progress but as gross fixed capital formation by the producing unit in its capacity as eventual user.
>
> 10.94 Gross fixed capital formation in livestock that are cultivated for the products they yield year after year (dairy cattle, draught animals, etc.) is measured by the value of acquisitions less disposals, taking account of the treatment just described of immature livestock reared on own account. It is therefore equal to the total value of all mature

animals and immature animals produced on own account acquired by users of the livestock less the value of their disposals. Disposals consist of animals sold or otherwise disposed of, including those sold for slaughter, plus those animals slaughtered by their owners. Exceptional losses of animals due to major outbreaks of disease, contamination, drought, famine, or other natural disasters are recorded in the other changes in the volume of assets account and not as disposals. Incidental losses of animals due to occasional deaths from natural causes form part of consumption of fixed capital. Consumption of fixed capital of an individual animal is measured by the decline in its value as it gets older."

Coverage:

The groups 012 and partly 014 of Division 01 "Agriculture, hunting and related service activities" of PSIC 2007 have been covered in this sub-sector. In PSIC 2010 relevant codes are 014, 016 and 017.

Data:

The data on livestock for eight species i.e., buffaloes, cattle, sheep, goats, camels, horses, mules and asses are available. Livestock census is conducted by Agricultural Census Organization (ACO) and the geometric growth rates between two consecutive censuses are utilized by Livestock Division of Ministry of Food, Agriculture and Livestock for annual projection until the next census.

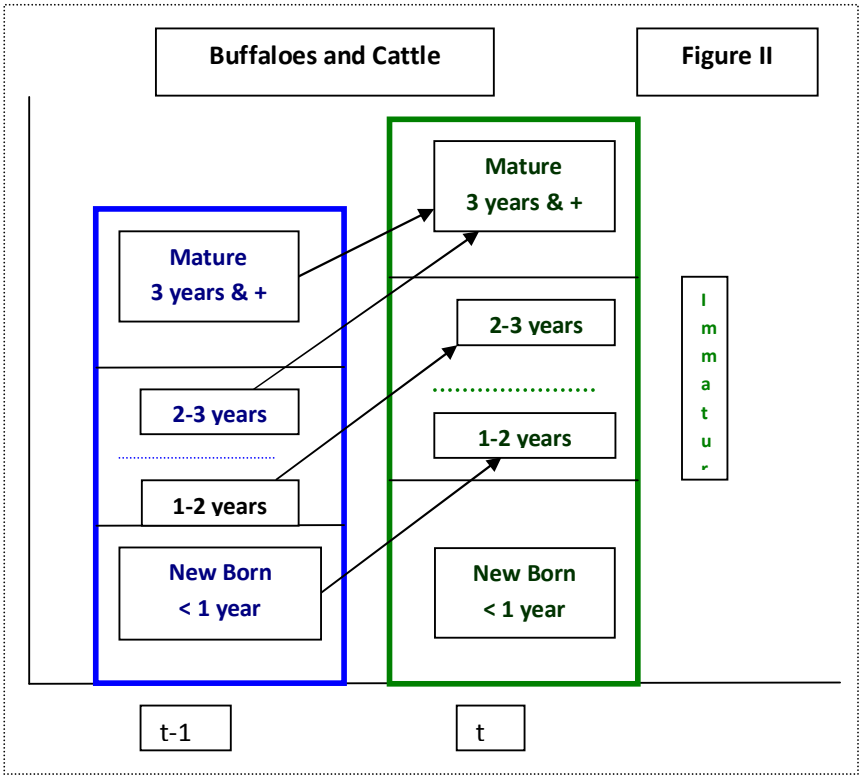
For buffaloes and cattle, data are available for three age groups, i.e., (i) new born animals (less than one year), (ii) immature animals (between one to three years) and (iii) mature animals (three years of age and above). For sheep and goats, data are available for two age groups, i.e., of new born (less than one year), and mature (one year of age and above). For camels, horses, mules and asses, data are available for two age groups, i.e., of new born and immature (less than three years) and mature (three years of age and above). The data regarding animals for slaughter are provided separately. Data regarding dead animals are also provided but without age specification.

Buffaloes and Cattle:

For the structural changes, ***figure II*** may be referred. The new born animals (having age less than one year) have been treated as output and may be assumed safely as own-account capital formation, acquired at the time of production. These have been valued at the average price for this category. Previously it was taken as output as well as GFCF, as own account capital formation is GFCF, hence there is no change of method in this category.

The immature category (equal to or greater than 1 & less than 3 years of age) is a mixture one. The average price of this group is taken for valuation. The livestock between one to two years of age totally come forward from the new born of the previous year excluding the dead and slaughtered animals during the period. The animals between two to three years of age have come from the category of one to two years net of dead and slaughtered ones. It is assumed that the spread of animals within this group is even. The output of this group is the enhancement in their value from the previous category. It is measured by multiplying the one half of the animals of this group with the price differential of this category with the new born category. The other half has no price differential and hence no marginal increase in value. The same output has been acquired as GFCF. Previously it was neither included in output nor in GFCF, hence both were under estimated.

The second half of immature animals enter in to the mature category net of dead and slaughtered ones. This is a broad category and only the enhancement in the value of addition from immature category is taken as output. The change in stock for this category is the indicator of increase / decrease in the number in this group. The contribution towards GFCF is to be recorded as output for own-account capital formation. Previously this output had not been included; hence GDP was under-estimated. This method has been applied to calculate the contribution of buffaloes and cattle. It is equivalent to calculating the changes in the value of the capital stock (livestock) between the end and the beginning of the year. Slaughtering is a separate industry which depends upon livestock and will be dealt in manufacturing; however the major inputs are the livestock animals.



Sheep and Goats

The data for these animals are available for two age groups.

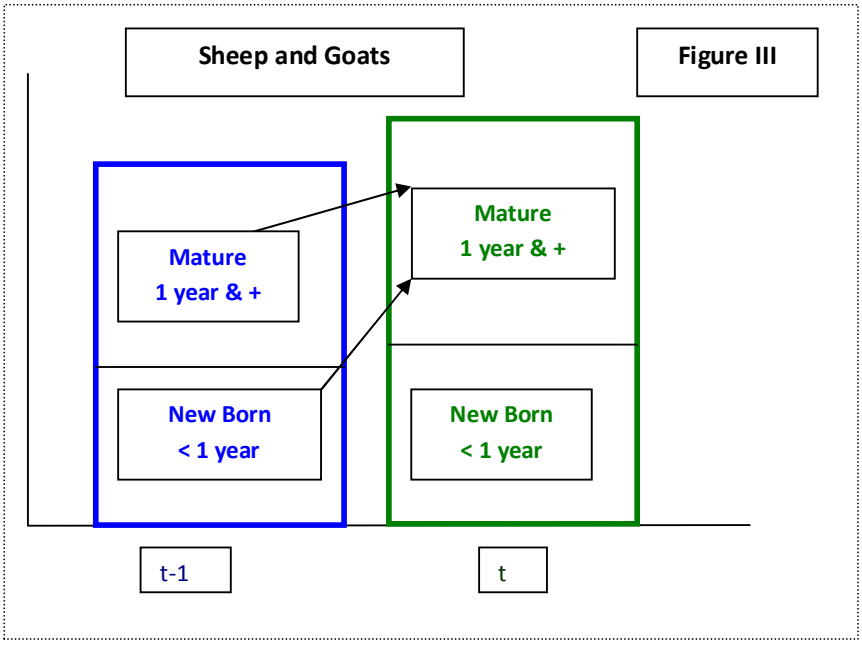
a. The new born animals having age less than one year

b. The animals having age one year or above

The structural movements have been explained in ***figure III***. Animals having age less than one year have been treated as new born. Next year these will be in the second age group. This group will totally be replaced next year by the new born ones. However the second group will be a combination of new entrance and the already existing ones. The changes are due to the death and slaughtering during the period.

Category "a" may be assumed safely as own-account capital formation as well as output. Previously it was taken as output as well as GFCF, hence there is no change of method in this category.

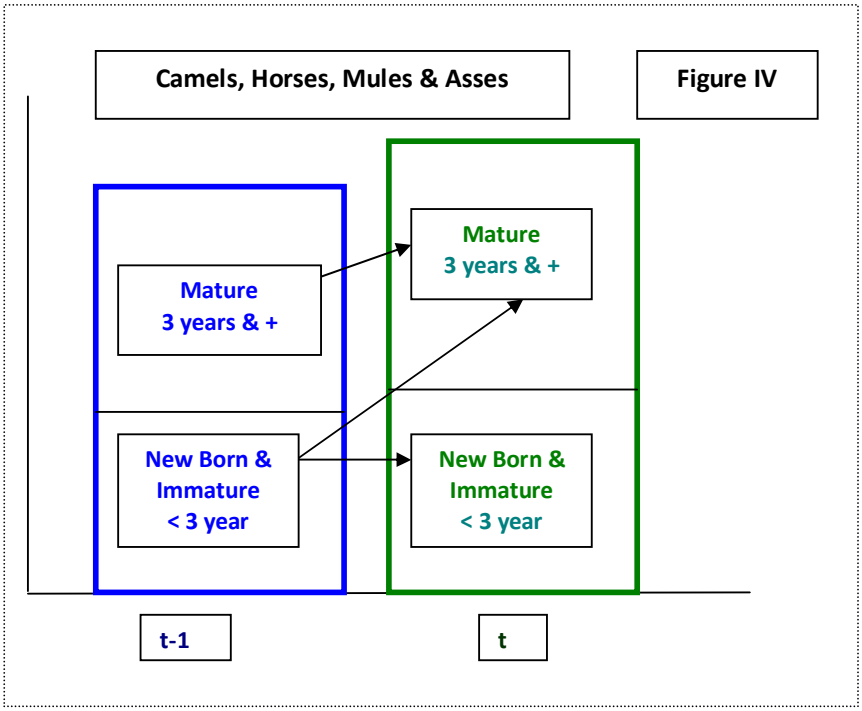
The mature category (equal to or greater than 1 year of age) is a mixture one. This is a broad category. The already existing ones of this group have no incremental value. However the animals moved from category "a to b" have got the marginal increase which is output. The change in stock for this category is the indicator of increase / decrease in the number in this group. The contribution towards GFCF is the acquisition of this output. Previously this output was not included, hence GDP was under estimated.



Camels, Horses, Mules and Asses

The contribution towards output and GFCF of camels, horses, mules and asses has been worked out through second approach. The structural movements have been explained in ***figure IV***. The idea is to take the change in stock for each age group and value it with full price of that group. This will be the net output/ net fixed capital formation. By valuing died animals at the average price gives the consumption of fixed capital. Adding this figure to the net output/ net FCF gives the gross output/ GFCF.

Both methods give comparable results. The difference comes from the assumption of average value for the died animals.



Livestock Products:

The other livestock products are milk, draught power, dung and urine and wool and hair. The data on these products have been supplied by the livestock division of agriculture ministry. The missing link is the prices of these items which had been collected through the agriculture input–output survey, cross checked from other data sources. The milk production for human consumption only has been valued. Milk for breeding calves has been excluded from the production as well consumption. The valuation of draught power has been annexed. It has been calculated by indirect method as it is not common to hire the animals for ploughing and planking. Equivalent output has been applied for valuation. Unit prices have been applied to the quantities of dung and urine and wool and hairs. The population of livestock is given at ***Annexure X***. Data on milk production, dung and urine, wool and hairs, poultry and poultry products have been annexed as ***annexure XI***. Estimation of draught power has been attached as ***annexure XII***. The questionnaire has been attached as ***annexure XIII.*** The sample list and data collection methodology has been explained in the crops sector report.

Intermediate consumption

It consists of fodder, including green, dry and concentrates. Green and dry fodder is fed to all livestock. Concentrates are generally given to the buffaloes and cows in milk which improve the quantity as well quality of their milk. Poultry feed is provided to farming poultry only. Similarly value of chicks and rent of sheds, repairs etc. are also related to the farming poultry. However transportation and medical care costs relate to whole livestock and poultry. The ratios have been revised accordingly. Interest on loans for livestock and poultry had been a part of intermediate consumption for the previous base which now has been excluded from the inputs.

Poultry and Poultry products

The data are available on farming and on domestic poultry separately as a product of livestock census. Farming poultry is managed on scientific bases. Data are provided on number of layers, broilers, breeding stock and chicks and eggs in farming. This segment is called as commercial poultry. In domestic poultry, data are provided on number of hens, cocks, chicken and eggs. This category is generally available in the rural part of the population. Organized market structure does not exist for this segment. The price structure has been adopted from the price statistics of federal bureau of statistics. The major products are eggs and meat. Generally live birds are sold on the market. Poultry meat is also reported by the ministry.

Comparison

Comparison of the results of the bases 1999-2000 and 2005-06 is given below in ***table 14***. Two comparisons are of interest. The first one refers to the long period and compares results for 1999-2000 (which was also the base year) to figures for 2005-06 (which will be the future base year). The second comparison is for current price estimates of 2005-06 on previous base and on the new base 2005-06. Column 5 indicates the increase in value added of 124.5 per cent for the base 2005-06 over the base 1999-2000. It includes volume as well as price effects which includes inflationary impact. Output has increased by 111.7 per cent whereas intermediate consumption has increased by 80 per cent. The increase in output is due to the proper valuation of different categories and more detailed price structure. Column 6 is the indicator of the changes in methodology, coverage and price structure improvements. It does not include impacts of inflation.

Table 14 Comparison of components of value added – Livestock (million Rs)					
Description	Methodology, coverage and price structure of base year …			% Change	
	1999-2000		2005-06	Col. 4 over col. 2	Col. 4 over col. 3
	result 1999-2000	results 2005-06 at prices of 2005-06			
1	2	3	4	5	6
Output	537226	945560	1137347	111.7	20.3
Natural growth and regeneration	39569	63615	168530	325.9	164.9
Sold for slaughtering	128757	242773	271379	110.8	11.8
Livestock products	325966	565015	621308	90.6	10.0
Milk	278178	463126	511783	84.0	10.5
Draught power	18590	18894	48723	162.1	157.9
Dung & urine	27697	80816	58550	111.4	-27.6
Wool & Hairs	1501	2179	2252	50.0	3.3
Poultry products	42934	74157	76130	77.3	2.7
Poultry (farming)	18021	33941	36572	102.9	7.8
Poultry (desi)	4906	11357	10999	124.2	-3.2
Eggs	20007	28860	28559	42.7	-1.0
Intermediate consumption	120106	179113	216277	80.1	20.7
Fodder	85576	119354	173410	102.6	45.3
Poultry inputs	17004	18832	22919	34.8	21.7
Other inputs	17526	40926	19947	13.8	-51.3
Gross Value Added	417120	766448	921071	120.8	20.2
Animal husbandry (Private providers)			15396		
Hunting (private)			31		
Total GVA	417120	766448	936498	124.5	22.2

Animal husbandry:

According to PSIC 2007 and PSIC 2010, the provision of services of animal husbandry falls under agriculture (group 014, “Agricultural and animal husbandry service activities, except veterinary activities” and 0162 respectively). It includes activities related to promote propagation, growth and output of animals, herd testing services, poultry caponizing etc. The activities related to artificial insemination, stud services etc. are also covered. Data for the output of these services is not available unless provided by the government. In Pakistan the provinces are providing animal husbandry. The contribution of animal husbandry to the GVA of general government, calculated from the federal, provincial and district budgets, is Rs. 8930 million (15396 – 6466 = 8930), details are given below in ***table 15*** From the National Accounts perspective these services will be covered as non-market output of the Government under PSIC 014 and 0162 respectively. This figure is captured under the output of livestock. On the expenditure side of GDP this will fall under government consumption (net of the very minor payments of the farmers for these services).

On the input side the payments of the farmers for animal husbandry are covered under “other inputs”. Hence this output is treated as value added.

Table 15 Government's output of animal husbandry 2005-06 (Rs. Million)			
	Output	Intermediate Consumption	GVA
Federal Govt.	1250	789	461
Provincial & District Govt	14146	5677	8469
Total	15396	6466	8930

Figures about animal husbandry provided by private producers are not available. It is assumed, until some estimate is available that they are equal to the amount of the government services estimated through budgets. Thus, the figure of this output given in the table above is an estimate. On the input side the payments of the farmers for animal husbandry are covered under "other inputs". The inputs of the providers of husbandry services are considered here to be negligible in this context of estimates. Hence the output of government will be taken as private animal husbandry services.

Hunting:

Details may be seen from the report on Agriculture input-output. According to the PSIC 2007 it is class 0150 and according to PSIC 2010 it is class 017. As detailed relevant data is not available, the estimates prepared are totally based on an input approach assuming that inputs are widely made up of hunting fees as recorded in the Provincial Budget Documents 2006-07. Annual revenue receipts from hunting fees for 2005-06 for each province has been taken, as per detail given below in ***table 16***.

Table 16 Gross value added of hunting activity 2005-06	
Province	Annual Revenue Receipts (Rs. Mill.)
Punjab	22.000
Sindh	0.015
NWFP	8.585
Balochistan	N.A
Total	**30.600**

Source:- Provincial Annual Budget Documents 2006-07

External review committee decided to enhance the estimates by 100% to make up the under-estimation for intermediate consumption other than fees, thus resulting in intermediate consumption of 61.2 million Rs. Moreover, it was decided to assume that gross value added equals intermediate consumption or, in other words, the input-output ratio is 50%. If we apply the aforementioned assumptions then output of hunting activities is to be estimated as 122.4 million RS while gross value added is 61.2 million Rs. During next rebasing these assumptions might further be reviewed. Half is being reported in this sector and the half will remain in the Government sector estimates. It will ensure the comparability of the Government sector.

It is also assumed that those who are paying the fees are professional hunters and thus in their capacities as producers are increasing GDP. It may be argued that some of them do hunting as a sports activity, only, which would fall under private consumption. Future studies might investigate into that issue, also.

Other Limitations

Data on operations of hatcheries is not available. Raising of silk worms, production of silk worm cocoons, bee-keeping and production of honey and beeswax activities needs to be exploited.

B Forestry

Coverage

It covers the production of round wood for the forest based manufacturing industries (PSIC rev. 4, division 16 and 17) as well as the extraction and gathering of wild growing non-wood forest products. Besides the production of timber forestry activities results in products that undergo little processing such as fire wood, charcoal, wood chips and round wood used in unprocessed forms. Natural and planted forests are both included. The activity pertains to PSIC rev. 4, division 02, section A.

Data and sub-classification

This is a small sector of the economy as for as its contribution to the GDP is concerned. There are three important types of data sets. Data on timber and fire wood from the public forests are provided by the Inspector General, forests, a government department. It provides quantity, cut and sold, as well as revenue earned from the sale proceeds. A bulk supply is from the private owned forests but it is not available directly. The non-wood forest products is another component. The data on this component is also scanty. A study was made for the base year 1999-2000 and its indicators have been applied to the relevant components.

Output 2005-06

The data needed for direct valuation of this sub sector through production approach is not available; hence it is measured indirectly from the use side. The uses of the timber and fire wood in the industry sector, i. e., mining and quarrying, large scale manufacturing industry, small and household manufacturing industry and construction have been taken from the surveys and census conducted for this purpose. Census of manufacturing industries (CMI 2005-06), Small and Household Manufacturing Industries (SHMI 2006-07) survey, Census of mining industries (CMI 2005-06) and Construction survey 2007-08 are the reference sources, adjusted to the base year. To make the output at producer's prices, 40% has been deducted as trade and transport margins. Trade margins have been developed through wholesale and retail trade survey. To make the output net, 25% is assumed and deducted as smuggling. Consumption of fire wood in the households has been taken from the social and living standards measurement survey (PSLM) 2005-06. ***Annexure XIV*** is referred for details. The contribution of the non-wood forest products and own-account capital formation has been adopted from the current estimates for 2005-06.

Intermediate consumption 2005-06

According to SNA intermediate consumption is to be valued at purchasers' prices (i.e., at market prices). The input structure has been taken from the 1999-200 base work. The input cost for timber and firewood have been taken as 25% of the output. These are the findings of the study conducted for the base year 1999-2000.

Gross value added 2005-06

Gross value added is output minus intermediate consumption. Gross value added for forestry for the base year 2005-06 is given below in the ***Table 17*** along with input-output ratios of the components.

Table 17 Output, intermediate consumption and gross value added of forestry 2005-06 (Rs. Mill.)

Description	Output at basic prices	Intermediate consumption	GVA at basic prices (col. 4 - col. 5)
1	2	3	4
Timber	11272	2818	8454
Firewood (industry)	1484	371	1113
Firewood (household)	31472	7868	23604
Non-wood forest products/ Own-account capital formation	2108		2108
Total	46336	11057	35279

Effect of rebasing

The effect of the rebasing 2005-06 can be shown by comparison of the results 2005-06 according to the new base with those extrapolated for 2005-06 out of the old base year 1999-2000. It is shown in ***Table 18*** below.

According to the improvement of coverage and updates of prices output for the base year 2005-06 has now been assessed at Rs. 46.3 billion. This is 28.9% more than the extrapolated figure based on the 1999-2000 base year. The intermediate consumption has now been assessed at Rs. 11.1 billion. This is the percentage of the output, determined from the previous base study. As a result of new assessments, the GVA has been revised 28% upward.

The effect of rebasing will also have an impact on the growth between 1999-2000 and 2005-06. Over these 6 years output has increased by 50.8%., GVA increased by 50.5%. This increase is at current prices, i.e. inflation is not yet deducted.

Table 18 Output, intermediate consumption and gross value added of forestry 1999-2000 and 2005-06 As per base years 1999-2000 and 2005-06 (Rs. Million)

	Base 1999-2000		Base 2005-06	% Change	
Description	Results 1999-2000	Results 2005-06 at prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
Output at basic prices	30725	35953	46336	50.8	28.9
Intermediate consumption	7278	8408	11057	51.9	31.5
Gross Value Added (A-B)	23447	27545	35279	50.5	28.1

Extrapolation and current and constant prices

Output, intermediate consumption and value added will not be calculated for each year as deep as for the new base year. As in other industries and as in the method prior to this rebasing the figures of 2005-06 will be extrapolated. The source of timber is its use in large scale industry, it will be raised with QIM of wood products. The other component is firewood used in household and it will be raised with the constant figure of rural household growth calculated from the population censuses 1981 and 1998. One component is the use of firewood in small industry and it will be raised with the fixed growth of small and household manufacturing industries. Non-wood forest products will be raised with the indicator of firewood used in the household. Input – output ratios of the base year will be applied for the calculation of intermediate consumption and GVA. The deflators will be applied to have current estimates.

C Fishing

This activity is divided in to two categories, marine fishing and inland fishing. The input structure and jurisdiction of these activities is totally different. Inland activity is concentrated in the areas where suitable underground tube well water is available. The other location of the activity is where the land is available on the banks of large canals. However marine fishing is concentrated at the coastal belt of Sind and Baluchistan.

Coverage

According to PSIC rev. 4 activity pertains to PSIC division 03, section A. It covers marine fishing and freshwater fishing. Included are the activities of aquaculture, marine as well as freshwater.

Data and sub-classification

The data, on regular basis, is being supplied by the Marine Fishery Department, Ministry of Livestock and Dairy Development, Government of Pakistan. Two studies have been conducted for the base year 2005-06 estimates, Study on Marine fishing and Study on Inland fishing. Studies are available on the website of FBS. These results, after discussing with the relevant departments and experts on the subject, have been adopted for the base year 2005-06.

Output 2005-06

It is important to understand the activity before valuation. In marine fishing, crew is often paid a share of the value of landing. The landed fish is auctioned at the port. The fishermen directly pay the auctioneer or the auction hall for marketing their fish catch. Auctioneers or the auction hall have to pay some of this amount as a membership fee to the fishing cooperative society. The activities of the auctioneers belong to the PSIC, 'other business activities'. Auction halls are to be classified under PSIC wholesale and retail trade. Fishing cooperative society is to be classified under PSIC, 'other community, social and personal services'. In the previous base, the auction fees were treated as indirect taxes. In this base, the fees have been treated as intermediate consumption as well as output.

In terms of the SNA output is the product of volume and price. Volume stands for quantity plus quality. The estimation has been based on both, quantity as well quality. Different species have been valuated separately. The auction charges etc. have not been deducted from the output as indirect taxes but as intermediate consumption. The output in quantitative terms is 620.0 thousand metric tones having the value of Rs. 31001 millions. The unit value of output is Rs. 50.0 per Kg.

Study on inland fishing to determine the parameters for the private fish farms is the source for contribution to gross output. Unit price (Rs. 80.0 per Kg.), i.e., average price per Kg. determined through this study is applied to the quantity reported by the department. The previous practice of assuming 100% under coverage is being continued.

Intermediate consumption 2005-06

According to SNA intermediate consumption is to be valued at purchasers' prices (vulgo: at market prices). The input structure regarding marine fishing has been determined through study. It includes fuel, ice, salt, water, medicine, repair and maintenance charges etc. The major components are fuel (82%) and ice (13%). The input-output ratio has been determined as 40%.

For inland fishing the inputs are seed, feed, POL/electricity, water and others. Others include transport charges used for farm inputs, gas, chemicals, medicine, cleaning materials etc. The major inputs are feed (49%), water (22%) and seed (13%). The overall input-output ratio is 30%.

Gross value added 2005-06

Gross value added is output minus intermediate consumption. Gross value added for fishing for the new base year 2005-06 is given below in the ***Table 19*** along with input-output ratios of the components.

Table 19 Output, intermediate consumption and gross value added of fishing 2005-06 (Rs. Million)						
Description	Price (Rs. / Kg)	Quantity (Metric Tones)	Output at basic prices (Rs. Million)	Intermediate consumption	GVA at basic prices (col. 4 - col. 5)	Input-output ratio (col. 5/col. 4)
1	2	3	4	5	6	7
Marine fishing	50.0	620026	31001	12401	18601	40%
Inland fishing			35088	10526	24562	30%
Reported	80.0	219302	17544			
Under reporting			17544			
Total			66089	22927	43163	

Effect of rebasing

The effect of the rebasing 2005-06 can be shown by comparison of the results 2005-06 according to the new base with those extrapolated for 2005-06 out of the old base year 1999-2000. It is shown in ***Table 20*** below.

According to the improvement of coverage and updates of input-output ratios and prices, gross output for the base year 2005-06 has now been assessed at Rs. 66 billion. This is 65% more than the extrapolated figure based on the 1999-2000 base year. The intermediate consumption has now been assessed at Rs. 23 billion. This increase in the inputs is the result of the new input-output ratios, determined from the studies. As a result of both new assessments, the GVA has been revised 42% upward.

The effect of rebasing will also have an impact on the growth between 1999-2000 and 2005-06. Over these 6 years output has increased by 234%. Both components contributed heavily. Intermediate consumption increased by 396%, at higher rate than output, resulting in the lower increase in GVA which is 185%. This increase is at current prices, i.e. inflation is not yet deducted.

Table 20 Output, intermediate consumption and gross value added of fishing 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Million)					
	Base 1999-2000	Base 2005-06		% Change	
Description	Results 1999-2000	Results 2005-06 at prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
A. Output at basic prices	**19787**	**40101**	**66090**	**234.01**	**64.81**
Marine	7293	15967	31001	325.08	94.16
Inland	12494	24134	35088	180.84	43.39
B. Intermediate consumption	**4624**	**9609**	**22927**	**395.83**	**136.60**
Marine	2625	5748	12401	372.40	115.74
Inland	1999	3861	10526	426.59	172.64
C. Gross Value Added (A-B)	**15163**	**30492**	**43163**	**184.66**	**41.55**

Extrapolation and current and constant prices

Output, intermediate consumption and value added will not be calculated for each year as deep as for the new base year. As in other industries and as in the method prior to this rebasing the figures of 2005-06 will be extrapolated. For the quantities provided by the department, this will be done for the year t as follows:

- Output at basic prices of 2005-06 will be extrapolated through quantities for the year t given by the department. The result is output at constant prices of t
- Output at constant (basic) prices of year t will be multiplied with an appropriate output inflator in order to get output of year t at current (basic) prices.

- Intermediate consumption of year t at constant prices will be calculated through the input quantities for the year t by multiplying the base year 2005-06 prices.
- Intermediate consumption of year t at current prices will be multiplied with an appropriate inflator for the inputs in order to get intermediate consumption of year t at current prices.
- Gross value added will be obtained by subtracting intermediate consumption from output for the constant prices and for the current prices figures, respectively.

The estimation of aggregates has been in progress since the 2005-06. It has been finalized up to 2009-10. Below is the summary of results for agriculture, adjusted for FISIM, for the years 2005-06 to 2009-10 on the base 2005-06.

Table 21 Summary table of GVA for agriculture (Rs. Millions)

Year / Industry / Sector	2005-06	2006-07	2007-08	2008-09	2009-10
Agriculture	1775346	1836125	1869310	1934691	1939132
AI. Crops	766274	800212	792050	832916	798244
i. Important crops	449025	478175	458492	497113	478540
ii. Other crops	256777	262053	277761	279273	259054
iii. Cotton ginning & others	60472	59984	55797	56530	60650
AII. Livestock	930842	956546	990989	1013286	1051755
B. Forestry	35067	36021	39228	40237	40207
C. Fishing	43163	43346	47043	48252	48926

Annexure I

Area of Crops - Rebasing 2005-06

		2005-06 (000 Hect)				
S.No	**Crop/Item**	**Punjab**	**Sindh**	**NWFP**	**Balochistan**	**Pakistan**
1	Wheat-Released	5476.8	716.7	721.3	310.0	7224.8
2	Wheat-Procured	1006.6	216.5			1223.1
3	Maize	540.8	3.5	492.2	5.5	1042.0
4	Rice-Basmati	1535.0		13.6	109.9	1658.5
5	Rice-Irri	131.9	527.4	13.7	77.0	750.0
6	Rice-Others	95.5	65.8	32.1	19.5	212.9
7	Barley	34.8	6.5	32.8	15.8	89.9
8	Bajra	361.8	73.3	4.5	1.1	440.7
9	Jowar(Sorghum)	147.1	66.0	6.5	34.8	254.4
10	Other					
11	Gram	900.1	51.4	41.1	36.3	1028.9
12	Mash	30.4	1.4	1.4	1.4	34.6
13	Masoor	20.7	4.8	5.2	3.2	33.9
14	Moong	189.3	5.5	9.9	3.8	208.5
15	Mattar	19.3	57.1	1.1	12.8	90.3
16	Other K. Pulses	3.0	1.1	1.5	1.0	6.6
17	Other R. Pulses	0.4	0.9	0.4		1.7
18	Potato	104.5	0.3	9.8	2.8	117.4
19	Sweet Potato	0.5	0.3			0.8
20	Peas & Garden Peas	6.6	2.0	1.8	0.7	11.1
21	Beans		0.3		0.6	0.9
22	Tinda	5.9	2.5	0.9	0.8	10.1
23	Lady finger	4.9	4.8	2.2	2.9	14.7
24	Bitter Gourd	3.8	0.8	0.7	0.6	5.9
25	Bottle Gourd	4.2	0.6	0.6	0.4	5.8
26	Brinjal (eggplant)	4.7	2.0	1.0	1.1	8.9
27	Arum		0.0	1.5		1.5
28	Luffa		0.7		0.4	1.2
29	Pursilano		0.1			0.1
30	Field vetch		1.5			1.5
31	Cauliflower	7.3	1.4	1.1	1.4	11.3
32	Cabbage	2.2	1.7	0.4	0.5	4.8
33	Spinach	3.2	1.3	1.4	1.3	7.1
34	Knol Kohl		0.2			0.2
35	Fenu Greek		0.4			0.4
36	Lettuce		0.1			0.1
37	Other K. Vegetables	27.0	0.7	3.0	0.6	31.3
38	Other R. Vegetables	34.2	0.8	1.8	0.5	37.3
39	Onion	32.6	66.1	11.9	38.1	148.7
40	Carrot	8.4	1.4	0.6	3.4	13.9
41	Radish	6.1	1.5	1.1	1.7	10.3
42	Lotus roots		0.1			0.1
43	Sugar beet Vegetable		0.0		0.3	0.3
44	Turnip	9.5	1.2	2.8	1.4	14.9
45	Mango	104.9	50.0	0.3	1.4	156.6
46	Banana	1.8	29.7	0.7	0.4	32.5
47	Guava	49.4	8.1	3.6	0.6	61.8
48	Dates	5.8	26.7	1.4	48.1	82.0
49	Figs			0.1	0.1	0.2
50	Coconut		0.4		1.1	1.5
51	Orange	12.1	1.5			13.6
52	Kino	142.5	0.1			142.6
53	Lemon	4.7	2.2			6.8
54	Grape fruit	0.4	0.3			0.7
55	Mandarin	2.5				2.5
56	Musambi	10.6	0.2			10.7
57	Sure lime	1.1	0.1			1.1
58	Sweet lime	5.1	0.1			5.2
59	Sour orange	0.6	0.0			0.6
60	Other Citrus	2.6		4.4	1.3	8.4
61	Grapes		0.0	0.2	12.9	13.1
62	Water melon	16.3	10.5	5.9	11.3	44.0
63	Garma				0.6	0.6

64	Sarda				0.4	0.4
65	Pumpkin & Melon Pumpkin	2.2	0.3	0.7	1.2	4.3
66	Long Melon		0.2			0.2
67	Tomatoes	5.3	9.4	16.2	15.4	46.2
68	Cucumber		0.5		0.6	1.1
69	Apple	0.4	0.0	9.3	102.3	112.0
70	Plums	0.0		3.5	3.9	7.4
71	Peaches	0.1		5.6	9.5	15.2
72	Pomegranates	2.3		0.3	10.7	13.3
73	Apricots	0.0		2.2	26.6	28.9
74	Pear	0.0		2.1	0.1	2.3
75	Jaman	1.2	0.1			1.3
76	Litchi	0.4				0.4
77	Phalsa	0.6	0.8			1.4
78	Chikoo		1.0		0.6	1.6
79	Papaya		0.9		0.8	1.7
80	Cherry				1.2	1.2
81	Ber	1.4	1.7			3.2
82	Loquat	0.8		0.6	0.1	1.4
83	Mulberry	0.4	0.1	0.4		0.8
84	Percimen			3.0		3.0
85	Other K. Fruits	13.8	0.2	0.4	0.7	15.1
86	Other R. Fruits	5.0	0.7	0.9	0.7	7.2
87	Almond	0.0		0.4	10.0	10.4
88	Walnuts	0.0		1.5		1.5
89	Pistachio				0.2	0.2
90	Soya Beans		0.1	0.3		0.4
91	Groundnuts	81.8	2.2	9.7		93.7
92	Sunflower	75.1	249.0	0.5	0.6	325.2
93	Sesamum	75.1	3.4	0.1	3.4	82.0
94	Safflower		0.0			0.0
95	Rape & Mustard	125.2	46.3	17.8	27.3	216.6
96	Canola	2.4	3.6	1.2	3.6	10.8
97	Castro seed	0.0	2.5		0.7	3.2
98	Lin seed	1.4	4.4			5.8
99	Flowers & F. Buds					
100	Coriander	0.5	2.0	0.3	2.9	5.7
101	Cumin seeds		0.0		12.7	12.7
102	Dil seed		0.0			0.0
103	Chillies	5.8	55.4	0.8	2.6	64.6
104	Ajwan		0.8			0.8
105	Fennel (Sounf)		0.4			0.4
106	Turmeric	3.3	0.1	0.4		3.8
107	Garlic	2.8	2.0	1.9	0.3	7.0
108	Ginger		0.1			0.1
109	Other spices		0.4			0.4
110	Tobacco	17.7	0.1	36.5	2.1	56.4
111	Sugar beet Crop			3.1		3.1
112	Sugar cane-Released	93.8	27.5	14.8	0.0	136.1
113	Sugar cane-Procured	531.4	155.7	83.8	0.3	771.2
114	Fodders Green	2027.1	269.5	109.3	42.2	2448.1
115	Guar seed	109.1	16.5	2.0	3.2	130.8
116	Fodders Dry-Wheat					
117	Fodders Dry-Maize-Stalks					
118	Fodders Dry-Maize-Piths					
119	Rice-Straw					
120	FD-Barley					
121	FD-Bajra					
122	FD-Jowar(Sorghum)					
123	FD-Gram					
124	Fodders Dry-S.cane					
125	Fodders Dry-Sesamum					
126	Fodders Dry-R&Mustard					
127	Cotton-Upland (Phutti)	2373.4	636.0	2.1	37.8	3049.3
128	Cotton-Desi (Phutti)	52.6	1.1			53.7
129	Hemp	1.9		0.0		1.9
130	Cotton Sticks					

Annexure II

Production of Crops - Rebasing 2005-06

S.No	Crop/Item	2005-06 (000 M.Ton)				
		Punjab	Sindh	NWFP	Balochistan	Pakistan
1	Wheat-Released	12971.0	2041.3	1100.6	649.9	16762.8
2	Wheat-Procured	3805.0	709.0			4514.0
3	Maize	2319.4	1.6	782.4	6.2	3109.6
4	Rice-Basmati	2641.8		26.4	252.2	2920.4
5	Rice-Irri	314.8	1639.5	28.0	231.8	2214.1
6	Rice-Others	223.0	81.5	63.1	45.1	412.7
7	Barley	32.0	2.9	33.5	19.1	87.5
8	Bajra	205.0	12.7	2.3	0.8	220.8
9	Jowar(Sorghum)	76.0	43.7	3.9	29.0	152.6
10	Other					
11	Gram	382.5	45.8	21.1	30.1	479.5
12	Mash	13.6	0.8	1.1	1.0	16.4
13	Masoor	10.1	3.0	2.8	2.0	17.9
14	Moong	101.8	3.2	6.4	2.5	113.9
15	Mattar	14.7	29.9	0.7	7.1	52.4
16	Other K. Pulses	1.7	0.4	0.8	0.9	3.8
17	Other R. Pulses	0.3	0.4	0.1		0.9
18	Potato	1389.6	2.6	134.2	41.5	1567.9
19	Sweet Potato	8.6	1.4			10.0
20	Peas & Garden Peas	54.2	7.6	12.8	8.4	83.0
21	Beans		0.5		5.7	6.2
22	Tinda	61.4	16.5	11.6	4.9	94.4
23	Lady finger	53.9	21.9	19.2	17.1	112.2
24	Bitter Gourd	40.2	3.4	5.5	5.1	54.2
25	Bottle Gourd	48.2	2.3	5.4	3.4	59.3
26	Brinjal (eggplant)	57.6	11.8	10.7	8.3	88.4
27	Arum		0.2	12.8		12.9
28	Luffa		3.1		2.7	5.9
29	Pursilano		0.2			0.2
30	Field vetch		4.3			4.3
31	Cauliflower	157.9	14.1	12.9	23.7	208.5
32	Cabbage	44.5	19.0	3.5	7.7	74.6
33	Spinach	42.3	6.0	15.3	21.3	84.8
34	Knol Kohl		0.6			0.6
35	Fenu Greek		0.9			0.9
36	Lettuce		0.1			0.1
37	Other K. Vegetables	345.2	1.4	25.2	3.5	375.3
38	Other R. Vegetables	611.3	2.6	21.7	6.9	642.5
39	Onion	306.4	833.5	216.6	699.2	2055.7
40	Carrot	161.4	15.3	7.9	59.6	244.3
41	Radish	113.2	8.4	13.6	28.3	163.4
42	Lotus roots		0.3			0.3
43	Sugar beet Vegetable		0.1		6.7	6.8
44	Turnip	193.4	15.1	39.9	21.9	270.2
45	Mango	1391.8	352.4	3.2	6.5	1753.9
46	Banana	11.4	134.7	13.7	3.6	163.5
47	Guava	446.0	60.2	43.2	2.8	552.2
48	Dates	42.6	192.8	8.9	252.3	496.6
49	Figs			0.5	0.2	0.7
50	Coconut		1.3		7.1	8.4
51	Orange	109.3	16.7			126.0
52	Kino	2072.0	1.0			2073.0
53	Lemon	23.2	8.7			32.0
54	Grape fruit	3.5	1.5			4.9
55	Mandarin	20.0				20.0
56	Musambi	86.4	1.1			87.5
57	Sure lime	6.4	0.2			6.6
58	Sweet lime	37.8	0.2			38.0
59	Sour orange	4.8	0.1			4.8
60	Other Citrus	21.7		37.6	6.1	65.5
61	Grapes		0.0	1.3	47.4	48.8
62	Water melon	341.5	91.3	81.3	130.6	644.8
63	Garma				6.1	6.1

64	Sarda				4.2	4.2
65	Pumpkin & Melon Pumpkin	28.1	1.1	6.3	10.8	46.2
66	Long Melon		0.6			0.6
67	Tomatoes	64.6	48.3	161.6	193.6	468.1
68	Cucumber		2.0		4.5	6.5
69	Apple	3.6	0.1	126.7	220.9	351.2
70	Plums	0.4		33.1	26.5	59.9
71	Peaches	0.5		51.6	18.2	70.3
72	Pomegranates	16.7		1.8	31.7	50.1
73	Apricots	0.2		18.3	178.7	197.2
74	Pear	0.3		27.6	0.4	28.3
75	Jaman	7.2	0.4			7.6
76	Litchi	2.9				2.9
77	Phalsa	2.8	2.7			5.5
78	Chikoo		3.9		3.3	7.1
79	Papaya		4.3		4.5	8.8
80	Cherry				2.1	2.1
81	Ber	10.5	7.4			17.9
82	Loquat	4.6		5.4	0.2	10.2
83	Mulberry	1.6	0.2	2.5		4.2
84	Percimen			32.4		32.4
85	Other K. Fruits	63.8	0.6	2.8	2.1	69.4
86	Other R. Fruits	30.5	2.6	10.9	2.1	46.0
87	Almond	0.0		1.4	21.9	23.3
88	Walnuts	0.0		14.9		14.9
89	Pistachio				0.6	0.6
90	Soya Beans		0.1	0.4		0.4
91	Groundnuts	49.9	4.6	14.6		69.1
92	Sunflower	122.8	224.2	0.7	0.6	348.3
93	Sesamum	31.6	1.4	0.1	2.0	35.1
94	Safflower		0.0			0.0
95	Rape & Mustard	106.3	40.9	7.9	16.5	171.6
96	Canola	2.3	3.9	0.7	2.4	9.2
97	Castro seed	0.1	1.7		0.3	2.1
98	Lin seed	1.1	1.7			2.8
99	Flowers & F. Buds					
100	Coriander	0.4	0.8	0.1	1.5	2.8
101	Cumin seeds		0.0		5.9	5.9
102	Dil seed		0.0			0.0
103	Chillies	9.3	108.8	1.0	3.8	122.9
104	Ajwan		0.4			0.4
105	Fennel (Sounf)		0.2			0.2
106	Turmeric	31.8	0.1	3.7		35.6
107	Garlic	22.9	10.4	21.6	2.4	57.3
108	Ginger		0.1			0.1
109	Other spices		0.2			0.2
110	Tobacco	21.6	0.1	87.9	3.0	112.6
111	Sugar beet Crop			93.3		93.3
112	Sugar cane-Released	4345.3	1686.5	665.9	2.2	6699.8
113	Sugar cane-Procured	24623.3	9556.9	3773.2	12.3	37965.7
114	Fodders Green	44440.9	7392.6	2341.2	1296.9	55471.6
115	Guar seed	81.7	12.9	2.5	1.9	99.0
116	Fodders Dry-Wheat	16776.0	2750.3	1100.6	649.9	21276.8
117	Fodders Dry-Maize-Stalks	3479.1	2.4	1173.6	9.3	4664.4
118	Fodders Dry-Maize-Piths	1159.7	0.8	391.2	3.1	1554.8
119	Rice-Straw	4451.4	2409.4	164.5	740.7	7766.1
120	FD-Barley	32.0	2.9	33.5	19.1	87.5
121	FD-Bajra	615.0	38.1	6.9	2.4	662.4
122	FD-Jowar(Sorghum)	281.2	161.7	14.4	107.3	564.6
123	FD-Gram	382.5	45.8	21.1	30.1	479.5
124	Fodders Dry-S.cane	5793.7	2248.7	887.8	2.9	8933.1
125	Fodders Dry-Sesamum	63.2	2.8	0.2	4.0	70.2
126	Fodders Dry-R&Mustard	106.3	40.9	7.9	16.5	171.6
127	Cotton-Upland (Phutti)	5198.0	1350.5	2.7	49.9	6601.0
128	Cotton-Desi (Phutti)	41.4	0.7			42.1
129	Hemp	1.2		0.0		1.2
130	Cotton Sticks	20957.8	5404.8	10.6	199.4	26572.6

Annexure III

Harvest Prices of Crops - Rebasing 2005-06

S.No	Crop/Item	2005-06 (Rs/M.Ton)				
		Punjab	Sindh	NWFP	Balochistan	Pakistan
1	Wheat-Released	9800	10075	11250	11400	10631
2	Wheat-Procured	10375	10375			10375
3	Maize	12000	11500	10300	10800	11150
4	Rice-Basmati	14750		16375	15575	15567
5	Rice-Irri	10425	9675	12250	11050	10850
6	Rice-Others	10425	9675	12250	11050	10850
7	Barley	16050	14000	14250	14250	14638
8	Bajra	12500	12625	13250	13750	13031
9	Jowar(Sorghum)	14750	15500	15700	14500	15113
10	Other					
11	Gram	21250	21350	22700	22750	22013
12	Mash	38000	40950	40500	38500	39488
13	Masoor	30250	33950	30000	30625	31206
14	Moong	33325	33250	34000	34125	33675
15	Mattar	31000	27500	31375	31250	30281
16	Other K. Pulses	36125	37125	36625	36250	36531
17	Other R. Pulses	20500	21375	22750		21542
18	Potato	9125	10000	9125	10000	9563
19	Sweet Potato	10000	11250			10625
20	Peas & Garden Peas	15500	16250	16375	17000	16281
21	Beans		21250		19750	20500
22	Tinda	8300	8500	8750	8125	8419
23	Lady finger	11500	12000	13250	13750	12625
24	Bitter Gourd	14000	15000	13125	13125	13813
25	Bottle Gourd	8500	10250	10500	11250	10125
26	Brinjal (eggplant)	8000	9750	8375	10000	9031
27	Arum		9500	9625		9563
28	Luffa		7250		7500	7375
29	Pursilano		29500			29500
30	Field vetch		26750			26750
31	Cauliflower	8250	10625	8625	10625	9531
32	Cabbage	8125	10875	8750	10000	9438
33	Spinach	5250	6625	6625	5625	6031
34	Knol Kohl		10750			10750
35	Fenu Greek		35500			35500
36	Lettuce		35500			35500
37	Other K. Vegetables	8500	9250	10250	9625	9406
38	Other R. Vegetables	5000	6000	6000	5000	5500
39	Onion	9500	11500	11250	13500	11438
40	Carrot	5375	7250	7375	5000	6250
41	Radish	4750	4750	4500	4625	4656
42	Lotus roots		28000			28000
43	Sugar beet Vegetable		8250		8375	8313
44	Turnip	6375	7250	6500	7000	6781
45	Mango	15500	17000	14250	16625	15844
46	Banana	15000	15000	14750	16625	15344
47	Guava	10375	11625	13500	13500	12250
48	Dates	15500	16125	15000	16000	15656
49	Figs			61500	56000	58750
50	Coconut		53250		56500	54875
51	Orange	12375	12375			12375
52	Kino	10000	10000			10000
53	Lemon	15000	16000			15500
54	Grape fruit	11000	9125			10063
55	Mandarin	7875				7875
56	Musambi	10000	10000			10000
57	Sure lime	15000	16500			15750
58	Sweet lime	10250	9250			9750
59	Sour orange	11000	11000			11000
60	Other Citrus	8750		11250	11250	10417
61	Grapes		33500	34500	39750	35917
62	Water melon	5000	6000	5000	6625	5656
63	Garma				16000	16000

64	Sarda				16000	16000
65	Pumpkin & Melon Pumpkin	7500	9500	8125	10375	8875
66	Long Melon		13500			13500
67	Tomatoes	10500	11125	13125	11500	11563
68	Cucumber		10250		9875	10063
69	Apple	19375	12500	19500	16875	17063
70	Plums	32500		33625	37500	34542
71	Peaches	27125		32375	29000	29500
72	Pomegranates	40000		39750	46750	42167
73	Apricots	30000		32250	33750	32000
74	Pear	17000		12500	16625	15375
75	Jaman	18750	22125			20438
76	Litchi	46250				46250
77	Phalsa	24125	25750			24938
78	Chikoo		30000		24750	27375
79	Papaya		12625		16375	14500
80	Cherry				44500	44500
81	Ber	20750	18375			19563
82	Loquat	11750		8375	12375	10833
83	Mulberry	21625	26875	19000		22500
84	Percimen			21375		21375
85	Other K. Fruits	18000	15625	17125	18000	17188
86	Other R. Fruits	11625	12250	17250	12500	13406
87	Almond	88750		108000	136500	111083
88	Walnuts	43125		55000		49063
89	Pistachio				116500	116500
90	Soya Beans		14750	15825		15288
91	Groundnuts	34250	37000	32500		34583
92	Sunflower	15375	13625	15375	14000	14594
93	Sesamum	33625	34375	33625	33625	33813
94	Safflower		13875			13875
95	Rape & Mustard	16500	14750	16000	15750	15750
96	Canola	21000	22875	18625	19000	20375
97	Castro seed	18875	18000		17625	18167
98	Lin seed	37500	31250			34375
99	Flowers & F. Buds					
100	Coriander	37500	31875	36000	40250	36406
101	Cumin seeds		67500		70000	68750
102	Dil seed		40000			40000
103	Chillies	33750	34000	39375	40500	36906
104	Ajwan		50000			50000
105	Fennel (Sounf)		30500			30500
106	Turmeric	33750	36875	34750		35125
107	Garlic	32375	28500	32125	28375	30344
108	Ginger		67750			67750
109	Other spices		37500			37500
110	Tobacco	30250	30875	36750	30875	32188
111	Sugar beet Crop			1375		1375
112	Sugar cane-Released	1325	1625	1575	1325	1463
113	Sugar cane-Procured	1125	1500	1200	1150	1244
114	Fodders Green	1425	1500	1425	1750	1525
115	Guar seed	13750	14500	16000	12750	14250
116	Fodders Dry-Wheat	2750	2625	2625	2750	2688
117	Fodders Dry-Maize-Stalks	1750	1550	1500	1625	1606
118	Fodders Dry-Maize-Piths	1375	1375	1375	1375	1375
119	Rice-Straw	1250	1250	1300	1125	1231
120	FD-Barley	1375	1125	1250	1500	1313
121	FD-Bajra	1500	1500	1500	1500	1500
122	FD-Jowar(Sorghum)	1375	1500	1375	1500	1438
123	FD-Gram	1500	1500	1375	1375	1438
124	Fodders Dry-S.cane	1125	1125	1050	1050	1088
125	Fodders Dry-Sesamum	1125	1125	1125	1125	1125
126	Fodders Dry-R&Mustard	1125	1125	1125	1125	1125
127	Cotton-Upland (Phutti)	25500	26000	23000	26500	25250
128	Cotton-Desi (Phutti)	26000	25750			25875
129	Hemp	25000		23750		24375
130	Cotton Sticks	500	500	500	500	500

Annexure IV

Output of Crops - Rebasing 2005-06

S.No	Crop/Item	2005-06 (Rs. Million)				
		Punjab	Sindh	NWFP	Balochistan	Pakistan
1	Wheat-Released	127116	20566	12382	7409	167473
2	Wheat-Procured	39477	7356			46833
3	Maize	27833	18	8059	67	35977
4	Rice-Basmati	38967		432	3928	43327
5	Rice-Irri	3282	15862	343	2561	22048
6	Rice-Others	2325	789	773	498	4385
7	Barley	514	41	477	272	1304
8	Bajra	2563	160	30	11	2764
9	Jowar(Sorghum)	1121	677	61	421	2280
10	Other					
11	Gram	8128	978	479	685	10270
12	Mash	517	31	43	39	630
13	Masoor	306	102	84	61	553
14	Moong	3391	106	218	85	3801
15	Mattar	456	822	22	222	1522
16	Other K. Pulses	61	15	29	33	138
17	Other R. Pulses	6	9	3		18
18	Potato	12680	26	1225	415	14346
19	Sweet Potato	86	16			101
20	Peas & Garden Peas	840	123	209	144	1315
21	Beans		11		113	124
22	Tinda	510	140	102	39	792
23	Lady finger	620	263	254	236	1373
24	Bitter Gourd	563	51	72	67	754
25	Bottle Gourd	410	23	57	38	528
26	Brinjal (eggplant)	461	115	90	83	749
27	Arum		2	123		125
28	Luffa		23		20	43
29	Pursilano		7			7
30	Field vetch		115			115
31	Cauliflower	1303	149	111	252	1815
32	Cabbage	362	206	30	77	675
33	Spinach	222	39	101	120	482
34	Knol Kohl		7			7
35	Fenu Greek		31			31
36	Lettuce		4			4
37	Other K. Vegetables	2934	13	258	33	3239
38	Other R. Vegetables	3056	15	130	35	3237
39	Onion	2911	9585	2437	9439	24372
40	Carrot	868	111	58	298	1335
41	Radish	538	40	61	131	769
42	Lotus roots		7			7
43	Sugar beet Vegetable		1		56	57
44	Turnip	1233	109	259	153	1755
45	Mango	21573	5991	46	108	27717
46	Banana	171	2021	202	60	2455
47	Guava	4627	700	583	38	5948
48	Dates	660	3109	133	4037	7939
49	Figs			34	10	44
50	Coconut		69		400	469
51	Orange	1353	207			1560
52	Kino	20720	10			20730
53	Lemon	348	140			488
54	Grape fruit	38	13			52
55	Mandarin	157				157
56	Musambi	864	11			875
57	Sure lime	96	4			100
58	Sweet lime	387	1			389
59	Sour orange	52	1			53
60	Other Citrus	190		424	69	683
61	Grapes		1	46	1886	1933
62	Water melon	1708	548	407	865	3527
63	Garma				97	97

64	Sarda				68	68
65	Pumpkin & Melon Pumpkin	211	11	51	112	384
66	Long Melon		8			8
67	Tomatoes	678	538	2121	2227	5564
68	Cucumber		21		44	65
69	Apple	70	1	2470	3728	6268
70	Plums	12		1113	992	2118
71	Peaches	13		1670	529	2212
72	Pomegranates	667		71	1480	2218
73	Apricots	7		591	6031	6628
74	Pear	5		345	7	357
75	Jaman	135	8			143
76	Litchi	135				135
77	Phalsa	67	70			137
78	Chikoo		116		81	197
79	Papaya		55		73	128
80	Cherry				93	93
81	Ber	218	135			353
82	Loquat	54		45	2	101
83	Mulberry	34	5	47		86
84	Persimmon			692		692
85	Other K. Fruits	1149	10	48	38	1245
86	Other R. Fruits	354	31	188	27	600
87	Almond	4		153	2987	3144
88	Walnuts	0		817		818
89	Pistachio				74	74
90	Soya Beans		1	6		7
91	Groundnuts	1709	170	475		2354
92	Sunflower	1889	3055	10	8	4962
93	Sesamum	1063	48	3	67	1181
94	Safflower		1			1
95	Rape & Mustard	1754	603	126	260	2744
96	Canola	48	88	13	45	194
97	Castro seed	1	31		5	38
98	Lin seed	40	53			94
99	Flowers & F. Buds	1212	606	162	40	2020
100	Coriander	13	25	5	60	104
101	Cumin seeds		0		414	414
102	Dil seed		1			1
103	Chillies	315	3699	39	154	4207
104	Ajwan		18			18
105	Fennel (Sounf)		7			7
106	Turmeric	1073	3	129		1204
107	Garlic	741	296	694	68	1800
108	Ginger		3			3
109	Other spices		8			8
110	Tobacco	654	4	3229	92	3979
111	Sugar beet Crop			128		128
112	Sugar cane-Released	5758	2741	1049	3	9550
113	Sugar cane-Procured	27701	14335	4528	14	46579
114	Fodders Green	63328	11089	3336	2270	80023
115	Guar seed	1123	187	40	24	1375
116	Fodders Dry-Wheat	46134	7220	2889	1787	58030
117	Fodders Dry-Maize-Stalks	6088	4	1760	15	7868
118	Fodders Dry-Maize-Piths	1595	1	538	4	2138
119	Rice-Straw	5564	3012	214	833	9623
120	FD-Barley	44	3	42	29	118
121	FD-Bajra	923	57	10	4	994
122	FD-Jowar(Sorghum)	387	243	20	161	810
123	FD-Gram	574	69	29	41	713
124	Fodders Dry-S.cane	6518	2530	932	3	9983
125	Fodders Dry-Sesamum	71	3	0	5	79
126	Fodders Dry-R&Mustard	120	46	9	19	193
127	Cotton-Upland (Phutti)	132549	35112	61	1321	169044
128	Cotton-Desi (Phutti)	1077	18			1096
129	Hemp	31		0		31
130	Cotton Sticks	10479	2702	5	100	13286

Annexure V

Seed of Crops - Rebasing 2005-06

S. No	Crop/Item	Average Use of Seed (kg/Acre)					Average Price of Seed (Rs/Kg)				
		Pun.	Sindh	NWFP	Baloch.	Pak.	Pun.	Sindh	NWFP	Bal.	Pak.
1	Wheat-Released	50.0	52.0	50.0	50.0	50.5	9	10	11	11	10
2	Wheat-Procured	50.0	52.0			51.0	17	19			18
3	Maize	14.0	13.0	14.0	13.0	13.5	28	25	32	32	29
4	Rice-Basmati	5.0		5.0	5.0	5.0	35		35	35	35
5	Rice-Irri	7.0	7.0	7.0	7.0	7.0	18	18	18	18	18
6	Rice-Others	7.0	7.0	7.0	7.0	7.0	18	18	18	18	18
7	Barley	35.0	35.0	35.0	35.0	35.0	22	22	22	22	22
8	Bajra	9.0	8.0	7.0	8.0	8.0	33	40	30	40	36
9	Jowar(Sorghum)	20.0	20.0	20.0	20.0	20.0	17	17	17	20	18
10	Other										
11	Gram	23.0	23.0	23.0	23.0	23.0	27	29	27	30	28
12	Mash	11.0	11.0	11.0	11.0	11.0	38	45	45	45	43
13	Masoor	11.0	11.0	11.0	11.0	11.0	47	47	47	47	47
14	Moong	11.0	10.0	10.0	10.0	10.3	40	48	40	40	42
15	Mattar	30.0	25.0	26.0	28.0	27.3	66	70	65	75	69
16	Other K. Pulses	11.0	10.5	10.5	10.5	10.6	39	46	42	42	42
17	Other R. Pulses	11.0	11.0	11.0		11.0	39	47	43		43
18	Potato	1040.0	960.0	960.0	880.0	960.0	17	22	22	18	20
19	Sweet Potato	40.0	40.0			40.0	10	10			10
	Peas & Garden										
20	Peas	22.0	22.0	22.0	22.0	22.0	50	50	50	50	50
21	Beans		8.0		8.0	8.0		39		39	39
22	Tinda	2.0	2.0	2.0	2.0	2.0	200	200	200	200	200
23	Lady finger	9.0	8.0	8.0	9.0	8.5	180	150	180	155	166
24	Bitter Gourd	3.0	3.0	3.0	3.0	3.0	590	590	590	590	590
25	Bottle Gourd	2.0	2.0	2.0	2.0	2.0	132	125	125	125	127
26	Brinjal (eggplant)	0.3	0.3	0.3	0.3	0.3	400	350	400	415	391
27	Arum		800.0	800.0		800.0		10	10		10
28	Luffa		2.0		2.0	2.0		37		37	37
29	Pursilano		1.0			1.0		88			88
30	Field vetch		5.0			5.0		29			29
31	Cauliflower	0.5	0.5	0.5	0.5	0.5	475	600	475	475	506
32	Cabbage	0.5	0.5	0.5	0.5	0.5	437	437	437	437	437
33	Spinach	11.0	11.0	10.0	10.0	10.5	33	33	35	36	34
34	Knol Kohl		0.5			0.5		488			488
35	Fenu Greek		4.0			4.0		90			90
36	Lettuce		0.2			0.2		250			250
	Other K.										
37	Vegetables	4.0	4.0	4.0	4.0	4.0	202	204	210	205	205
	Other R.										
38	Vegetables	7.0	7.0	7.0	7.0	7.0	265	270	270	270	269
39	Onion	3.0	3.0	3.0	3.0	3.0	320	236	240	290	272
40	Carrot	11.0	11.0	11.0	11.0	11.0	300	300	300	300	300
41	Radish	3.5	3.5	3.5	3.5	3.5	230	240	240	240	238
42	Lotus roots		6.0			6.0		30			30
	Sugar beet										
43	Vegetable		1.5		1.5	1.5		58		58	58
44	Turnip	1.3	1.3	1.3	1.3	1.3	260	264	264	264	263
45	Mango										
59	Sour orange										
60	Other Citrus										
61	Grapes										
62	Water melon	1.5	1.5	1.5	1.5	1.5	525	500	400	450	469
63	Garma				1.5	1.5				480	480
64	Sarda				1.5	1.5				480	480
	Pumpkin & Melon										
65	Pumpkin	5.0	5.0	5.0	5.0	5.0	700	700	700	700	700
66	Long Melon		1.0			1.0		350			350
67	Tomatoes	0.3	0.3	0.3	0.3	0.3	1050	940	910	950	963
68	Cucumber		1.5		1.5	1.5		1200		1200	1200
69	Apple										
70	Plums										
71	Peaches										

72	Pomegranates										
73	Apricots										
74	Pear										
75	Jaman										
76	Litchi										
77	Phalsa										
78	Chikoo										
79	Papaya										
80	Cherry										
81	Ber										
82	Loquat										
83	Mulberry										
84	Percimen										
85	Other K. Fruits										
86	Other R. Fruits										
87	Almond										
88	Walnuts										
89	Pistachio										
90	Soya Beans		40.0	40.0		40.0		30	30		30
91	Groundnuts	28.0	28.0	28.0		28.0	50	350	35		145
92	Sunflower	2.5	2.5	2.5	2.5	2.5	225	270	226	226	237
93	Sesamum	1.3	1.3	1.3	1.3	1.3	87	90	90	90	89
94	Safflower		5.0			5.0		25			25
95	Rape & Mustard	2.0	2.0	2.0	2.0	2.0	39	38	35	40	38
96	Canola	2.0	2.0	2.0	2.0	2.0	38	45	34	43	40
97	Castro seed	5.0	5.0		5.0	5.0	20	20		20	20
98	Lin seed	7.0	7.0			7.0	37	37			37
99	Flowers & F. Buds										
100	Coriander	8.0	8.0	8.0	8.0	8.0	60	50	48	48	52
101	Cumin seeds		5.0		5.0	5.0		80		80	80
102	Dil seed		5.0			5.0		80			80
103	Chillies	0.5	0.5	0.5	0.5	0.5	178	150	156	156	160
104	Ajwan		3.0			3.0		50			50
105	Fennel (Sounf)		5.0			5.0		36			36
106	Turmeric	560.0	640.0	640.0		613.3	42	42	42		42
107	Garlic	300.0	300.0	260.0	260.0	280.0	45	46	46	46	46
108	Ginger		160.0			160.0		70			70
109	Other spices		3.0			3.0		120			120
110	Tobacco	0.3	0.3	0.3	0.3	0.3	50	40	55	44	47
111	Sugar beet Crop			2.0		2.0			58		58
112	Sugar cane-Released	3440.0	3480.0	3440.0	3440.0	3450.0	2	2	3	2	2
113	Sugar cane-Procured	3440.0	3480.0	3440.0	3440.0	3450.0	2	2	3	2	2
114	Fodders Green	12.0	11.0	11.0	12.0	11.5	85	70	75	68	75
115	Guar seed	11.0	10.0	10.0	10.0	10.3	40	50	50	50	48
116	Fodders Dry-Wheat										
126	Fodders Dry-R&Mustard										
127	Cotton-Upland (Phutti)	9.0	10.0	9.0	8.0	9.0	85	66	70	87	77
128	Cotton-Desi (Phutti)	9.0	8.0			8.5	34	34			34
129	Hemp	13.0		13.0		13.0	27		27		27
130	Cotton Sticks										

Annexure VI

Value of Seed of Crops - Rebasing 2005-06

S.No	Crop/Item	Value 2005-06 (Million Rs.)				
		Punjab	Sindh	NWFP	Balochistan	Pakistan
1	Wheat-Released	6090.1	921.0	980.3	421.3	8412.7
2	Wheat-Procured	2114.4	528.5			2642.9
3	Maize	523.9	2.8	544.9	5.7	1077.2
4	Rice-Basmati	663.8		5.9	47.5	717.2
5	Rice-Irri	41.1	164.2	4.3	24.0	233.5
6	Rice-Others	29.7	20.5	10.0	6.1	66.3
7	Barley	66.2	12.4	62.4	30.1	171.1
8	Bajra	265.5	58.0	2.3	0.9	326.7
9	Jowar(Sorghum)	123.6	55.5	5.5	34.4	218.9
10	Other					
11	Gram	1381.3	84.7	63.1	61.9	1590.9
12	Mash	31.4	1.7	1.7	1.7	36.5
13	Masoor	26.4	6.1	6.6	4.1	43.3
14	Moong	205.8	6.5	9.8	3.8	225.8
15	Mattar	94.4	246.9	4.6	66.4	412.4
16	Other K. Pulses	3.2	1.3	1.6	1.1	7.2
17	Other R. Pulses	0.4	1.2	0.4		2.0
18	Potato	4565.5	16.2	511.6	109.6	5202.9
19	Sweet Potato	0.5	0.3			0.8
20	Peas & Garden Peas	17.8	5.3	4.9	2.0	30.1
21	Beans		0.2		0.5	0.7
22	Tinda	5.9	2.4	0.9	0.8	10.0
23	Lady finger	19.6	14.1	7.7	9.9	51.3
24	Bitter Gourd	16.5	3.6	3.2	2.5	25.8
25	Bottle Gourd	2.7	0.3	0.4	0.3	3.7
26	Brinjal (eggplant)	1.4	0.5	0.3	0.3	2.6
27	Arum		0.7	28.7		29.4
28	Luffa		0.1		0.1	0.2
29	Pursilano		0.0			0.0
30	Field vetch		0.6			0.6
31	Cauliflower	4.3	1.0	0.7	0.8	6.8
32	Cabbage	1.2	0.9	0.2	0.3	2.6
33	Spinach	2.8	1.2	1.2	1.1	6.3
34	Knol Kohl		0.1			0.1
35	Fenu Greek		0.4			0.4
36	Lettuce		0.0			0.0
37	Other K. Vegetables	53.8	1.4	6.3	1.2	62.7
38	Other R. Vegetables	156.8	3.8	8.3	2.5	171.4
39	Onion	77.3	115.6	21.2	81.9	296.1
40	Carrot	68.8	11.5	4.8	28.1	113.2
41	Radish	12.1	3.0	2.2	3.5	20.8
42	Lotus roots		0.1			0.1
43	Sugar beet Vegetable		0.0		0.1	0.1
44	Turnip	7.7	1.0	2.3	1.1	12.0
45	Mango					
46	Banana					
47	Guava					
48	Dates					
49	Figs					
50	Coconut					
51	Orange					
52	Kino					
53	Lemon					
54	Grape fruit					
55	Mandarin					
56	Musambi					
57	Sure lime					
58	Sweet lime					
59	Sour orange					
60	Other Citrus					
61	Grapes					
62	Water melon	31.8	19.5	8.7	18.8	78.8
63	Garma				1.0	1.0
64	Sarda				0.8	0.8

65	Pumpkin & Melon Pumpkin	18.7	2.3	5.9	10.5	37.4
66	Long Melon		0.2			0.2
67	Tomatoes	3.4	5.5	9.1	9.0	27.0
68	Cucumber		2.2		2.7	4.9
69	Apple					
70	Plums					
71	Peaches					
72	Pomegranates					
73	Apricots					
74	Pear					
75	Jaman					
76	Litchi					
77	Phalsa					
78	Chikoo					
79	Papaya					
80	Cherry					
81	Ber					
82	Loquat					
83	Mulberry					
84	persimmon					
85	Other K. Fruits					
86	Other R. Fruits					
87	Almond					
88	Walnuts					
89	Pistachio					
90	Soya Beans		0.3	0.9		1.1
91	Groundnuts	283.1	53.3	23.5		359.8
92	Sunflower	104.4	415.3	0.7	0.8	521.2
93	Sesamum	20.2	0.9	0.0	0.9	22.1
94	Safflower		0.0			0.0
95	Rape & Mustard	24.1	8.7	3.1	5.4	41.3
96	Canola	0.5	0.8	0.2	0.8	2.2
97	Castro seed	0.0	0.6		0.2	0.8
98	Lin seed	0.9	2.8			3.7
99	Flowers & F. Buds					
100	Coriander	0.6	2.0	0.2	2.7	5.6
101	Cumin seeds		0.0		12.6	12.6
102	Dil seed		0.0			0.0
103	Chillies	1.3	10.3	0.2	0.5	12.2
104	Ajwan		0.3			0.3
105	Fennel (Sounf)		0.2			0.2
106	Turmeric	190.4	7.4	25.8		223.5
107	Garlic	93.4	68.2	56.2	9.8	227.6
108	Ginger		3.0			3.0
109	Other spices		0.4			0.4
110	Tobacco	0.5	0.0	1.2	0.1	1.8
111	Sugar beet Crop			0.9		0.9
112	Sugar cane-Released	1355.2	449.0	314.3	0.7	2119.2
113	Sugar cane-Procured	7679.5	2544.3	1781.1	4.1	12009.0
114	Fodders Green	5109.4	512.8	222.8	85.1	5930.1
115	Guar seed	118.6	20.4	2.5	4.0	145.4
116	Fodders Dry-Wheat					
117	Fodders Dry-Maize-Stalks					
118	Fodders Dry-Maize-Piths					
119	Rice-Straw					
120	FD-Barley					
121	FD-Bajra					
122	FD-Jowar (Sorghum)					
123	FD-Gram					
124	Fodders Dry-S.cane					
125	Fodders Dry-Sesamum					
126	Fodders Dry-R & Mustard					
127	Cotton-Upland (Phutti)	4486.7	1037.3	3.3	65.0	5592.2
128	Cotton-Desi (Phutti)	39.8	0.7			40.5
129	Hemp	1.6		0.0		1.6
130	Cotton Sticks					
Total		**36240**	**7464**	**4769**	**1191**	**49664**

Annexure VII

Ploughing & Planking Crops - Rebasing 2005-06

S.No	Crop/Item	Average Rate (Rs/Hect)				
		Punjab	Sindh	NWFP	Balochistan	Pakistan
1	Wheat-Released	3089	2718	2718	2718	2811
2	Wheat-Procured	3089	2718			2904
3	Maize	2471	2718	2718	2718	2656
4	Rice-Basmati	3089		2718	2718	2842
5	Rice-Irri	3089	2718	2718	2718	2811
6	Rice-Others	3089	2718	2718	2718	2811
7	Barley	2471	2039	2039	2039	2147
8	Bajra	2471	2039	2039	2039	2147
9	Jowar (Sorghum)	1853	2039	2039	2039	1993
10	Other					
11	Gram	1853	2039	2039	2039	1993
12	Mash	1853	2039	2039	2039	1993
13	Masoor	1853	2039	2039	2039	1993
14	Moong	1853	2039	2039	2039	1993
15	Mattar	1853	2039	2039	2039	1993
16	Other K. Pulses	1853	2039	2039	2039	1993
17	Other R. Pulses	1853	2039	2039		1977
18	Potato	3089	2718	2718	2718	2811
19	Sweet Potato	1853	2039			1946
20	Peas & Garden Peas	1853	2039	2039	2039	1993
21	Beans		2039		2039	2039
22	Tinda	1853	2039	1359	1359	1653
23	Lady finger	1853	2039	1359	2039	1823
24	Bitter Gourd	1853	2039	1359	1359	1653
25	Bottle Gourd	1853	2039	1359	1359	1653
26	Brinjal (eggplant)	1853	2039	1359	1359	1653
27	Arum		2039	2039		2039
28	Luffa		2039		1359	1699
29	Pursilano		2039			2039
30	Field vetch		2039			2039
31	Cauliflower	1853	2039	1359	1359	1653
32	Cabbage	1853	2039	1359	1359	1653
33	Spinach	1853	1359	1359	1359	1483
34	Knol Kohl		1359			1359
35	Fenu Greek		1359			1359
36	Lettuce		1359			1359
37	Other K. Vegetables	1853	1359	1359	1359	1483
38	Other R. Vegetables	1853	1359	1359	1359	1483
39	Onion	3089	2718	2039	2039	2471
40	Carrot	1853	2039	2039	2039	1993
41	Radish	2471	2039	2039	1359	1977
42	Lotus roots		2039			2039
43	Sugar beet Vegetable		2039		1359	1699
44	Turnip	1853	2039	1359	1359	1653
45	Mango	1236	1359	1359	1359	1328
46	Banana	1236	1359	1359	1359	1328
47	Guava	1853	1359	1359	1359	1483
48	Dates	1236	1359	1359	1359	1328
49	Figs			1359	1359	1359
50	Coconut		1359		1359	1359
51	Orange	1853	1359			1606
52	Kino	1853	1359			1606
53	Lemon	1853	1359			1606
54	Grape fruit	1853	1359			1606
55	Mandarin	1853				1853
56	Musambi	1853	1359			1606
57	Sure lime	1853	1359			1606
58	Sweet lime	1853	1359			1606
59	Sour orange	1853	1359			1606
60	Other Citrus	1853		1359	1359	1524
61	Grapes		1359	1359	1359	1359
62	Water melon	1853	2039	1359	1359	1653
63	Garma				1359	1359

64	Sarda				1359	1359
65	Pumpkin & Melon Pumpkin	1853	1359	1359	1359	1483
66	Long Melon		1359			1359
67	Tomatoes	1853	2039	2039	2039	1993
68	Cucumber		2039		1359	1699
69	Apple	1853	2039	1359	1359	1653
70	Plums	1853		1359	1359	1524
71	Peaches	1853		1359	1359	1524
72	Pomegranates	1853		1359	1359	1524
73	Apricots	1853		1359	1359	1524
74	Pear	1853		1359	1359	1524
75	Jaman	1236	1359			1298
76	Litchi	1853				1853
77	Phalsa	1236	1359			1298
78	Chikoo		1359		1359	1359
79	Papaya		1359		1359	1359
80	Cherry				2039	2039
81	Ber	1236	1359			1298
82	Loquat	1236		1359	1359	1318
83	Mulberry	1236	1359	1359		1318
84	Percimen			1359		1359
85	Other K. Fruits	1236	1359	1359	1359	1328
86	Other R. Fruits	1236	1359	1359	1359	1328
87	Almond	1236		1359	1359	1318
88	Walnuts	1236		1359		1298
89	Pistachio				1359	1359
90	Soya Beans		1359	1359		1359
91	Groundnuts	1853	2039	2039		1977
92	Sunflower	2471	2718	2718	2039	2487
93	Sesamum	1853	2039	2039	2039	1993
94	Safflower		2039			2039
95	Rape & Mustard	1853	2039	2039	2039	1993
96	Canola	1853	2039	2039	2039	1993
97	Castro seed	1853	2039		1359	1750
98	Lin seed	1853	2039			1946
99	Flowers & F. Buds					
100	Coriander	1236	1359	1359	1359	1328
101	Cumin seeds		1359		1359	1359
102	Dil seed		1359			1359
103	Chillies	2471	2718	2718	2718	2656
104	Ajwan		1359			1359
105	Fennel (Sounf)		1359			1359
106	Turmeric	1853	2039	2039		1977
107	Garlic	1853	2039	2039	2039	1993
108	Ginger		1359			1359
109	Other spices		2039			2039
110	Tobacco	2471	2718	3398	2718	2826
111	Sugar beet Crop			2718		2718
112	Sugar cane-Released	3707	4077	3398	3398	3645
113	Sugar cane-Procured	3707	4077	3398	3398	3645
114	Fodders Green	1236	1359	1359	1359	1328
115	Guar seed	1853	2039	1359	1359	1653
116	Fodders Dry-Wheat					
117	Fodders Dry-Maize-Stalks					
118	Fodders Dry-Maize-Piths					
119	Rice-Straw					
120	FD-Barley					
121	FD-Bajra					
122	FD-Jowar(Sorghum)					
123	FD-Gram					
124	Fodders Dry-S.cane					
125	Fodders Dry-Sesamum					
126	Fodders Dry-R&Mustard					
127	Cotton-Upland (Phutti)	3707	3398	3398	3398	3475
128	Cotton-Desi (Phutti)	3707	3398			3553
129	Hemp	1853		2039		1946
130	Cotton Sticks					

Annexure VIII

Ploughing & Planking Cost of Crops - Rebasing 2005-06

S.No	Crop/Item	Ploughing & Planking Cost (Million Rs.)2005-06				
		Punjab	Sindh	NWFP	Balochistan	Pakistan
1	Wheat-Released	16918	1948	1960	843	21669
2	Wheat-Procured	3110	588			3698
3	Maize	1336	9	1338	15	2699
4	Rice-Basmati	4742		37	299	5077
5	Rice-Irri	407	1433	37	209	2087
6	Rice-Others	295	179	87	53	614
7	Barley	86	13	67	32	198
8	Bajra	894	149	9	2	1055
9	Jowar(Sorghum)	273	135	13	71	491
10	Other					
11	Gram	1668	105	84	74	1931
12	Mash	56	3	3	3	65
13	Masoor	38	10	11	7	65
14	Moong	351	11	20	8	390
15	Mattar	36	116	2	26	181
16	Other K. Pulses	6	2	3	2	13
17	Other R. Pulses	1	2	1		3
18	Potato	323	1	27	8	358
19	Sweet Potato	1	1			2
20	Peas & Garden Peas	12	4	4	2	21
21	Beans		1		1	2
22	Tinda	11	5	1	1	18
23	Lady finger	9	10	3	6	28
24	Bitter Gourd	7	2	1	1	10
25	Bottle Gourd	8	1	1	1	10
26	Brinjal (eggplant)	9	4	1	2	16
27	Arum		0	3		3
28	Luffa		1		1	2
29	Pursilano		0			0
30	Field vetch		3			3
31	Cauliflower	14	3	2	2	20
32	Cabbage	4	3	1	1	9
33	Spinach	6	2	2	2	11
34	Knol Kohl		0			0
35	Fenu Greek		1			1
36	Lettuce		0			0
37	Other K. Vegetables	50	1	4	1	56
38	Other R. Vegetables	63	1	2	1	68
39	Onion	101	180	24	78	382
40	Carrot	16	3	1	7	27
41	Radish	15	3	2	2	22
42	Lotus roots		0			0
43	Sugar beet Vegetable		0		0	0
44	Turnip	18	2	4	2	26
45	Mango	130	68	0	2	200
46	Banana	2	40	1	1	44
47	Guava	92	11	5	1	108
48	Dates	7	36	2	65	111
49	Figs			0	0	0
50	Coconut		1		2	2
51	Orange	22	2			24
52	Kino	264	0			264
53	Lemon	9	3			12
54	Grape fruit	1	0			1
55	Mandarin	5				5
56	Musambi	20	0			20
57	Sure lime	2	0			2
58	Sweet lime	9	0			10
59	Sour orange	1	0			1
60	Other Citrus	5		6	2	13
61	Grapes		0	0	18	18
62	Water melon	30	21	8	15	75
63	Garma				1	1

64	Sarda				1	1
65	Pumpkin & Melon Pumpkin	4	0	1	2	7
66	Long Melon		0			0
67	Tomatoes	10	19	33	31	93
68	Cucumber		1		1	2
69	Apple	1	0	13	139	152
70	Plums	0		5	5	10
71	Peaches	0		8	13	21
72	Pomegranates	4		0	15	19
73	Apricots	0		3	36	39
74	Pear	0		3	0	3
75	Jaman	1	0			2
76	Litchi	1				1
77	Phalsa	1	1			2
78	Chikoo		1		1	2
79	Papaya		1		1	2
80	Cherry				2	2
81	Ber	2	2			4
82	Loquat	1		1	0	2
83	Mulberry	0	0	1		1
84	Percimen			4		4
85	Other K. Fruits	17	0	0	1	19
86	Other R. Fruits	6	1	1	1	9
87	Almond	0		0	14	14
88	Walnuts	0		2		2
89	Pistachio				0	0
90	Soya Beans		0	0		1
91	Groundnuts	152	4	20		176
92	Sunflower	186	677	1	1	865
93	Sesamum	139	7	0	7	153
94	Safflower		0			0
95	Rape & Mustard	232	94	36	56	418
96	Canola	4	7	2	7	22
97	Castro seed	0	5		1	6
98	Lin seed	3	9			12
99	Flowers & F. Buds					
100	Coriander	1	3	0	4	8
101	Cumin seeds		0		17	17
102	Dil seed		0			0
103	Chillies	14	151	2	7	174
104	Ajwan		1			1
105	Fennel (Sounf)		1			1
106	Turmeric	6	0	1		7
107	Garlic	5	4	4	1	14
108	Ginger		0			0
109	Other spices		1			1
110	Tobacco	44	0	124	6	174
111	Sugar beet Crop			8		8
112	Sugar cane-Released	348	112	50	0	510
113	Sugar cane-Procured	1970	635	285	1	2890
114	Fodders Green	2505	366	149	57	3078
115	Guar seed	202	34	3	4	243
116	Fodders Dry-Wheat					
117	Fodders Dry-Maize-Stalks					
118	Fodders Dry-Maize-Piths					
119	Rice-Straw					
120	FD-Barley					
121	FD-Bajra					
122	FD-Jowar(Sorghum)					
123	FD-Gram					
124	Fodders Dry-S.cane					
125	Fodders Dry-Sesamum					
126	Fodders Dry-R&Mustard					
127	Cotton-Upland (Phutti)	8798	2161	7	128	11095
128	Cotton-Desi (Phutti)	195	4			199
129	Hemp	3		0		4
130	Cotton Sticks					
Total		**46335**	**9425**	**4546**	**2425**	**62732**

Annexure IX

GOVERNMENT OF PAKISTAN
STATISTICS DIVISION
FEDERAL BUREAU OF STATISTICS
ISLAMABD

AGRICULTURAL INPUT- OUTPUT SURVEY 2006-07

A. Identification Processing Code (For office use) | | | | | |

1. Name of Farmer/Respondent & Father's name ……

2. Province …….. | | 3. District …….. | | 4. Tehsil/ Taluka ……

5. Mauza/ Deh/Village ……..……

6. Total area under cultivation 2006-07 (Kharif & Rabi) in **Acres** | | 7. Avg. Rate of Ploughing / Acre (Rs.) | |

8. Total cost of a. Fertilizer Used (Rs.) | | b. Pesticide Used (Rs.) | |

a. Regional / Field Office …….. b. Name of Enumerator …….. c. Interview Date …..

B. Detail of Crop Specific Inputs 2006-07 (Kharif & Rabi)

S #	Crop	Seed		Fertilizer	Ploughing		Pest./Weed. Spray etc. (Rs./Acre)
		Kg/Acre	Rs./Kg	Rs./Acre	Rs./Acre/ Ploughing	# of Plou./ Acre	
1	Cotton						
2	Rice						
3	Sugarcane						
4	Maize						
5	Wheat						
6	Onion						
7	Potato						
8	Mango						
9	Citrus						
10	Dates						
11	Apple						
12	Green Fodder i Shaftal						
13	ii Jowar						
14	iii Others						
	Important Local Crops						
15							
16							
17							
18							

C. I Harvest Prices of Major Crops & by products

Code	Crops/ By Products	Price (Rs.) / 40Kg 2005-06	2006-07	Code	Crops/ By Products	Price (Rs.) / 40Kg 2005-06	2006-07
110	**Wheat**			160	**Jowar**		
113	Bhoosa/Stalks			161	Stalks		
120	**Rice**			170	**Maize**		
121	Basmati			171	Stalks		
122	Irri/Others			172	Pith		
123	Straw			180	**Sesamum**		
124	Husk			181	Straw		
130	**Cotton**			190	**Gram**		
131	Desi			191	Bhoosa		
132	American			200	**Barley**		
133	Sticks			201	Bhoosa		
140	**Sugarcane**			210	**R/Mustard**		
143	Tops			211	Straw		
150	**Bajra**			220	**Tobacco** Desi		
151	Stalks			221	**Tobacco** Virginia		

C.II Harvest Prices of Minor Crops

Code	Crops	Price (Rs./40Kg) 2005-06	2006-07	Code	Crops	Price (Rs./40Kg) 2005-06	2006-07
100	**Pulses**			104	Matter		
101	Mash			105	Other K.Pulses		
102	Masoor			106	Other R.Pulses		
103	Mung						
200	**Vegetables**			213	Lotus		
201	Arum			214	Lufa		
202	Beans			215	Peas		
203	Bitter Guard			216	Potato		
204	Bottle Guard			217	Pumpkin		
205	Brinjal			218	Pursilino		
206	Cabbage			219	Radish		
207	Carrot			220	Spinach		
208	Cauliflower			221	Squash/Tinda		
209	Cucumber			222	Sugarbeet		
210	Field Vetch			223	Sweet Potato		
211	Lady Finger			224	Tomatoes		
212	Long Melon			225	Turnip		
300	**Condiments**			305	Ginger		
301	Chillies			306	Onion		
302	Coriander			307	Turmeric		
303	Cumin Seed			308	Fennu Greek		
304	Garlic						

Code	Crops	Price (Rs./40Kg)		Code	Crops	Price (Rs./40Kg)	
		2005-06	2006-07			2005-06	2006-07
400	**Oilseeds**			404	Linseed		
401	Canola			405	Safflower		
402	Castor seed			406	Soya bean		
403	Groundnut			407	Sunflower		
600	**Other Crops**			603	Sun hemp		
601	Guar seed			604	Green Fodder		
602	Sugar beet			**700**	**Flowers**		
		Price (Rs./Acre)				**Price (Rs./Acre)**	
500	**Fruits**			530	Figs		
510	**Citrus Fruits**			531	Garma / Sarda		
511	Grape fruits			532	Grapes		
512	Kino			533	Guava		
513	Lemon			534	Jaman		
514	Mandarin			535	Litchi		
515	Mosumbi			536	Loquat		
516	Orange			537	Mango		
517	Sour Lime			538	Musk Melon		
518	Sour Orange			539	Water Melon		
519	Sweet Lime			540	Mulberry		
520	**Other Fruits**			541	Papaya		
521	Almond			542	Peaches		
522	Apple			543	Pears		
523	Apricot			544	persimmon		
524	Banana			545	Phalsa		
525	Ber			546	Pine Apple		
526	Cherry			547	Pistachio		
527	Chikko			548	Plums		
528	Coconut			549	Pomegranate		
529	Dates			551	Walnut		

604	Green Fodder			607	Maize (Fodder)		
605	Shaftal			608	Others (Fodder)		
606	Jowar (Fodder)						

Note: Please write any important clarification/information /calculation on back page.

Annexure X

Livestock Population

			"000" Heads		
			2004-05	**2005-06**	**1995-96**
Buffaloes			**26506**	**27335**	20273
	Mature		**15762**	**16172**	12572
		Bulls 3 years and above	**579**	**610**	361
		For Breeding	314	330	198
		For Work	265	280	163
		Buffaloes 3 Years and above	**15183**	**15562**	**12211**
		In Milk	9951	10222	7810
		Dry	3272	3381	2433
		Not Yet Calved	1960	1959	1968
	Young Males	**New Born and Immature**	**4535**	**4706**	**3286**
	New Born	Bulls Below one Year	3640	3748	2800
	Immature	Bulls Between 1 & 3 Years	895	958	486
	Young Females	**New Born and Immature**	**6209**	**6457**	**4415**
	New Born	Buffaloes Below one Year	4158	4276	3232
	Immature	Buffaloes Between 1 & 3 Years	2051	2181	1183
Cattle			**28327**	**29558**	**20425**
	Mature		**18500**	**19303**	**13692**
		Bulls 3 years and above	**3970**	**4147**	**3671**
		For Breeding	1324	1573	281
		For Work	2646	2574	3390
		Cows 3 Years and above	**14530**	**15156**	**10024**
		In Milk	8445	8720	6329
		Dry	4196	4469	2381
		Not Yet Calved	1889	1967	1314
	Young Males	**New Born and Immature**	**5155**	**5374**	**3568**
	New Born	Bulls Below one Year	3781	3911	2789
	Immature	Bulls Between 1 & 3 Years	1374	1463	779
	Young Females	**New Born and Immature**	**4672**	**4881**	**3165**
	New Born	Cows Below one Year	3301	3426	2361
	Immature	Cows Between 1 & 3 Years	1371	1455	805
Sheep			**26167**	**26488**	**23544**
	Mature		**17966**	**18120**	**16701**
		Male 1 Year and Above	4258	4365	3411
		Female 1 Year and above	13708	13755	13290
	New Born	Young stock less than 1 Year	8201	8368	6843
Goats			**52354**	**53789**	**41169**
	Mature		**36613**	**37788**	**27575**

		Male 1 Year and Above	6461	6617	5217
		Female 1 Year and above	30152	31171	22357
	New Born	Young stock less than 1 Year	15741	16001	13595
Camels			**910**	**921**	**815**
	Mature		**691**	**698**	**627**
		Male 3 Year and Above	351	356	
		Female 3 Year and above	340	342	
	New Born & Immature	Young stock less than 3 Years	219	223	189
Horses			**343**	**344**	**334**
	Mature	3 Year and Above	288	289	279
	New Born & Immature	Young stock less than 3 Years	55	55	55
Mules			**153**	**156**	**132**
	Mature	3 Year and Above	137	140	110
	New Born & Immature	Young stock less than 3 Years	16	16	22
Asses			**4191**	**4269**	**3559**
	Mature	3 Year and Above	3421	3495	2820
	New Born & Immature	Young stock less than 3 Years	770	774	739

Livestock Population Changes 2005-06				“000” Heads	
1	**2**	**3**	**4**	**5**	**6**
Species	**Opening**	**New Born**	**Died**	**Slaughtered**	**Closing**
Buffaloes	**27335**	8024	1985	5227	**28146**
Cattle	**29558**	7337	828	5395	**30673**
Sheep	**26488**	13820	794	12712	**26794**
Goats	**53789**	32219	2151	30412	**55244**
Camels	**921**	223	156	55	**933**
Horses	**344**	55	53	--	**346**
Mules	**156**	16	13	--	**158**
Asses	**4269**	774	695	--	**4347**

Annexure-XI

Poultry and poultry products				
	Description	**Unit**	**2005-06**	**1995-96**
Poultry				
	Layers (Farming)	Mill. #	23.20	
	Broilers (Farming)	//	337.00	
	Breeding Stock (Farming)	//	6.90	
	Chicks (Farming)	//	352.00	
	Poultry (Desi-cocks, hen, chicken)	//	72.95	63.20
	Ducks, Drakes and Ducklings	//	0.70	1.07
Poultry products				
	Eggs (Farming)	//	6258	
	Eggs (Desi)	//	3423	2864
	Eggs (Ducks)	//	31	
	Total eggs	//	9712	5927

Livestock products				
Milk		**Unit**	**2005-06**	**1995-96**
	Buffalo	(000 MT)	19779	14964
	Cow	//	10726	7467
	Sheep	//	34	30
	Goat	//	664	509
	Camel	//	767	--
Dung & Urine		Mill. MT	1171	499.3
Wool & Hair				
Wool		(000 MT)		
	Sheep	//	38.5	38.1
	Camel	//	1.71	
Hair				
	Goat	//	19.93	15.6
	Horse	//	0.26	
	Mule	//	0.12	

Annexure XII

Draught Power 2005-06	
Description	**No. & Value**
1. No of animal used for work. (280000+2574000)	2854000
i). Animals used for non- mechanised road transport(registered) 1% of total	28540
ii). Animals used for transport/bricks movement etc 2% of total	57080
iii) Available animals for draught power = 2854000-85620=2768380	2768380
2) No of work days in a year	365
i) Rainy and slack season days	145
ii) Working days for use of Draught Power	220
3) A pair of animals plough 1/2 acres in a day (for about 4-5 hours)	
Tractor ploughs 1/2 acre for rupees 160/-	
The output of two animals 160 rupees per day.	160
and per day per animal will be equal to 160/2=80 rupees.	80
Output of one animal is equal to 80X220 rupees per year.	17600
4).No. of Bullocks and Bulls used in the agriculture (97%)	2768380
5) Output of working animals available for Draught Power (Million Rs.)	48723

Kind of Animal	**No of Draught Power Animals**	**Animal used for Draught Power**	**Value (Million Rs.)**
Bulls	2574000	2496780	43943
Bullocks	280000	271600	4780
Both	**2854000**	**2768380**	**48723**

Assumptions:

1. All the other animals like camels, horses, mules and donkeys have been taken in non- mechanized road transport
2. Opportunity cost of use of draught power for alternate purpose is same.
3. The value of draught power and it's use is homogenous.

Annexure XIII

SURVEY ON LIVESTOCK ANIMALS

(National Accounts)

A: IDENTIFICATION **Processing Code** | | | | | |

1. Province: …….. 2. District: …… 3. Tehsil: ……

4. Name of the Village: …… 5. Name of the Respondent: …… 6. Date of Interview ……

B: Sale and Purchase Prices of Animals by Age and Sex during the last one year

Species by Age	Sex	Status	Value of Sale(Rs)		Purchase Value (Rs)	Breed
	M=1 F=2	In Milk=1 Dry=2 Others=3	To Farmer/ Household	To Butcher		Foreign/ Cross=1 Desi=2
1	2	3	4	5	6	7
a. Buffaloes						
11. <1 Year (only 1 animal)						
12. 1 <3 Year (only 1 animal)						
13. >=3 Year (only 1 animal)						
b. Cattle						
21. <1 Year (only 1 animal)						
22. 1 <3 Year (only 1 animal)						
23. >=3 Year (only 1 animal)						
c. Sheep						
31. <1 Year (only 1 animal)						
32. >=1 Year (only 1 animal)						
d. Goat						
41. <1 Year (only 1 animal)						
42. >=1 Year (only 1 animal)						
e. Camel						
51. <3 Year (only 1 animal)						
52. >=3 Year (only 1 animal)						
f. Horse						
61. <3 Year (only 1 animal)						
62. >=3 Year (only 1 animal)						
g. Mule						
71. <3 Year (only 1 animal)						
72. >=3 Year (only 1 animal)						
h. Asses						
81. <3 Year (only 1 animal)						
82. >=3 Year (only 1 animal)						

Labour Charges and Prices of Selected Livestock Items

Processing Code (For office use) | | | | | |

Section 1 Labour hired for Agriculture

1. Has the HH hired labour for agriculture during the last one year ? Yes=1 No=2

2. If yes, then status & number: i. Seasonal=1 No.= | ii. Annual=2 No.=

3. Per adult labour charges on the average for the total hired period (for Only one person from each category)

Cash (not returnable)	Kind				Others (Rs)	Meals Included
	Crop	Quantity Unit(40 kg)	Price/Unit (Rs)	Value (Rs)		Yes=1 No=2
1	2	3	4	5	6	7
Seasonal (Month names=) No. of Months=)						
	i. Wheat (310)					
	ii. Rice (311)					
	iii. (312)					
	iv. Others (313)					
Annual						
	i. Wheat (315)					
	ii. Rice (316)					
	iii. (317)					
	iv. Others (318)					

4. Does the HH use animals for Ploughing/planking ? Yes=1 No=2

5. No. of days animals used for Ploughing/planking during the last one month:

Section 2 Purchase/ Sale Price of Milk during the year 2006-07 (Rs./ litre)

Species	Price (Rs./Litre)		Species	Price (Rs./Litre)
1. Buffalo			3. Sheep/Goat	
2. Cow			4. Camel	

Section 3 Production & Price of Wool & Hair during the year 2006-07 (for Only one animal from each species)

Species	Wool/Hairs (kg/annum/animal)	Unit Price (Rs/Kg)	Species	Wool/Hairs (kg/annum/animal)	Unit Price (Rs/Kg)
1. Sheep			4. Camel		
2. Lamb			5. Horse/Mule		
3. Goat			6. Ass		

Section 4 Sale Price of Meat and Skins during the year 2006-07(from butcher)

Species	Meat (Rs./Kg)	Edible Offals* (Rs./Kg)	Head (Siri, Rs.)	Trotter (4 Pai, Rs.)	Hides / Skins	Unit Price(Rs.)
1. Cow/Buffalo					3. Hides (Cattle/Buff.)	
2. Sheep/Goat					4. Skin (Sheep/Goat)	

* It contains heart, liver, kidney, lungs etc.

Annexure XIV

Output of forestry 2005-06			
	Benchmark Estimates of Timber, 2005-06		**Million Rs.**
	Description	2005-06	1999-00
A.	Uses of **Timber** by Sectors		
1	Census of Mining Industries (CMI 2005-06)	809	362
2	Census of Large Scale Manufacturing Industries (CMI 2005-06)	4682	722
3	Small and household Manufacturing Industries (SHMI 2006-07) adjusted to 2005-06	9679	2959
4	Construction survey 2007-08, adjusted to 2005-06	9878	1806
	Total use of Timber net of Imports (Sum(1:4))	25048	5849
B.	Smuggling (25%) (25048*0.25)	6262	1462
C.	Trade & Transport Margin (40%) (25048 - 6661)*0.4	7514	1535
	Domestic use of timber in 2005-06- at 2005-06 Prices	**11272**	**2851**
	Benchmark Estimates of Firewood, 2005-06		
A.	**Household** Use -2005-06		
1	Average value of monthly consumption by one household in Urban Areas (Rs.)	64	
2	Average value of annual consumption by one household in Urban Areas (Rs.)	768	
3	Value of annual consumption by all household in Urban Areas	6190	
4	Average value of monthly consumption by one household in Rural Areas (Rs.)	220	
5	Average value of annual consumption by one household in Rural Areas (Rs.)	2640	
6	Value of annual consumption by all household in Rural Areas	38770	
7	Total Firewood consumption by Household(6190+38770)	44960	
8	Value of Firewood used in 2005-06, at Producer's Prices(70%)	31472	25445
B.	**Industrial** Use of Firewood		
1	Use of firewood in SHMI Urban		
	i. Establishments		5
	ii. Households		180
	Total	63	185
2	Use of Firewood in SHMI Rural		
	i. Establishments (84% of the total fuel)		754
	ii. Household		15
	Total	2075	769
	Value of Firewood used at 2005-06 Prices	2138	954
	Use of Firewood in CMI 2005-06	335	10
	Total use in Industrial sector (2138+335)	2473	1257
	Trade & Transport Margin (40%) (2473*0.40)	989	440
	Value of Firewood (at producer prices) used in 2005-06 at 2005-06 Prices (2473-989)	1484	817
	Household and Industrial Use of fire wood (31472+1484)	**32956**	**26262**
	Grand Total (Timber+ Firewood)	**44227**	**29113**

CHAPTER 3

Industry

Introduction

The components of this chapter are the producing industries other than the agriculture, forestry and fishing. The mining and quarrying activities have been covered under part 'A'. Part 'B' is the major part which covers manufacturing. It is further sub-divide in to three components, i.e., large scale manufacturing including newspapers, small scale manufacturing and slaughtering. Part 'C' covers electricity generation and distribution and gas distribution. Gas production is a component of mining and quarrying. Construction activities are covered separately under part 'D'. Detailed description of each industry is given in the following pages of this chapter.

A Mining and Quarrying

Coverage

According to the Pakistan Standard Industrial Classification (PSIC), 2007, mining and quarrying include the extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). Extraction can be achieved by underground or surface mining or well operation.

This section includes services incidental to mining, e.g. drilling services, derrick erection and the like. This section also includes supplementary activities aimed at preparing the crude materials for marketing, for example, crushing, grinding, cleaning, drying, sorting, concentrating ores, liquefaction of natural gas and agglomeration of solid fuels. These operations are often accomplished by the units that extracted the resource and/or others located nearby.

This section excludes manufacture of gas and distribution of gaseous fuels through mains which in PSIC 2007 is covered under section E "Electricity, gas and water supply", group 402 and is dealt with in the respective part of the rebasing methodology.

Details of the activities covered under mining and quarrying are as per section C of PSIC 2007, divisions 10 to 14. Latest revision PSIC 2010 rev. 4 which is parallel to the latest revision ISIC 4 covers in section B, from division 05 to 09. With regard to mining and quarrying and gas distribution there is no major change in classification.

Two approaches

The data situation for National Accounts purposes in mining and quarrying is very good as compared with other industries as the provincial Mines and Mineral Development Departments supply data on physical production regularly on quarterly basis. However, this is done commodity-wise and not on basis of establishment or enterprise data. Therefore, the main approach for Pakistan's annual and quarterly National Accounts is a functional (or "commodity") approach. This means that compilation of output, intermediate consumption and value added is based on commodity data. For empirical reasons they are the better choice than those the mining enterprises or establishment could provide, notwithstanding the fact that for measuring variables of production and capital formation the SNA recommends the use of data pertaining to establishments.

The option chosen for this rebasing is a compromise between the SNA recommendation and the empirical prevalence of commodity data in the country. For the base year the cumbersome and time consuming exercise has been done to collect data from all oil and gas corporations through their annual reports and through questionnaires and through data from the latest Mining Census. In using them we apply an enterprise approach which, however, is confined to the oil and gas companies and which will be embedded in the overall functional approach for all minerals. It has been assumed that enterprise concept (figures for companies) and establishment concept (figures for the mining sites) coincide, e.g. the companies do not carry out other activities than those belonging to PSIC section C. In this regard it is fortunate that in Pakistan the production of natural gas – which falls under "mining" - and its distribution through mains (which falls under "gas distribution") are widely done by specialized other companies (Sui Northern and Sui Southern). Only Mari Gas is distributing its production of

natural gas through own mains. The distribution component of Mari Gas has been included in the distribution activities of gas.

The idea is to sort the oil and gas companies by their main activity and to delineate their input-output ratio for the base year as well as their exploration cost and their taxes on products and their royalties. The input-output ratios for oil and gas are used to derive value added as a share of output which basically is calculated product-wise as explained below. The input-output ratios are assumed to be constant over time until next rebasing.

Nevertheless, there are some missing links for calculating value added which neither the mining departments nor the company reports are providing:

- product-wise output prices and intermediate consumption of mining and quarrying activity of the minerals under supervision of the mining departments which are natural gas, crude oil and coal and 37 other minerals which in the tables below have been summarized as "other minerals",
- output, intermediate consumption and value added of production of surface minerals,
- output, intermediate consumption and value added of crushing of stones and gravel (in conjunction with mining and quarrying),
- output, intermediate consumption and value added of oil and gas exploration and allied services incidental to mining.

The first of the missing links has been provided by the Census of Mining and Quarrying Industries (CMQI), conducted by the PBS for 2005-06.

The figures for production (extraction) of surface minerals have been extrapolated from the base 1999-2000. Due to resource constraint no new survey or study in this regard could be conducted. In the next rebasing this should be amended as it is problematic to abide by the underlying assumptions for such a long time.

The relevant figures for crushing of stone and gravel are based on a survey which PBS conducted for the year 2009-10. Details may be seen from the respective report on stone crushing establishments. The comparison with the figures for 2005-06 accruing from the previous rebasing 1999-2000 is hampered as at that time stone crushing was covered under manufacturing. The figures for the allied services have been taken from the reports and questionnaires of the companies.

From the above given data situation it follows that the sub-classification of mining and quarrying by product cannot fully match that of PSIC. However, the table on value added below indicates the bridges between the sub-classes of mining and quarrying chosen for compilation and the PSIC. For the special problem of exploration activity heed the remarks below.

Enterprise approach for extraction of oil and gas during year 2005-06

In terms of the SNA output is the product of volume and price. Volume stands for quantity plus quality. In mining and quarrying we can assume that volume is identical to quantity as for the purpose of National Accounts quality changes of minerals might be neglected.

But besides the output related to the extracted minerals there is another component: According to the SNA (par. 6.166 in SNA 1993 and par. 6.227 in SNA 2008) "expenditures on mineral exploration and evaluation are not treated as intermediate consumption. Whether successful or not, they are needed to acquire new reserves and so are all classified as gross fixed capital formation". This needs further clarifications as we have to differ between three possibilities:

- Exploration is outsourced and done by other companies. If these companies are specialised on drilling and exploration activities they would also fall under "mining" (group 112). In these cases

the production of these companies is recorded as output (drilling company) as well as capital formation of its client which also is a mining company.

- Exploration is done by specialised establishments of the mining companies. If we apply a pure establishment approach (as recommended in the SNA) these establishments would fall under group 112 of PSIC while the rest of the company – which in terms of the SNA is an "enterprise" – would fall under the class of the respective natural resource they are mining for. Recording then would be similar to the first option.

- Exploration is done by the company itself but cannot be allocated to special establishments. Then the market equivalent of all exploration cost forms part of intermediate consumption but must also be recorded as output for own final use which in this case is gross fixed capital formation (exploration). The SNA-transaction code for this kind of output is P.12.

With regard to the level of GDP and gross fixed capital formation all three options are equivalent as they lead to the same results. They just differ in their breakdown by PSIC. The data situation in Pakistan does not allow for the pure establishment approach. The annual reports of the oil and gas companies show "exploration cost" but they do not specify whether the activity is done by themselves with own staff and own materials or whether a drilling company has been contracted. Therefore, the third option has been applied for the exploration cost as per annual reports of the oil and gas companies while for the output of the enterprises belonging to allied services (PSIC 112) the first option has been chosen (assuming that their output totally falls under exploration and that it is recorded with their clients fully as capital formation).

It follows that activities of the mining companies on purpose of exploration are covered as output for own final use (P.12, here: own gross fixed capital formation). For this rebasing P.12 dedicated to own gross capital formation has been calculated out of the reports of the respective companies.

Market output of mining includes sales of scraps if accruing as by-products from mining activities. Sales of scrapped capital goods are to be recorded as negative capital formation (SNA 2008, 14.106).

The taxes on products related to mining are excise duties, development surcharges and General Sales Tax. They are neither part of output at basic prices nor part of gross value added of basic prices. If we would have to calculate gross value added at market prices (which is not foreseen in the SNA) then the taxes on products would be included.

It should be noted that royalties to be paid by the companies neither are to be treated as taxes nor are they part of intermediate consumption. According to the SNA they are to be treated like rents on land and thus are recorded in the allocation of primary income account. Like other property income to be disbursed out of value added and operating surplus they must not be deducted when measuring value added.

The enterprise approach provides the following figures, table 1, for the base year 2005-06 for the oil companies.

Table 1 Exploration Companies (crude oil, PSIC class 11101), (Rs. Million)

1	Market output		42,195
2	Output for own final use (exploration)		2,043
3	Intermediate consumption		5,827
4	Gross value added at basic prices (1+2-3)		38,412
5	Taxes on products	Excise duties	182
6		Development surcharges	-
7		General Sales Tax	-
8	Gross value added at market prices (4+5+6+7)		38,593
9	Royalties paid		4,619
10	**Input-output ratio in % (3 divided by (1+2))**		**13.2**

As already mentioned this approach does not fully match with a commodity approach as enterprises may engage in the production of various commodities. However, in case of mining, the product mix is limited as non-mining products are negligible. It should be noted, however, that some companies mainly extracting crude oil also produce natural gas and vice versa. The allocation of the companies to the respective PSIC-classes has been done according to their main activity.

For the mining companies producing natural gas the respective results are as follows in table 2:

Table 2 Exploration Companies (natural gas, PSIC class 11102), (Rs. Million)			
1	Market output		168,765
2	Output for own final use (exploration)		13,042
3	Intermediate consumption		12,095
4	Gross value added at basic prices (1+2-3)		169,711
5	Taxes on products	Excise duties	4,951
6		Development surcharges	17,629
7		General Sales Tax	26,976
8	Gross value added at market prices (4+5+6+7)		219,268
9	Royalties paid		8,634
10	**Input-output ratio in % (3 divided by (1+2))**		**6.7**

For 2005-06 five mining companies have been classified as producing allied services on behalf of oil and gas companies (PSIC 112). According to their records their output is 1,207 million Rs which is assumed to be exploration service fully provided to the domestic mining companies. In National Accounts this output is to be recorded as capital formation of the mining companies. Thus, the overall exploration services (ditto capital formation of this kind) sum up to 16,292 million Rs out of which 15,085 has been produced by the companies themselves when extracting oil and gas. The allied services companies had intermediate consumption of 43 million Rs. Their gross value added resultantly was 1,164 million Rs. They conveyed GST in amount of 99 million Rs and they paid royalties in amount of 73 million Rs.

The functional Approach

The functional approach comes from the product perspective and is based on the quantities reported by the Mining Departments. For the valuation of the output related to the extracted minerals under supervision of the mining departments pithead prices have been collected from the establishments and verified from the mining departments, as well. Pithead prices are equivalent to farm gate or factory gate prices. They exclude any taxes on products and include any subsidies on products. As there are no taxes or subsidies on the production process as such (i.e. taxes or subsidies on the factors of production) the price concept of basic prices which is recommended by the SNA and applied here also coincides with that of factor cost. The subsequent table shows the results of this exercise for each mineral under the reporting scheme of the Mining Departments plus figures for surface minerals (source: extrapolation from 1999-2000) and crushing of stones (source: special study) plus figures for own exploration of the oil and gas companies plus allied services (source: annual reports). The output of stone crushing for 2005-06 has been extrapolated backward from the reference year of the survey (2009-10) by using the method described under “extrapolation” below.

Table 3 Mining and Quarrying - Rebasing 2005-06						
Description	**Production 2005-06**		**Pithead prices**		**Value**	**Share**
	Unit	**Quantity**	**Unit**	**Rs./u**	**Rs. Million**	**%**
1	2	3	4	5	6	7
Natural Gas	MMCFt	1400026	MCFt	0.110	154003	51.64
Crude Oil	US B.(000)	23936	US B.	2380	56968	19.10
Coal	M.T	4871159	M.T	1860	9060	3.04
Sub Total-1					**220031**	***73.78***
Iron Ore	M.T	131259	M.T	450	59	0.02

Copper	M.T	5195857	M.T	430	2234	0.75
Bauxite	M.T	7831	M.T	460	4	0.00
Chromite	M.T	64572	M.T	3810	246	0.08
Magnesite	M.T	2446	M.T	805	2	0.00
Bentonite	M.T	20088	M.T	43450	873	0.29
Calcite	M.T	3360	M.T	1505	5	0.00
Red Oxide	M.T	9963	M.T	2446	24	0.01
Antimony Ore	M.T	91	M.T	22000	2	0.00
Slate Stone	M.T	47649	M.T	690	33	0.01
Soap Stone	M.T	21065	M.T	1104	23	0.01
Trona	M.T	2371	M.T	750	2	0.00
Ebrystone	M.T	40	M.T	2734	0	0.00
Marble	M.T	1835668	M.T	670	1230	0.41
Granite	M.T	8657	M.T	1600	14	0.00
Lime Stone	M.T	18427706	M.T	825	15203	5.10
Gypsum	M.T	601027	M.T	440	264	0.09
Dolomite	M.T	183952	M.T	300	55	0.02
Chalk	M.T	3968	M.T	670	3	0.00
Flourite	M.T	1966	M.T	3550	7	0.00
Silica Sand	M.T	411047	M.T	300	123	0.04
Argi Clay	M.T	2077659	M.T	650	1350	0.45
Shale Clay	M.T	1892857	M.T	550	1041	0.35
Laterite	M.T	52539	M.T	5040	265	0.09
Fire Clay	M.T	332528	M.T	250	83	0.03
China Clay	M.T	53051	M.T	1120	59	0.02
Ocher	M.T	34320	M.T	615	21	0.01
Fuller's Earth	M.T	16209	M.T	830	13	0.00
Ball Clay	M.T	741	M.T	760	1	0.00
Phosphate	M.T	910	M.T	1400	1	0.00
Sulphur	M.T	24695	M.T	5950	147	0.05
Barytes	M.T	52133	M.T	3450	180	0.06
Rock Salt	M.T	1858931	M.T	310	576	0.19
Sea/Lake Salt	M.T	15249	M.T	270	4	0.00
Feld Spar	M.T	8978	M.T	280	3	0.00
Quartz	M.T	32339	M.T	280	9	0.00
Serpentine	M.T	4933	M.T	2000	10	0.00
Other minerals					**24170**	***8.10***
Surface Minerals					3706	1.24
Crushing of stone					21399	7.18
All other minerals					**49275**	***16.52***
Allied Services					12643	4.24
Exploration Services					16273	5.46
Services					**28916**	***9.70***
Grand Total					**298222**	**100.00**

Table 3 shows that oil and gas are the paramount two minerals catering for three quarter of the production value of mining and quarrying. It also shows that for oil and gas the functional approach provided the result equivalent to the enterprise approach. The output calculated from physical production and pithead prices is 211 billion Rs while the equivalent from the enterprise approach (market output) is 211 billion Rs, also. We can assume that with regard to the value of production the enterprise approach and functional approach are equivalent. As there should also be an upward adjustment on behalf of the output for own final use (exploration) we raise the sum of value of production of oil and gas up to the total output as this results in 226 billion Rs. For the other minerals we keep the figures as per commodity approach with quantities and pithead prices.

The results for the output can now be condensed to a smaller sub-classification of PSIC (see section on gross value added below).

Intermediate consumption 2005-06

According to SNA intermediate consumption is to be valued at purchasers' prices (vulgo: at market prices). The input structure regarding natural gas and crude oil has been determined from the annual reports and data of oil and gas exploration companies. Exploration costs (if incurred on activities carried out by the companies themselves) are included in the input structure of the above companies (see remarks under previous section).

The inputs for the extraction of gas and oil have been taken from the respective companies. The companies have been allocated to oil and gas sectors by their output resulting in the figures shown above. The input-output ratios for extraction of natural gas (6.7%) and crude oil (13.2%) have been applied separately.

Input structure regarding coal and "other minerals" has been adopted from the census report CMQI 2005-06. The input structure for surface minerals has been estimated under the assumption that it is the same as that of the "other minerals" from the census report. The estimate of inputs for crushing of stone and gravel has been based on the survey results. The inputs of allied services are based on reports and questionnaire data. Details may be seen from the respective reports.

It should be noted that intermediate consumption also includes some virtual payments: remuneration for financial services indirectly measured (FISIM) and insurance service charges. For details see the methodologies on finance and insurance.

Gross value added 2005-06

Gross value added is output minus intermediate consumption. Gross value added for mining and quarrying for the new base year 2005-06 as derived from the above given figures and from the other data sources is given below in the table 4. The table gives the details of the estimates developed.

Table 4 Output, intermediate consumption and GVA of mining and quarrying 2005-06 in Million Rs

Description	Output at basic prices		Intermediate consumption	GVA (bp) Col. (2+3–4)
	Market output	For own final use		
1	2	3	4	5
Natural gas	154003	13930	10318	157615
Crude oil	56968	2343	7520	51791
Coal	9060		2718	6342
Sub total	220031	16273	20556	215748
Other minerals	24170		2224	21947
Surface minerals	3706		341	3365
Crushing of stone	21399		10700	10700
Sub total of all other minerals	49275		13264	36011
Allied services	12643		5774	6869
Total	**281949**	**16273**	**39594**	**258628**

Effect of rebasing

The effect of the rebasing 2005-06 can be shown by comparison of the results 2005-06 according to the new base with those extrapolated for 2005-06 out of the old base year 1999-2000. It is shown in the ***table 5*** below.

According to the improvement of coverage and updates of input-output ratios and prices output for the base year 2005-06 has now been assessed at 298 billion Rs. This is 4% more than the extrapolated figure based on the 1999-2000 base year. The intermediate consumption has now been assessed at 40 billion Rs. This decrease of 41% in the inputs is the result of the new input-output ratios, determined from the census, surveys and reports. As a result of both new assessments, the GVA has been revised 18% upward.

The effect of rebasing will also have an impact on the growth between 1999-2000 and 2005-06. Over these 6 years output has increased by 180%. All components contributed heavily. Intermediate consumption increased by 54%, lower than output, resulting in the higher increase in GVA which is 219%. This increase is at current prices, i.e. inflation is not yet deducted.

As it is intermediate consumption which makes the difference this aggregate has been shown in the table 5 in its breakdown by PSIC.

Table 5 Output, intermediate consumption and GVA of mining and quarrying 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 in Million Rs

Description	Base 1999-2000	Base 2005-06		% Change	
	Results 1999-2000	Results 2005-06 at prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
A. Output at basic prices	**106388**	**287076**	**298222**	**180.3**	**3.9**
B. Intermediate consumption	**25337**	**67393**	**39594**	**56.3**	**-41.2**
i. Natural gas	15682	37900	10318	-34.2	-72.8
ii. Crude oil	5466	19146	7520	37.6	-60.7
iii. Coal	738	1069	2718	268.3	154.3
iv. Other minerals	1441	5450	2224	54.3	-59.2
v. Surface minerals	312	779	341	9.3	-56.2
vi. Crushing of stones & gr.			10700		
vii. Allied services	1698	3049	5774	240.1	89.4
C. Gross Value Added (A-B)	**81051**	**219683**	**258628**	**219.1**	**17.7**

Extrapolation and current and constant prices

Output, intermediate consumption and value added will not be calculated for each year as deep as for the new base year. As in other industries and as in the method prior to this rebasing the figures of 2005-06 will be extrapolated. For the minerals under supervision of the mining departments this will be done for the year t as follows:

- Output at basic prices of 2005-06 will be extrapolated through quantities for the year 't' given by the mining departments. The result is output at constant prices of 't'. It is planned to do this on the basis of a quarterly mining index which presently is under preparation. This implies that exploration activity for oil and gas carried out by the companies themselves will be extrapolated in the same pattern.

- Output at constant (basic) prices of year t will be multiplied with an appropriate output inflator in order to get output of year 't' at current (basic) prices. WPI coal, natural gas for industrial use and crude oil will be applied to coal, natural gas and crude oil respectively. For other minerals,

surface minerals, crushing of stone and gravel and allied services for oil and gas, WPI crude oil will be used.

- Intermediate consumption of year 't' at constant prices will be calculated by multiplying the output at constant prices with the respective input-output ratio of the base year 2005-06.

- Intermediate consumption of year 't' at current prices will be multiplied with an appropriate inflator for the inputs in order to get intermediate consumption of year 't' at current prices.

- Gross value added will be obtained by subtracting intermediate consumption from output for the constant prices and for the current prices figures, respectively.

- The "other minerals" have a very low weight with regard to value added. For purpose of extrapolation their output will be treated as one lump sum of quantity. The input-output ratio of the base year will be that of all these minerals combined.

- For surface minerals, crushing of stone and gravel and for allied services and exploration we have to find other solutions as they are lying outside the boundary of the reports of the mining departments:

- Output of surface minerals will be extrapolated with the same ratio as "other minerals". Also the inflators for output and intermediate consumption will be those of the "other minerals".

- Output of crushing of stones and gravel should be linked to some construction indicator. This may be the output of "other minerals" which mainly is maid up of limestone. The input-output ratio to be applied will be that of the base year as developed out of the survey.

- Allied services and exploration activity are assumed to be highly correlated with the output of natural gas and crude oil. The respective output will be extrapolated for year 't' with the increase of the combined output of these two items. Input-output ratio for constant price estimates of intermediate consumption and value added will be the same as in the base year.

During this rebasing multiple sources for the inputs have been looked at. It was found out that there are significant changes in the input indicators between potential sources such as census, surveys, studies or reports. Nevertheless, due to resource constraints again the input structure will be maintained until the next change of base exercise.

B Manufacturing

Coverage and classification

Manufacturing is a key segment of the economy of Pakistan. It contributes about 19% towards the GDP. Manufacturing comprises establishments engaged in the physical or chemical transformation of materials, substances or components into new products. The material substances or components transformed are materials that are products of agriculture, forestry, fishing, mining & quarrying, as well as products of other manufacturing activities.

It is covered in section D of the Pakistan Standard Industrial Classification (PSIC 2007) which has been adopted from International Standard Industrial Classification (ISIC rev. 3.1) and includes 22 divisions**.** However it is covered in section C of the Pakistan Standard Industrial Classification (PSIC 2010) which has been adopted from International Standard Industrial Classification (ISIC rev. 4) and includes 24 divisions.

Cotton ginning has been excluded from the GVA of CMI 2005-06 because as per PSIC 2007 this industry is now part of agriculture industry (PSIC 0140). Previously cotton ginning was included in the bench mark estimates 1999-2000 because the CMI 2000-01 was based on PSIC 1970 (ISIC rev.2). According to figures of the CMI 2005-06 the relevance of this change in classification is not negligible. Gross value added at basic prices of cotton ginning 2005-06 is Rs. 43,610 million which compares to 4.8 % of gross value added of large scale manufacturing as defined by PSIC 2007.

For empirical reasons (different sources of data) Pakistan's National Accounts capture manufacturing in three different components:

- Large scale Manufacturing
- Small scale manufacturing
- Slaughtering

The components are treated in the above given order in different parts below. In a fourth part the results for the three components will be summarized.

B I Large Scale Manufacturing

Sources of Data

Large Scale Manufacturing covers the establishments registered or qualified for registrations under the Factories Act-1934, having 10 or more employees. Source of data is the Census of Manufacturing industries (CMI). The CMI is conducted on quinquennial basis by the joint efforts of Pakistan Bureau of Statistics, Provincial Directorates of Industries and Bureaus of Statistics. It provides data on value and quantities of output, inputs, contribution to GDP, fixed assets, stocks, employment and employment cost etc. The CMI data 2005-06 has been used for the compilation of bench mark estimates 2005-06. For further details of scope, classification and method of the CMI see website of PBS where the publication of CMI is posted. However, it should be noted that the results of "Paper and paper products" of the CMI have been enhanced by the figures for printing and publishing of newspapers. The newspapers had to be covered by a special study as their results, according to the PSIC belong to manufacturing but have not been covered by the CMI 2005-06. A separate estimation / calculation has been made to incorporate the contribution of the activity.

Methodology

Gross value added at basic prices is equal to output at basic prices minus intermediate consumption at purchasers' prices. To a minor part the output includes trade services carried out as a secondary activity. In Pakistan's National Account the trade services are calculated on functional basis under PSIC of wholesale and retail trade. Therefore, the trade services have to be deducted from manufacturing output in order to avoid double counting. ***Table 1*** below shows the sequence of calculation resulting in the gross value added at basic prices. ***Table 2*** shows the un-raised and raised output, intermediate consumption and gross value added along with input – output ratios according to the PSICs.

Table 1: Gross Value Added LSM (At Basic Prices) 2005-06									
Industry Groups		Value of Production (Prod. Price)	Trade Margin	Output (at PP) (Col.3 - 4)	Import/ Excise Duty	Other Taxes on products	Product Taxes (col. 6+ 7)	Subsidies on products	Output (at BP) (Col.5-.8 +.9)
1	2	3	4	5	6	7	8	9	10
CG	Cotton Ginning	130680	1331	129349	694	114	808	51	128592
1511(meat)	Meat & meat products	914	-1	915	0	0	0	0	915
15	Food Products and Beverages	483355	4137	479218	6467	427	6894	1093	473417
16	Tobacco Products	52402	0	52402	23607	36	23643	2	28761
17	Manufacture of Textiles	766980	3853	763127	2052	427	2479	2670	763318
18	Wearing Apparel	102595	5318	97277	111	91	202	1515	98590
19	Tanning and Dressing of Leather, Handbags, Footwear etc.	26742	236	26506	10	24	34	121	26593
20	Wood & Wood Products	11775	10	11765	17	1	18	4	11751
21	Paper & Paper Products	54955	629	54326	1313	4	1317	13	53022
22 (Exc 22121)	Publishing, Printing & Reproduction	9272	0	9272	145	0	145	0	9127
22121	Publishing of Newspapers	0	0	0	0	0	0	0	13391
23	Coke, Petroleum	271523	3350	268173	3196	5245	8441	856	260588
24	Chemicals & Chemical Products	351398	5215	346183	3650	8112	11762	4864	339285
24	Chemicals & Chemical Products (Exc. Pharmaceuticals & Fertilizers)	168424	1218	167206	1282	17	1299	1760	167667
2412	Fertilizers and Nitrogen compounds	92828	2510	90318	1613	8082	9695	2890	83513
2423	Pharmaceuticals	90146	1487	88659	755	13	768	214	88105
25	Rubber & Plastic Products	32189	23	32166	410	27	437	233	31962
26	Other Non-Metallic Mineral Products	138075	134	137941	13580	234	13814	1323	125450
27	Basic Metals	130492	226	130266	564	892	1456	26	128836
28	Fabricated Metal Products	21945	63	21882	303	2	305	18	21595
29	Machinery & Equipment n.e.c	60022	1331	58691	284	19	303	100	58488
30	Office Accounting and Computing Machinery	0	0	0	0	0	0	0	0
31	Electrical Machinery & Apparatus n.e.c	51849	1603	50246	542	4	546	41	49741
32	Radio, TV & communication equipment	5057	66	4991	56	0	56	86	5021
33	Medical, Precision & optical instruments	11333	40	11293	56	20	76	49	11266
34	Motor vehicles & trailers	159010	4489	154521	7710	188	7898	9	146632
35	Other transport equipment	42636	1	42635	1035	1	1036	28	41627
36	Furniture, Manufacturing n.e.c	13623	19	13604	65	20	85	286	13805
37	Recycling	281	1	280	12	2	14	7	273
	Total (Inc. CG & Meat)	2,929,103	32,074	2,897,029	65,879	15,890	81,769	13,395	2,842,046
	All Industries (Exc. CG & Meat)	2,797,509	30,744	2,766,765	65,185	15,776	80,961	13,344	2,712,539

Industry Groups		Industrial Cost	Non Industrial Cost	Intermediate consumption (Col.11 + 12)	Un-raised GVA (at BP) (Col.10 - 13)	Raising Factor	Raised GVA (at BP) (Col.14*Col.15)
1	2	11	12	13	14	15	16
CG	Cotton Ginning	101694	1093	102787	25805	1.69	43610
1511 (meat)	Meat & meat products	186	38	224	691	1.46	1009
15	Food Products and Beverages	320644	28136	348780	124637	1.11	138347
16	Tobacco Products	6055	3961	10016	18745	1.07	20057
17	Manufacture of Textiles	497290	44703	541993	221325	1.14	252311
18	Wearing Apparel	55379	15166	70545	28045	1.64	45994
19	Tanning and Dressing of Leather, Handbags, Footwear etc.	16926	2123	19049	7544	1.16	8751
20	Wood & Wood Products	5870	1310	7180	4571	1.24	5668
21	Paper & Paper Products	27546	3282	30828	22194	1.21	26855
22 (Exc 22121)	Publishing, Printing & Reproduction	5837	420	6257	2870	0.00	2934
22121	Publishing of Newspapers	0	0	7494	5897	4.25	25087
23	Coke, Petroleum	215825	4027	219852	40736	1.19	48476
24	Chemicals & Chemical Products	177627	45127	222754	116531	1.04	121192
24	Chemicals & Chemical Products (Exc. Fert. & Pharmaceut.)	102242	18609	120851	46816	0.00	48427
2412	Fertilizers and Nitrogen compounds	34587	10688	45275	38238	1.04	39800
2423	Pharmaceuticals	40798	15830	56628	31477	1.05	32966
25	Rubber & Plastic Products	21589	2090	23679	8283	1.27	10519
26	Other Non-Metallic Mineral Products	56881	7029	63910	61540	1.01	62155
27	Basic Metals	85805	3784	89589	39247	1.35	52983
28	Fabricated Metal Products	12954	1260	14214	7381	1.05	7750
29	Machinery & Equipment n.e.c	39079	3900	42979	15509	1.13	17525
30	Office Accounting and Computing Machinery	0	0	0	0	0.00	0
31	Electrical Machinery & Apparatus n.e.c	31660	5416	37076	12665	1.18	14945
32	Radio, TV & communication equipment	1925	229	2154	2867	1.19	3412
33	Medical, Precision & optical instruments	6107	901	7008	4258	1.73	7366
34	Motor vehicles & trailers	105134	7974	113108	33524	1.11	37212
35	Other transport equipment	25857	5130	30987	10640	1.04	11066
36	Furniture, Manufacturing n.e.c	7953	1196	9149	4656	2.64	12292
37	Recycling	6	25	31	242	1.00	242
	Total (Inc. CG & Meat)	1,825,829	188,320	2,021,643	820,403		977,759
	All Industries (Exc. CG & Meat)	1,723,949	187,189	1,918,632	793,907		933,139
*	The figure is based on the study of Newspapers and Periodicals 2007-08 which have been deflated by using urban population growth.						

Table 2 Output, Intermediate Consumption and Gross Value Added 2005-06 (Million Rupees)

Div. of PSIC	Description of Industry	Output (BP)	IC	Gross Value added at basic prices					Raised		
		Un-raised			Raising Factor	Raised GVA at BP	Share (%)	I-O ratio (%)	Output (BP)	Intr. Con. (IC)	GVA (BP)
1	2	3	4	5	6	7	8	9	10	11	12
CG	Cotton Ginning	128592	102787	25805	1.69	43610	-	79.9	217320	173710	43610
1511 (meat)	Meat & meat products	915	224	691	1.46	1009	-	24.5	1336	327	1009
15	Food Products and Beverages	473417	348780	124637	1.11	138347	14.8	73.7	525493	387146	138347
16	Tobacco Products	28761	10016	18745	1.07	20057	2.1	34.8	30774	10717	20057
17	Manufacture of Textiles	763318	541993	221325	1.14	252311	27.0	71.0	870183	617872	252311
18	Wearing Apparel	98590	70545	28045	1.64	45994	4.9	71.6	161688	115694	45994
19	Tanning and Dressing of Leather, Handbags, Footwear etc.	26593	19049	7544	1.16	8751	0.9	71.6	30848	22097	8751
20	Wood & Wood Products	11751	7180	4571	1.24	5668	0.6	61.1	14571	8903	5668
21	Paper & Paper Products	53022	30828	22194	1.21	26855	2.9	58.1	64157	37302	26855
22	Publishing, Printing & Reproduction	9333	6412	2921	1.05	3067	0.3	68.7	9800	6733	3067
22121	Publishing of Newspapers	206	155	51	2.60	133	0.0	75.2	536	403	133
22 (Exc 22121)	Publishing, Printing & Reproduction	9127	6257	2870	1.02	2934	0.3	68.6	9332	6397	2934
22121	Publishing of Newspapers	13391	7494	5897	4.25	25087	2.7	56.0	56965	31878	25087
23	Coke, Petroleum	260588	219852	40736	1.19	48476	5.2	84.4	310100	261624	48476
24	Chemicals & Chemical Products	339285	222754	116531	1.04	121192	13.0	65.7	352856	231664	121192
24 (Exc. Phar, fertilizers)	Chemicals & Chemical Products (Exc. Pharmaceuticals)	167667	120851	46816	1.03	48427	5.2	72.1	173436	125009	48427
2412	Fertilizers and Nitrogen compounds	83513	45275	38238	1.04	39800	4.3	54.2	86924	47124	39800
2423	Pharmaceuticals	88105	56628	31477	1.05	32966	3.5	64.3	92272	59306	32966
25	Rubber & Plastic Products	31962	23679	8283	1.27	10519	1.1	74.1	40592	30072	10519
26	Other Non-Metallic Mineral Products	125450	63910	61540	1.01	62155	6.7	50.9	126705	64549	62155
27	Basic Metals	128836	89589	39247	1.35	52983	5.7	69.5	173929	120945	52983
28	Fabricated Metal Products	21595	14214	7381	1.05	7750	0.8	65.8	22675	14925	7750
29	Machinery & Equipment n.e.c	58488	42979	15509	1.13	17525	1.9	73.5	66091	48566	17525
30	Office Accounting and Computing Machinery	0	0	0	0.00	0	0.0		0	0	
31	Electrical Machinery & Apparatus n.e.c	49741	37076	12665	1.18	14945	1.6	74.5	58694	43750	14945
32	Radio, TV & communication equipment	5021	2154	2867	1.19	3412	0.4	42.9	5975	2563	3412
33	Medical, Precision & optical instruments	11266	7008	4258	1.73	7366	0.8	62.2	19490	12124	7366
34	Motor vehicles & trailers	146632	113108	33524	1.11	37212	4.0	77.1	162762	125550	37212
35	Other transport equipment	41627	30987	10640	1.04	11066	1.2	74.4	43292	32226	11066
36	Furniture, Manufacturing n.e.c	13805	9149	4656	2.64	12292	1.3	66.3	36445	24153	12292
37	Recycling	273	31	242	1.00	242	0.0	11.4	273	31	242
	Total (Inc. CG & Meat)	2,842,046	2,021,643	820,403		977,759	104.8	71.1	3,402,320	2,424,561	977,759
	All Industries (Exc. CG & Meat)	2,712,539	1,918,632	793,907		933,139	100.0	70.7	3,183,664	2,250,524	933,139

Summary results are given in ***table 3*** and ***table 4***. The output at basic prices (excluding cotton ginning and meat) has been calculated as Rs.3184 billion whereas intermediate consumption has been estimated as Rs.2251 billion. Gross value added at basic prices for 2005-06 has been estimated as Rs. 933 billion against the GVA estimates of CMI 2000-01 which stood at Rs.365 billion. This shows an increase of 155 %. The GVA of 2005-06 base has been obtained as Rs. 933 billion whereas the existing estimates of 2005-06 at 1999-2000 base are Rs.1003 billion. This shows a rebasing effect of minus 7.0%.

If cotton ginning, meat & meat products and trade margin (i.e. Rs.75 billion) are added to the 2005-06 rebasing results, (Rs.933 billion + Rs.75 billion = Rs.1008 billion), then the CMI 2005-06 is 0.5% higher than the current estimates of 2005-06 on the base of 1999-2000. This also shows the authenticity of using QIM.

It should be noted, however, that between results according to base year 2005-06 and those according to old base 1999-2000 there are minor differences with regard to indirect taxes and subsidies, also. While GVA according to base 1999-2000 is measured at factor cost, GVA according to base 2005-06 is according to basic prices. GVA at basic prices is 1.4 % higher than GVA as factor cost as some indirect taxes do not fall under taxes on products (output) but under taxes of the production process as such (e.g. vehicle tax or land tax) and thus are not deducted.

The GVA of latest CMI 2005-06 by major industry Divisions is presented in table 3. The raising factors are those applied in the CMI for adjusting for non-response. For more detail see publication CMI page xxviii. It should be noted that for integration of CMI-results into the framework of National Accounts as shown in the table 3 following adjustments have been made:

- The value of production of PSIC 1511 (meat and meat products) and the respective intermediate consumption have been deducted as slaughtering is captured by a functional approach (see part III of this write-up). The respective amount, however, is very small (Rs. 914 million).

- The output of trade services (trade margin) of manufacturing establishments has been deducted from output as, similar to slaughtering; the trade activities are captured by a functional approach, already (see chapter on wholesale and retail trade). The trade margin for total manufacturing is Rs.30,744 million.

- Market production of the government, falling under Section D of PSIC 2007 (if any) is included in the respective output as well as intermediate consumption.

Table 3 Comparison of Gross Value Added (at basic prices) of 2005-06 over 2000-01 (Rs. Million)						
Industry Groups		Base 1999-2000	CMI			Change% 2005-06 over 2000-01
			2000-01	2005-06		
			Million Rs		% share	
CG	Cotton Ginning		12,733	43,610		242.5
1511 (meat)	Meat & meat products		0	1,009		
15	Food Products and Beverages		56,052	138,347	14.8	146.8
16	Tobacco Products		11,549	20,057	2.1	73.7
17	Manufacture of Textiles		106,391	252,311	27.0	137.2
18	Wearing Apparel		12,711	45,994	4.9	261.8
19	Tanning and Dressing of Leather, Handbags, Footwear etc.		8,687	8,751	0.9	0.7
20	Wood & Wood Products		273	5,668	0.6	1,976.2
21	Paper & Paper Products		3,796	26,855	2.9	607.4
22	Publishing, Printing & Reproduction		1,300	28,021	3.0	2,055.5
23	Coke, Petroleum		25,226	48,476	5.2	92.2
24	Chemicals & Chemical Products		56,817	121,192	13.0	113.3
25	Rubber & Plastic Products		4,710	10,519	1.1	123.3
26	Other Non-Metallic Mineral Products		19,704	62,155	6.7	215.4
27	Basic Metals		13,419	52,983	5.7	294.8
28	Fabricated Metal Products		3,662	7,750	0.8	111.6
29	Machinery & Equipment n.e.c		11,185	17,525	1.9	56.7
30	Office Accounting and Computing Machinery		22	0	0.0	-100.0
31	Electrical Machinery & Apparatus n.e.c		5,430	14,945	1.6	175.2
32	Radio, TV & communication equipment		1,119	3,412	0.4	204.9
33	Medical, Precision & optical instruments		1,720	7,366	0.8	328.3
34	Motor vehicles & trailers		15,792	37,212	4.0	135.6
35	Other transport equipment		1,053	11,066	1.2	950.9
36	Furniture, Manufacturing n.e.c		4,688	12,292	1.3	162.2
37	Recycling		0	242	0.0	
Total (Inc. CG & Meat)		338,602	378,039	977,759	-	-
All Industries (Exc. CG & Meat)			365,306	933,139	100.0	155.4

Table 4 Comparison of components of value added-LSM (million Rs.)					
Description	Methodology, coverage and price structure of base year..			% change	
	1999-2000		2005-06	Col. (4 / 2)	Col. (4 / 3)
		results 2005-06 at prices of 2005-06			
1	2	3	4	5	6
Output	-	-	3183662	-	-
Intermediate Consumption	-	-	2250524	-	-
Gross Value Added	338602	1003062	933139	175.6	-7.0
Insurance service charge			2516		
FISIM			27300		
GVA (subtracting Insurance service charge and FISIM)			903323		

It should be noted that following adjustments in the GVA estimates at basic prices have been made to bring them into the framework of national accounts as per SNA 2008:

- Intermediate consumption as per National Accounts does not include any interest paid but includes a virtual payment to the banks called "financial intermediaries services indirectly measured". For more detail see the chapter on banking. The FISIM i.e.Rs.27300 Million has also been deducted from the total GVA of Large Scale Manufacturing.

- The figure of insurance service charge i.e. Rs.2516 Million has been deducted from the total GVA of Large Scale Manufacturing.

The final estimates of Large Scale Manufacturing for the year 2005-06 after subtracting the insurance service charges and FISIM, stand at Rs.903.3 billion.

Extrapolation (current & constant prices)

During the past, several users have requested to have figures and growth rates of manufacturing at a more detailed level. The previous method of extrapolation with growth rates in real terms as per production index QIM (Quantum Index of Large Scale Manufacturing) will in principle be maintained. But in order to match users need the extrapolation will be done for relevant parts of manufacturing, separately. ***Table 5*** below indicates the sub-classification. For each of these divisions or groups thereof the respective output as well as intermediate consumption will be extrapolated with the increase or decrease of output of commodities of the QIM which appropriately fit to the output structure of the divisions. This implies that the input-output ratios will remain constant over time.

Limitations:

The assumption of constant input-output ratios is a weakness; ditto the lack of a full-fledged Producer Price Index for Pakistan.

Table 5 Example for extrapolation of GVA (at bp) of 15 Major Groups of LSM with figures from QIM for 2005-06 and 2006-07									
Major Groups	Item Numbers of QIM	Division (PSIC 2007)	GVA 2005-06		QIM		GVA (Million Rs.)		
			Mill. Rs.	% Share	2005-06 (Base Year)	2006-07	2005-06 (Base Year)	2006-07: col. 8 • col. 9	
								unadjusted	adjusted*
1	2	3	5	6	7	8	9	10	11
Textile	1-11	17,18	298,304	32.0	100.00	110.39	298,304	329,284	328,571
Food, Beverages and Tobacco	12-23	15, 16	158,404	17.0	100.00	111.47	158,404	176,569	176,186
Coke and Petroleum Products	24-35	23	48,476	5.2	100.00	99.67	48,476	48,314	48,209
Pharmaceuticals	36-41	33+pharmaceuticals covered in chemicals (2423)	40,332	4.3	100.00	113.30	40,332	45,696	45,597
Chemicals	42-53	24 (excluding Pharmaceuticals-2423 and fertilizers-2412)	48,427	5.2	100.00	110.28	48,427	53,405	53,290
Non-Metallic Mineral Products	54-55	26	62,155	6.7	100.00	123.40	62,155	76,702	76,536
Automobiles	56-62	34, 35	48,277	5.2	100.00	106.88	48,277	51,601	51,489
Iron and Steel Products	63-67	27	52,983	5.7	100.00	114.01	52,983	60,406	60,275
Fertilizers	68-74	24, covers industry class 2412	39,800	4.3	100.00	97.24	39,800	38,703	38,619
Electronics	75-87	31, 32	18,356	2.0	100.00	102.79	18,356	18,869	18,829
Leather Products	88-90	19	8,751	0.9	100.00	113.60	8,751	9,941	9,920
Paper and Board**	91-94	21, 22, 22121	54,876	5.9	100.00	97.40	54,876	53,450	53,334
Engineering Products***	95-106	28, 29, 37	25,517	2.7	100.00	120.11	25,517	30,650	30,583
Rubber Products	107-110	25	10,519	1.1	100.00	117.92	10,519	12,405	12,378
Wood Products	111-112	20, 36	17,960	1.9	100.00	99.65	17,960	17,896	17,857
G. Total			933,139	100.0	100.00	109.49	933,139	1,023,891	1,021,674

** adjusted to the product of change of total QIM multiplied with total GVA of Large Scale Manufacturing, ** GVA of newspaper included, *** Included is recycling*

BI-a Newspapers and Periodicals (Print Media)

Introduction

The significance of print media in today's world is evident from the fact that it has the power to influence the lives of the ordinary people in every way. Print media comprises of newspapers, magazines (weeklies, monthlies, bi-monthlies, quarterlies, half-yearlies, annual etc). Lot of magazines are published in Pakistan - including specialized professional magazines, for example science today, travel and tourism entertainment, finance, magazine on naturopathy, magazine on nature, oceanography, chemical sciences, like that. All these magazines inform about latest developments in the subject concerned. The Pakistani media landscape reflects a multi-linguistic, multi-ethnic and class-divided society. There is a clear divide between Urdu and English media. Urdu media, particularly the newspapers, are widely read by the masses – including rural areas. The English media is urban and elite-centric.

Exposure

The present report, 'Newspapers and Periodicals', covers class 2212 (sub-classes 22121 and 22122) under section D-Manufacturing in the PSIC 2007. The same activity in PSIC 2010 falls in class 1811 (sub-class 18111), Section C-Manufacturing. It is to be mentioned that this class of PSIC does not cover news agencies, which are included in the estimates of private services. Pakistan Bureau of Statistics has conducted a study survey for 2007-08 to cover this activity. For the preparation of the value added estimates for national accounts and contribution of newspapers and periodical to economy, the report was reviewed and the adjustments and improvements based on available secondary data were made with respect to under-reporting, under-coverage and non-response. Numerical data/ information of Audit Bureau of Circulation (ABC), Press Information Department (PID), Provincial Public Relation Departments (PPRD), All Pakistan News Paper Society (APNS), Council of Pakistan News Editors (CPNE) and many other organizations were adopted to estimate the reliable output and intermediate consumption in this activity.

Measurement of Output

The sources of income contributing to the output of newspapers and periodical (***Table-1***) are given below.

a) Sale of Newspapers and Periodicals

In the absence of information by establishment, commodity producing approach has been used for the estimation of output. Annual number of circulation (Audit Bureau of Circulation) of each publication grouped into dailies, weeklies, monthly and others has been multiplied with the weighted price per publication (All Pakistan Newspapers Society) during 2007-08 to get the turnover through sale of newspapers and other periodicals. The value of output is compiled ot basic prices. In case of newspapers and periodicals it has been observed that basic price is equal to the factor cost, producer's prices and market prices as such, as there are neither taxes on products nor subsidies. Taxes on factor of production (capital assets) such as land, building, vehicles etc. on establishments/ enterprise are negligible.

b) Advertisements

Advertising is one of the major sources of earnings of newspapers and periodicals. In the advertising important changes have occurred in recent years. Among those worth mentioning are the emergence of dedicated media centres, the change in advertising strategy and the search for alternative channels to reach clients, which have changed advertising activities. Newspapers and periodicals are major source of advertisements for government, public sector enterprises and private sector establishments. Private and personal interest advertisements are also one source of income for the newspapers, which in this exercise, have been combined with the private advertisements. All these information and data have been collected from different sources (Press Information Department, Ministry of Information, Government of Pakistan, Provincial Public Relation Department, Pakistan Advertisement Association etc.) and adjusted with the study survey results of Newspapers and periodicals conducted by Pakistan Bureau of Statistics.

c) Other Income

Other income includes revenue earned through work done for others (i.e. providing printing facilities and in some cases printing including paper), sale of waste materials and papers, rent of building, renting of machinery and equipment etc. As it was very difficult to find the size of under-reporting and under-coverage, the estimates reported in the results of study survey for newspapers and periodicals have been adopted.

Table 1 Estimation of Output* of Newspapers and periodicals For 2007-08

Heads/Period of Publications	Daily	Weekly	Monthly	Others	Total
1. Number of Publications	304	463	778	142	1,687
2. Circulation (Number)	9934851	1099628	2665858	190804	13891141
3. Multiplier for Annual Circulation	350	52	12	1.73	-
4. Annual Circulation (in '000') (2*3)	3477198	57,181	31,990	330	3566699
5. Price Per Publication (Rs) Weighted Average	6.10	25.00	40.00	75.00	-
6. Total Value of Publications (Mil. Rs.) (4*5)	**21,211**	**1,430**	**1,280**	**25**	**23,945**
7. Advertisements – Government	2894.82	333.88	87.82	0.25	3317
8. Advertisements - Public Sector Corporations	196.65	37.50	12.44	2.17	249
9. Advertisements – Private	7362.84	3919.41	1709.86	40.82	13033
10. Other Income/ Revenue Earned	207.45	12.89	34.21	2.09	257
11. Annual Gross Revenue of Newspapers & Periodicals (Million Rs.) (6+7+8+9+10=11)	**31,873**	**5,733**	**3,124**	**70**	**40,800**

* Basic Prices

Sources: 1) Study Survey, 2) Audit Bureau of Circulation, 3) Provincial Public Relation Departments, 4) All Pakistan Newspapers Society, 5) Council of Pakistan Newspapers Editors 6) Anjuman Akhbar Faroshan, Islamabad

Note: Weeklies include bi-weeklies, Monthly includes fortnightlies, others include quarterlies, bi-annual, annual & others

Measurement of Intermediate Consumption

The estimates of intermediate consumption which include raw materials (especially printing papers), chemicals, dyes, printing and other stationery (only these items account for 70% of total intermediate consumption), and expenditures on utilities, POL, rent of machinery, repair and maintenance, legal and consultancy fees, bank service charges etc. In the present estimates all these expenditures reported (in much detail) in the study survey have been incorporated after adjustments for non-reporting and under-coverage in the survey. The valuation of non-reporting and under-coverage has been estimated on the basis of input output coefficients. The details of estimates of intermediate consumption are given in ***Table-2***.

Table 2 Intermediate Expenditures of Newspapers and Periodicals during 2007-08 (Rs. 'Million)

Sr. #	Expenditure Heads / Publications Period	Daily	Weekly	Monthly	Others	Total
	Number of Publications	304	463	778	142	1,686
1	Rent Building	290	24	48	4	366
2	Rent of Machinery and Equipment	75	5	13	-	93
3	Utilities (Electricity, Gas, Water)	307	15	4	0	367
4	Raw Materials, Chemicals, Dyes	5,151	478	129	2	5,759
5	Printing and Stationary	3,244	35	104	5	3,388
6	Repair and Maintenance (Minor)	202	4	10	0	216
7	Insurance Premium/Fees *	180	0	2	-	182
8	Legal, Auditing, Accounting, Consultancy	174	5	9	1	188
9	Travelling (Road, Air, Rail)	307	16	19	1	343
10	Telephone, Fax, Mobile, Internet	254	13	29	1	298

11	Postage and Courier	59	11	27	0	97
12	Entertainment	93	10	11	0	113
13	Boarding & Lodging (official visits)	94	4	7	0	105
14	Petroleum, Oil, Gas, Lubricants	172	11	19	0	202
15	Newspapers, Books, Periodicals etc	123	4	7	0	134
16	Copy Rights, Patents, Royalties etc.	84	11	10	0	105
17	Packing Expenditures/Charges	82	14	24	0	121
18	Security	44	2	8	0	54
19	Bank Charges	44	1	3	-	48
20	Excise Duty on Bank Charges	2	-	-	-	2
21	Other Expenditures n.e.c.	1,240	132	8	-	1,380
	Annual Gross Expenditures on Newspapers & periodicals	12,220	794	531	16	13,561

Measurement of Value Added

The value added corresponds to the value of final goods and services to the economy and is calculated by subtracting the value of inputs used (goods and services i.e. raw materials, fuel, energy, etc.) which are called intermediate consumption. For this estimates, the GVA was derived taking into account the availability of information from available sources including reported in the study survey on newspapers and periodical. The estimates of gross value added for newspapers and periodicals (print media) for the year 2007-08 by period of their publications are as under:

Table 3 Gross Value Added (Rs. Million)

Sr. #	Head	Daily	Weekly	Monthly	Others	Total
	Number of Publications (#)	304	463	778	142	1687
1	Output/ Production	31,873	5,733	3,124	70	40,800
2	Intermediate Consumption	12,220	794	531	16	13,561
3	Gross Value Added	19,653	4,939	2593	54	27,239

As per practice and according to System of National Accounts, the commission paid to hawkers and dealers of newspaper have to be deducted from the output as intermediate consumption (input) of this activity, and to be added as output in the distributive trade sector. For the simplicity, the commission has not been deducted from the Gross Valued Added of Newspapers and Periodicals, due to the non-availability of regular annual primary data, it is not easy to prepare separately the commission of the hawkers and dealers for annual estimation. However the commission for the year 2007-08 has been estimated with the help of "Anjuman Akhbar Faroshaan (Association of Newspapers sellers)" and APNS. The estimates are as under:

Table 4 Commission of Hawkers and Dealers for the 2007-08

Head	Daily	Weekly	Monthly	Others	Total
Number of Publications	**304**	**463**	**778**	**142**	**1687**
Value of Publications	21,211	1,430	1,280	25	23,945
Commission on Publications	35%	40%	40%	30%	-
Gross Commission	**7,424**	**572**	**512**	**8**	**8,516**

To make it clear about any doubt of double counting, that the activity of hawkers and newspaper dealers falls under the jurisdiction of distributive trade, but unfortunately in the trade survey conducted for rebasing of national accounts the mobile trade which includes newspaper hawkers also have not been covered.

Estimates of Bench-Mark year 2005-06

Measurement of the component of GDP constitutes a core part of almost all national accounts system. Production approach is most widely used in measuring GDP. The same is applied in the estimation of value

added in newspaper and periodicals. Preparation of annual regular estimates in this activity requires timely availability of annual data with maximum possible coverage. With the constraint of resources (financial as well as human), it is not possible to conduct timely survey for annual estimates. Therefore, for the estimation of bench mark estimates for the year 2005-06, the GDP of newspapers and periodicals estimated based on the study survey for the year 2007-08 which stands Rs. 27,239 million have been deflated. For the deflation, in our case two deflators have to be applied; one price deflator to eliminate the cost inflation and second to quantity deflator to take out the quantum impact.

Considering the availability of requisite data for quantum index and its variability, and keeping in view the constraints, the estimates for 2007-08 have been deflated by the urban population growth (3.5 % for 2007-08 & 2006-07 respectively) as this group is the highest consumer of this activity. For extrapolation purpose, the GVA of newspapers and periodicals has been included in the QIM group “Paper and paper board”.

BII Small Scale Manufacturing

Introduction

Small Scale manufacturing covers industrial establishments & households units which are engaged in manufacturing activity having less than ten employees. Manufacturing – regardless whether large scale or small scale - is covered in section D of the PSIC 2007 and in section C of the PSIC 2010. In majority the units of small scale manufacturing are not registered and thus are a part of the informal sector. As they are small but many it is cumbersome, expensive and difficult to observe them statistically. In Pakistan this is done in special area samples called "Small and Household Manufacturing Industries Survey" (SHMI). These surveys are carried out in multi-annual but irregular periodicity. The latest SHMI was conducted for financial year 2006-07 for the purpose of rebasing National Accounts for the year 2005-06. Reference year of SHMI and base year National Accounts differ by one year because the workload of conducting studies and surveys for the rebasing had to be distributed somehow evenly over three subsequent years. Therefore, making use of SHMI 2005-06 for rebasing of National Accounts had to be done in three steps:

- Calculating output, intermediate consumption and value added for 2006-07 (SHMI)
- Revisiting the method and algorithms of extrapolating the figures backward and forward for purpose of annual calculations.
- Determining the main variable (gross value added) for the year of rebasing (2005-06) according to the new algorithm.

Survey results: The figures for 2006-07 can directly be taken from the results of the SHMI as follows:

Table 1: Gross value added 2006-07 as per results of SHMI 2006-07 in million Rs

Row	Item SHMI / National Accounts	Pakistan		
		Urban	Rural	total
1	Value of products & by-products at market prices	154405	76251	230656
2	Non-Industrial receipts	688	2136	2825
3	Sales Tax levied on the output	71	9	81
4	Output at producers' prices (1+2-3)	155022	78378	233400
5	Taxes on production other than sales tax	113	78	191
6	Subsidies on production	7	4	11
7	Output at basic prices (4-5+6)	154916	78305	233221
8	Industrial cost	82884	38839	121723
9	Non-industrial cost	5001	2165	7165
10	Intermediate consumption (8+9)	87885	41004	128889
11	Gross value added at basic prices (7-10)	67031	37301	104332

The more challenging task is to interpolate the figures of the time span between the latest SHMI-surveys and to reconsider extrapolation as annual information is lacking. Since long, rigid assumptions have been applied to fill the gaps in the time series. For the first bench mark year 1959-60 national accounts estimates for small scale manufacturing as well as for most of the sectors of the economy were placed on fixed growth of value added at constant prices. For SHMI growth of value added had been assumed to be equal to that of population. Population growth was used up to 1969-70. From 1970 to 1974-75 the estimates were projected by applying a fixed growth rate of 7.3% per annum. The growth rate was revised on the basis of SHMI survey 1983-84. For the subsequent rebasing period the compound annual growth rate of 8.4% was projected on the basis of a survey limited to Punjab (1976-77) and a country wide survey (1983-84). FBS then conducted SHMI surveys for the years 1987-88 and 1996-97. The annual growth rate between the two was calculated at 5.31% which was applied to obtain year to year value added at constant factor cost for that period.

For the shifting of National Accounts' base year from 1980-81 to 1999-2000 a study was conducted which recommended to apply the constant growth rate of 7.51% till the availability of results of new survey to authenticate the annual growth rate. The SHMI of 2006-07 enables to do this now. For this purpose following ideas have been considered to be still valid:

- It is still not justified to apply the growth of large scale manufacturing as a proxy for small scale manufacturing as the structure and volatility of the business cycle differ between small scale and large scale manufacturing.

- The assumption still implies constant annual growth rates as long as figures are measured at constant prices.

- It is still assumed that growth of value added fully correlates with growth of output which means that the input-output ratio is assumed to remain constant during a rebasing period.

The assumptions of constant growth rate and of constant input-output ratios are weaknesses, of course. Therefore, alternatives have also been considered. The most promising one was to take employment of large scale manufacturing as a proxy variable for output assuming total correlation between labour input and output. However, this has been discarded due to the fact that employment data for the small scale part of manufacturing are not easy to estimate. Finally the discussions again focused on choosing an appropriate period of two surveys for which the inter-survey annual growth at constant prices could be calculated and then be taken as a yardstick for extrapolation backward (1999-2000 until SHMI 2006-07) and forward (2007-08).

Deflation method

The problem was that the time series of surveys and studies on small scale manufacturing did not provide a clear picture. In the light of SHMI 2006-07 the study which had been carried out for 1999-2000 evidenced to be totally out of proportion. The only alternatives were to apply the average annual growth between SHMI 1996-97 and SHMI 2006-07 or to go for the longer period between SHMI 1987-88 and SHMI 2006-07. For this purpose it was necessary to get long time series at constant prices which so far were not available due to the fact that during the last decades the constant price figures referred to different price bases. In a special exercise National Accounts had to transform the constant price figures uniformly into one single base. It was decided to choose 1980-81 and to construct a special index of 29 typical products of WPI-figures for this purpose. As the weighting scheme for that was taken from SHMI it is justified to call it a producer price index of small scale manufacturing. The result of applying the splicing method is shown in ***table 2***. The 4th column to the right shows the common deflator as a ratio of 1980-81 as 100.

With the help of the deflators on price base 1980-81 the annual compound growth rate for alternative periods at constant prices can be elaborated. However, the former SHMI surveys followed a pattern which meanwhile is out-dated. The calculation therefore still refers to the concepts of factor cost and census value added. But for the purpose of determining a yardstick for annual extrapolation the divergence with the basic price concept (required now in the new System of National Accounts) is negligible. The main results of subsequent surveys are given in ***table 3*** below.

Table 2 Small Scale Industries (Deflators)											
	1980-81 (Base)GVA			1999-2000 (Base) GVA		2005-06 (Base)		Deflators			
Years	Current	Constant	Growth Rate	Current	Constant	Current	Constant	1980-81 Base	1999-00	2005-06	1980-81
	Million Rs.			Million Rs.		Million Rs.					
1980-81	9995	9995						100.00			100.00
1981-82	11099	10835						102.44			102.44
1982-83	12843	11745						109.35			109.35
1983-84	**14880**	**12732**						**116.87**			**116.87**
1984-85	17740	13801						128.54			128.54
1985-86	21058	14960						140.76			140.76
1986-87	24024	16217						148.14			148.14
1987-88	**27669**	**17579**						**157.40**			**157.40**
1988-89	32773	19056						171.98			171.98
1989-90	38600	20657						186.86			186.86
1990-91	46636	22392						208.27			208.27
1991-92	56580	24273						233.10			233.10
1992-93	65267	26312						248.05			248.05
1993-94	75278	28522						263.93			263.93
1994-95	88107	30918						284.97			284.97
1995-96	104902	33515						313.00			313.00
1996-97	**126843**	**36330**						**349.14**			**349.14**
1997-98	108424	29491						367.65			367.65
1998-99	115877	31057	5.31					373.11			373.11
1999-00	**127779**	**32706**	**5.31**	**132369**	**132369**			**390.69**	**100.00**		**390.69**
2000-01			7.51	143463	142310				100.81		393.85
2001-02			7.51	161734	152997				105.71		413.00
2002-03			7.51	180558	164487				109.77		428.86
2003-04			7.51	200626	176841				113.45		443.24
2004-05			7.51	222176	190121				116.86		456.56
2005-06			**…..**	**245962**	**206656**	**91922**	**91922**		**119.02**	**100.00**	**465.00**
2006-07			8.20			104332	99460				489.65
2007-08			8.20			125989	107616			117.07	
2008-09			8.20			149684	116440			128.55	
2009-10			8.20			171593	125988			136.20	

Table 3: Results of subsequent surveys SHMI					
Row	Item SHMI / National Accounts	SHMI of FY …(Rs. Million)			
		1983-84	1987-88	1996-97	2006-07
1	Value of products & by-products at market prices	25945	19683	67541	230656
2	Industrial cost	14665	9780	33238	121723
3	Census Value added (1-2)	11280	9903	34303	108933
4	Non-industrial cost - non-indus. receipts	265	38	265	4341
5	Gross value added at market prices (3-4)	11015	9865	34038	104592
6	Net indirect taxes	17	20	221	327
7	GVA at factor cost, current prices (5-6)	10998	9845	33817	104265
8	Deflator (1980-81 = 100)	116.87	157.40	349.14	489.65
9	Gross value added at factor cost, constant prices (basis 1980-81)	9411	6255	9686	21294

Extrapolation

Table 3 allows calculating the annual compound growth rates for the periods between the surveys:

- For the period 1983-84 until 1987-88 it is – 9.71 %.
- For the period 1987-88 until 1996-97 it is 4.98 %.
- For the period 1996-97 until 2006-07 it is 8.20 %.
- For the period 1987-88 until 2006-07 it is 6.66 %.

The two latter growth rates are the alternatives to be taken into account for application of inter-survey growth for the new rebasing. It was decided to apply the medium term growth rate (8.20%) for extrapolating SHMI 2006-07 backwards to 1999-2000. In a first round this is done to arrive at the figures for the new base year 2005-06. We extrapolate one year backward with the assumed annual growth rate of 8.20% and the growth of the deflator for 2005-06 to 2006-07 at 1980-81 base. It results in Rs. 91922 million and it has been taken as an estimate for the base year 2005-06.

The result of Rs. 91922 million for gross value added at basic prices in the new base year 2005-06 at prices of 2005-06 is much lower than the value accruing from extrapolation of the old base year 1999-2000 which was 245,962 million Rs. Thus, the effect of rebasing is -60.2 %. In other words: the old method has overstated the value of small scale manufacturing in the starting point of extrapolation (1999-2000) a lot while the rate as such was widely appropriate. Comparison is given in the ***table 4*** below.

Table 4 Comparison of components of value added-SSM (Rs. Million)					
Description	Methodology, coverage and price structure of base year			% change	
	1999-2000 base		2005-06 base	Column (4 / 2)	column (4 / 3)
	1999-2000	results 2005-06 at prices of 2005-06			
1	2	3	4	5	6
Output	-	-	205479	-	-
Intermediate Consumption	-	-	113557	-	-
Gross Value Added (BP)	132369	245962	91922	-30.6	-62.6

For forward extrapolation, annual growth rate of 8.2% starting from SHMI of 2006-07 will be applied.

BIII Slaughtering

Coverage and classification

Slaughtering is not easy to define and to classify. In Pakistan slaughtering activity can roughly be carried out in three different kinds:

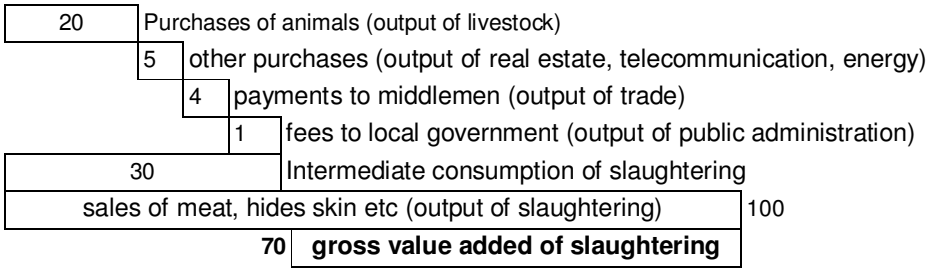
- Slaughtering as an activity of large scale manufacturing resulting in commodities delivered at big scale to wholesale or retail trade for the domestic market or for exports.
- Slaughtering as a small scale activity carried out by butchers belonging to the informal sector of the economy.
- Services rendered by slaughterhouses to butchers who use these facilities against paying a fee for this. Slaughterhouses can be part of formal or of informal sector. A slaughterhouse or abattoir is a facility where animals are processed/ slaughtered for consumption as food products.

According to PSIC 2007 all three kinds fall under Section D “Manufacturing”, Division 15 “Manufacture of food products and beverages”, Group 151 “Production, processing and preservation of meat, fish, fruits, vegetables, oils and fats”, Class “Production, processing and preservation of meat and meat products”. Establishments (shops) where butchers just sell their meat products are not classified under manufacturing. They fall under Class “Retail sale of food, beverages and tobacco in specialized stores” of PSIC 2007. In PSIC rev. 4, the activities of slaughter houses and butcheries are covered in section C, in class 1010 of division 10. Then the meat is cut and sold in special shops. For this purpose the “Retail sale of food in specialized stores” category, 4721 of PSIC rev. 4 is reserved.

The data situation in Pakistan does not encourage an establishment approach to cover the output of slaughtering. It is considered to have a commodity flow approach, instead. This means that annual data about slaughtered animals are the basis for the calculation. The data, on regular basis, is available in the publication named “Agricultural statistics of Pakistan”.

The commodity flow approach is a functional one. At first, this means that we do not differ between the three kinds of slaughtering mentioned above. Secondly, we calculate slaughtering “pure” excluding any other secondary activity carried out by the slaughters. As a consequence of that we do not sub-classify slaughtering into large scale manufacturing and small scale manufacturing. Manufacturing as a whole will be the sum of large scale manufacturing (excluding slaughtering) plus small scale manufacturing (excluding slaughtering) plus slaughtering.

The functional approach (having “pure” activity) is chosen for slaughtering as well as for livestock production. It has also been applied for wholesale and retail trade. Therefore, trade activities of the butchers will not be omitted to be captured. However, they will be shown under “trade”. The scheme below shows the approach for the slaughtering activity in a simplified example for a butcher who has slaughtering as a main activity and retail trade as a secondary activity. In this example his value added out of slaughtering is 70 while his value added out of trade is 6. Because of the functional approach 70 will be shown under slaughtering while 6 will be shown under trade. If we use an establishment approach then all 76 would have been shown under PSIC for slaughtering.



Purchases of goods for resale			30
Sales of goods for resale		40	
Trade margin (output of trade)	10		
Intermediate consumption of trade		4	
Gross value added of trade activity	**6**		

The above mentioned slaughterhouses might be communal ones. Therefore we have to make sure that they are not double-counted in PSIC of public administration of the local governments.

In Pakistan around 53.8 million animals were slaughtered in 2005-06 in addition to 440 million chickens, ducks, drakes, duckling and other birds. In bench mark year 2005-06, 1449 thousand tonnes of beef, 554 thousand tonnes of mutton and 512 thousand tonnes of poultry meat were produced in Pakistan.

Output 2005-06

Output represents the total value of sales by producing establishment/ enterprises (their turnover/ gross earnings) in an accounting period (e.g. a quarter or a year), before subtracting the value of intermediate goods used up in production. For slaughtering, the output consists of meat (mutton, beef and poultry), edible offal and other products (blood, bones, horns and hooves, heads and trotters, animal fats, guts, casings, and hides and skins). Data are provided in such a detail that the quality issues do not arise. In terms of the SNA output is the product of volume and price. Volume stands for quantity plus quality. The estimation has been based on both, quantity as well as quality. Different products have been valuated separately.

The SNA recommends to use basic prices to value output and to use purchasers' prices to value the intermediate consumption. GVA at basic prices will then be output minus intermediate consumption. In case of slaughtering the respective output prices have been collected from PBS field survey, PBS publications and Marketing and grading department of ministry of agricultural. The prices exclude any taxes on production and include subsidies on production. However, in slaughtering activity there are no subsidies to be accounted for.

Intermediate consumption 2005-06

According to SNA intermediate consumption is to be valued at purchasers' prices (including transaction costs and tax). The major input in case of slaughtering industry is the live animals and poultry. Animals and poultry (farm and familial - layer and broiler both) are the output of livestock, where these are treated as "sold for slaughtering", at basic prices viewed from the farmers' end. Trade margins are represented by the payments to the middlemen working on the animal markets mediating between the farmer and the butcher. The same holds for transports if separately invoiced. Trade margins as well as transport margins are being covered in the respective functional approaches under the appropriate PSICs for that. However, in most cases transport of the animal to the market is born by the seller and further born by the purchaser.

As in Pakistan there is no sales tax on transactions with living animals the output of livestock "sold for slaughtering" at basic prices equals the input of slaughtering with minor changes, at purchasers' prices, as far as living animals are concerned. Other expenditures which consist of feed and fees, electricity, transport, rents of building, stationary and the like are very minor compared to the input of the living animals. According to the "Study on Slaughtering Industry" published by FBS for the year 1999-2000 the mark-up from animal input to total intermediate consumption is 1.74 %. The respective ratio for the different kinds of animals has been applied to arrive at total intermediate consumption.

Gross value added 2005-06

Gross value added is output minus intermediate consumption. Gross value added for slaughtering for the new base year 2005-06 is given below in the ***Table 1*** and details are given in ***Table 3***. According to the improvement of coverage and updates of input-output ratios and prices output for the base year 2005-06 has now been assessed at Rs. 397 billion. The intermediate consumption has now been assessed at Rs. 322 billion. This increase in the inputs is the result of the new input-output structure. As a result of both new assessments, the

GVA has been estimated as Rs. 75 billion. If the value of edible offal is added to the output then the negative GVA of mutton becomes positive.

Table 1 Output, intermediate consumption and GVA of slaughtering 2005-06 Rs. Million)				
Description	Quantity (000 MT)	Output at basic prices	Intermediate consumption	GVA at basic prices (col. 3 - col. 4)
		Rs. Million		
1	2	3	4	5
Beef	1449	144900	144413	487
Mutton	554	110800	126966	-16166
Edible offal	300	25850		25850
Poultry	512	51200	47653	3548
Other products		64160	2540	61620
Total		396910	321572	75339

Effect of rebasing

The effect of the rebasing 2005-06 can be shown by comparison of the results 2005-06 according to the new base with those extrapolated for 2005-06 out of the old base year 1999-2000. It is shown in ***Table 2*** below. Two comparisons are of special interest:

a. What is now the revised growth of production and value added during the period between the two base years 1999-2000 and 2005-06?

b. What would be the discrepancy between the so for extrapolated figures and the now updated ones for the year 2005-06?

The effect of rebasing will also have an impact on the growth between 1999-2000 and 2005-06. Over these 6 years output has increased by 95%. Both components contributed heavily. Intermediate consumption increased by 112%, at higher rate than output, resulting in the lower increase in GVA which is 45%, which is the answer to question (a) above. This increase is at current prices, i.e. inflation is not yet deducted.

The change over 2005-06 as extrapolated according to the base 1999-2000 is a decrease of 38%. The following table shows that on the basis of 1999-2000, the value of GVA for the year 2005-06 is over-estimated by about 46 billion rupees. It shows how important it is to revise the base and also shows the effect of deflators. WPI's for the three components of meat, i.e., beef, mutton and poultry will be applied separately for current estimates.

Table 2 Output, IC and GVA of Slaughtering 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Million)					
Description	Base 1999-2000		Base 2005-06	% Increase	
	Results 1999-2000	Results 2005-06 at prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
Output at basic prices	203832		396910	94.7	
Intermediate consumption	152004		321572	111.6	
Gross Value Added (A-B)	51828	121770	75339	45.4	-38.1

The figures of the table are not easy to interpret as a certain base year stands for a certain empirical base of accurately measured production, input-output ratios and the like. But it also stands for a certain price basis. Column 5 of table 2 indicates an increase of value added of slaughtering of 45%. This increase reflects changes in volume as well as in value which thus includes a price component (inflation). Column 6 of table 2

reflects the change in volume accruing from improving of data sources. The change of the data sources includes those reflecting the price changes.

Detailed comparison of the two bases is given below in table 3.

Table 3 Comparison of slaughtering

Description	Unit	Base				
		2005-06			1999-2000	
		Price/kg & price/No (RS)	Quantity	Value (Rs. Mill.)		Change (%)
I. GROSS OUTPUT(a+b)				**396,910**	**203,832**	94.7
a.Meat				**332,750**	**161,377**	106.2
Beef	000 tons	100	1449	144,900	49782	191.1
Mutton	'	200	554	110,800	62641	76.9
Poultry	'	100	512	51,200	27879	83.7
Edible offal (Beef)	'	50	145	7,250		
Edible offal (Mutton)	'	120	155	18,600	21075	-11.7
b) Other Product				**64,160**	**42,455**	51.1
Blood	'	15	51.5	773	337	129.2
Bones	'	5	633.5	3,168	551	474.9
Horn & Hooves	'	10	42.8	428	9	4655.6
Head & Trotters	'	120	186.49	22,379	20394	9.7
Animal's Fats	'	40	203.3	8,132	1541	427.7
Guts	Mill. #	12	43.8	526	862	-39.0
Casing	'	30	12.2	366		
Hides(cattle)	'	1350	5.6	7,560	7808	-3.2
Hides(buffalo)	'	1600	5.7	9,120		
Hides(camel)	'	2000	0.1	200		
Skins(sheep)	'	260	10	2,600	2216	17.3
Skins (goat)	'	260	20.7	5,382	6274	-14.2
Fancy(skins)	'	280	12.6	3,528	2463	43.2
II) Intermediate consumption (a+b+c)				**321,572**	152,004	111.6
a)Animals (Live)				**271,379**	**128,758**	110.9
Buffalo	'000' #	14000	5227	73,178	42414	72.5
Cattle	"	13000	5395	70,135	33477	109.5
Sheep	"	3000	12712	38,136	14301	166.7
Goat	"	3000	30412	88,830	38161	132.8
Camel	"	20000	55	1,100	405	171.6
b) Poultry(Live)				**47,653**	**21951**	117.1
i) Farm	Million #	100	367.1	36,710		
ii) Desi	'	150	72.95	10,943		
c) Other inputs				**2,540**	**1295**	96.2
GVA (I-II)				**75,339**	**51,828**	45.4

Extrapolation and current and constant prices

Output, intermediate consumption and value added will not be calculated for each year as deep as for the new base year. As in other industries and as in the method prior to this rebasing the figures of 2005-06 will be extrapolated. This will be done for the year t as follows:

- Output at basic prices of 2005-06 will be extrapolated through quantities for the year 't' given by the department. The result is output at constant prices of 't'.
- Output at constant (basic) prices of year 't will be multiplied with an appropriate output inflator in order to get output of year 't' at current (basic) prices.
- Intermediate consumption of year 't' at constant prices will be calculated directly from the input quantities available and using the input-output ratios of the base year 2005-06 where needed.
- Intermediate consumption of year 't' at constant prices will be multiplied with an appropriate inflator for the inputs in order to get intermediate consumption of year 't' at current prices.
- Gross value added will be obtained by subtracting intermediate consumption from output for the constant prices and for the current prices figures, respectively.

C Electricity generation and distribution and gas distribution

This part consists of electricity generation and distribution and gas distribution. Both activities have been discussed below separately. Establishment approach has been applied to both sectors. In 1999-2000 base, water supply was also part of this group but in 2005-06 base it has been shifted to general government sector being a non-market producer. It is also according to the revised classification (PSIC 2007 or PSIC 2010) (see chapter on General Government).

C I Electricity generation and distribution

In the International Standard Industrial Classification of the United Nations electricity generation and distribution are in a combined group as in most countries the producers of electricity also are engaged in its distribution to the final or intermediate consumers. Pakistan follows the international classification (see "coverage" below) but in the country only "Water And Power Development Authority (WAPDA)" and "Karachi Electric Supply Corporation (KESC)" are producer as well as distributor. Therefore the calculation of output, intermediate consumption and value added of generation and of distribution for the base year is done separately for both companies using specific data sources, methods and estimates. Moreover, the treatment of taxes and subsidies on products and the application of double deflation method can then best be targeted.

The production of energy under this heading is confined to the so-called generation companies, often abbreviated as "Gencos". The production of electricity by other producers like shop-keepers, restaurants etc. and by private households is not subsumed. This generation of electricity is part of the production process of these producers and to be recorded as intermediate consumption (e.g., diesel) or is part of private consumption, respectively.

The major concentration of production and distribution on only WAPDA and KESC has been revised in 2009 in favour of employing locally oriented distribution companies (so-called "Discos"), also.

With regard to the physical conditions of electricity generation in Pakistan there are three sources, hydel, thermal and nuclear. Solar and wind energy is still not in main stream and its contribution is negligible. WAPDA is the sole producer of hydel power. WAPDA, KESC, some other public companies, Independent Power Producers (IPPs) are involved in thermal generation. Captive units generate electricity for their own use but also supply their surpluses to other distributors. Under the heading of electricity generation and distribution the activity of the captive units is confined to their input to the public grid. During 2005-06 distribution of electricity in the country was confined to WAPDA and KESC. The figures for both companies include their production as well as their distribution activity.

Coverage:

According to Pakistan Industrial Classification (PSIC) 2007 the coverage is given by its incumbent group 401 "production, transmission and distribution of electricity". In the revised version of PSIC which is PSIC Rev. 4 (2010) the activity pertains to class 3510 of 351 group of division 35.

Data:

The data is being supplied by the generating and distributing units regularly. Their annual reports have also been utilized. Pakistan Energy Year Book 2006, published by Hydrocarbon Development Institute of Pakistan (HDIP) is another authentic source for details. It throws light on the physical structure of output and of their inputs, including the primary energy sources like oil, gas or coal used for production of electricity. Moreover, Hydrocarbon provides the energy balance for Pakistan. The calculation explained below widely uses these figures and reconciles its results with them. For the calculation of the subsidies linked to generation and distribution of energy, figures of government expenditures have been used.

Output:

As indicated it is intended to reconcile and to combine the figures of National Accounts (monetary terms) with those of the physical side (Hydrocarbon Institute). To begin with the physical side: WAPDA is the sole producer of Hydel power. Its share is 33% in the generated units (GWH) of electricity in 2005-06. It also

generates thermal power which contributed 24% to total generation in 2005-06. WAPDA alone contributed 57% to the total generation. KESC contributes 10% and IPPs contribute 31%. The share of nuclear energy generation is around 3% only. WAPDA and KESC purchase electricity from the other producers and distribute it. Captive units generated are given in ***Table 1***.

Table 1: Electricity generated 2005-06

Electricity generated		GWh	% generated	Generated by	GWh	% generated
Hydel						
	WAPDA	30862	33.0	WAPDA	53370	57.0
S-total		30862	33.0	KESC	9130	9.8
Thermal				IPPs	28645	30.6
	WAPDA	22508	24.0			
				Nuclear	2484	2.7
	KESC	9130	9.8			
				Total generation	93629	100.0
	IPPs	28645	30.6			
				Auxiliary consumption	3463	
S-total		60283	64.4			
				Net purchase from PASMIC	(203)	
Nuclear						
	KANUPP	143	0.2	Net supply	89963	
	CHASNUPP	2341	2.5	Consumption	67603	
S-total		2484	2.7	T & D losses	22360	
G. Total		93629	100.0	(losses as % of Net supply)	24.9	

Source: Pakistan Energy Yearbook 2006

Output in monetary terms is given in ***Table 3***. It has been determined from the annual reports, questionnaires and correspondence with the establishments. With regard to generation and distribution of electricity it is imperative to deal with subsidies and taxes properly. In this rebasing we move from the concept of factor cost to that of basic prices as recommended by the System of National Accounts. Both concepts differ with regard to those indirect taxes which are levied on the production process as such (inputs) as, for example, land tax or vehicle tax or payroll tax. These taxes are of minor importance in Pakistan. Therefore there is only slight difference between the concepts of factor cost and basic prices. Similar is the case with regard to subsidies which predominantly are granted as a measure of output (subsidy on product). Subsidies on inputs are very rare and are assumed to be nil.

A special case is withholding tax levied by the “Discos” on behalf of the tax authorities (FBR). Like the General Sales Tax (GST) these revenues are to be passed on to FBR. Nevertheless, they do not constitute indirect taxes at all as they are a prepayment on the income tax. GST is also neither included in output at basic prices nor in value added at basic prices. However, when GDP at market prices is to be added up out of GVA at basic prices of all industries then GST like other taxes on products is to be added while any subsidies on the products are to be subtracted from the sum of GVA at basic prices.

It is well known and intensively discussed in the media and in politics that in Pakistan provision of electricity to consumers is made at prices which do not fully cover the cost. The costs are mainly determined by

the prices which the National Electric Power Regulatory Authority (NEPRA) has approved to be paid by the distribution companies. Since many years the Discos are running losses. For National Accounts there are two options to deal with these losses:

a) In case that these persistent losses occur "as a matter of deliberate government economic and social policy" the SNA (7.105c) foresees to treat the compensation of these losses as a subsidy ("other subsidy on products", transaction code D.319).

b) The view is shared that these losses just happen because of poor performance or other economic deficiencies. The government and the management of the companies try hard to overcome these deficiencies.

For this rebasing of National Accounts and for this kind of activity option 'b' has been adopted. The consequence is that gross value added is on the lower side as compared to option a, ditto is the amount of subsidies and the contribution to GDP at factor cost or at basic prices. For GDP at market prices and for the fiscal deficit (Saving and net borrowing) both options are invariant. However in electricity industry the subsidies have been incorporated.

Intermediate consumption:

The input structures of three types of products are different from each other. Hydel generation is cheaper one as it uses flow of water as one of the major inputs. WAPDA is the sole producer of this product. Thermal generation requires another input set. Furnace oil and natural gas are the major inputs. The third component is the purchasing of electricity from IPPs for further distribution. The purchases are from the thermal energy production units. KESC has two types of inputs i.e., one is the thermal generation and the other is the purchase of electricity from IPPs for further distribution. IPPs have the input set of thermal generation. Nuclear generation has a separate input set. Intermediate consumption pattern differs accordingly.

Table 2 shows the details of input structure in physical terms as it is by kind of primary energy. As quantities of electricity, gas etc are not commensurate the figures have been given in monetary terms (values) using the prices of the base year. It is assumed that the physical composition of the inputs of the various producers remains constant over time. This will be the determining factor for the application of double deflation rule which means to value output separately from the respective inputs. The input structure of WAPDA is heavily dependent on purchase of electricity, then on gas and then on furnace oil. Their shares in input are 61%, 17% and 11%. Remaining 11% is the mixed one. For KESC the shares of electricity, gas and oil are 42%, 34% and 19% respectively, as a whole 89% dependence is on these three inputs. The dependence of IPPs input is heavily on furnace oil, sharing 60% in the inputs and 27% on gas. Remaining are the mixed expenditures. The captive units are supplying to the national system what is surplus with them. The own use of energy in the captive units is being covered in the census of large scale manufacturing industries. Table 2 below is referred for details.

Table 2 Intermediate Consumption Estimates 2005-06 in mill. Rs

Producer		Dimension	Total interm. Cons.	Intermediate consumption of primary energy					Other inputs
				Electricity	Gas	Oil	Die-sel	Lubri-cants	
			1	2	3	4	5	6	7
A	WAPDA	value	238451	145987	40884	25256	0	0	26324
		%	100.0	61.2	17.2	10.6	0.0	0.0	11.0
B	KESC	value	55765	24081	18813	10404	0	0	2467
		%	100.0	43.2	33.7	18.7	0.0	0.0	4.4
C	Independent Power Producers	value	96127	2	25988	57283	135	209	12510
		%	100.0	0.0	27.0	59.6	0.1	0.2	13.0
D	Captive units	value	3666	0	463	1892	25	32	1254
		%	100.0	0.0	12.6	51.6	0.7	0.9	34.2
	Grand Total	value	394009	170070	86148	94835	160	241	42555
		%	100.0	43.2	21.8	24.0	0.0	0.1	10.8

Gross value added:

It is derived from the output and intermediate consumption estimates. WAPDA is major the contributor, its contribution to value added is 45 per cent. IPP's are the second major share holders in value added.

Table 3 Generation and Distribution of Electricity 2005-06								
Category	Output		Intermediate consumption		Gross Value added		Input / Output ratio	Sub-sidies
	Mill. Rs	%	Mill. Rs	%	Mill. Rs	%	%	
WAPDA	280512	57.6	238451	60.5	42061	45.0	85.0	25212
KESC	61191	12.6	55765	14.2	5426	5.8	91.1	19000
IPPs	134761	27.65	96127	24.4	38634	41.4	71.3	
Captive units & Others	10951	2.3	3666	0.9	7285	7.8	33.5	
Total	**487415**	**100.0**	**394009**	**100.0**	**93406**	**100.0**	**80.8**	

The last column to the right shows the subsidies on products, which are included in the output and in the gross value added which both are measured at basic prices, viz excluding taxes on products but including any subsidy levied on the products.

Comparison with previous base:

Table 4 enables comparison of the results of the rebasing 2005-06 with the figures of the previous base for the same year as well as with the figures of the base year 1999-2000. It is clear from the comparison of the previous and the new base for 2005-06 that the output is roughly at the same level. The difference is that now the subsidy has been added in the output. In the previous base estimation, there was a mixing of the categories of "others, independent power producers and captive units" which has been separated. Table 4 highlights the differences.

Column 5 of table 4 indicates a decrease of value added of 2005-06 (new base) over 1999-2000 as 10.6%. This decrease reflects changes in volume as well as in value which thus includes a price component (inflation). The difference is due to substantial increase in inputs. In other words: During 1999-2000 and 2005-06 inputs at current prices have almost tripled while output has less than doubled, only. Column 6 of table 4 reflects the change in volume accruing from improving of data sources and methods. The output for the year 2005-06 on the base year 1999-2000 has been under estimated to the order of the subsidy of WAPDA while input are at the same level. The results are comparable; the difference is the treatment of subsidy.

Table 4 Comparison of output and GVA of electricity generation and distribution for 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Million)					
	Base 1999-2000		Base 2005-06	% Change	
Description	Results 1999-2000	Results 2005-06 at the prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
A. Output	**247930**	**463293**	***487415**	**96.6**	**5.2**
B. Input	**143505**	**397251**	**394009**	**174.6**	**-0.8**
WAPDA		238489	238451		0.0
KESC		56895	55765		-2.0
IPP's		95546	96127		0.6
Captives units & Others		6321	3666		-42.0
C. Gross Value Added (A-B)	**104426**	**66042**	**93406**	**-10.6**	**41.4**

*Subsidies for WAPDA and KESC are included

Analysis:

Table 2 highlights the input structure of the sector. WAPDA and KESC are generating as well as distributing electricity. Out of their total input costs, 61% and 43% are on the purchase of electricity for distribution respectively. WAPDA spent 17% on gas and 11% on furnace oil. Similarly KESC spent 33% on gas and 18% on furnace oil. IPP's spent 60% on furnace oil and 27% on gas whereas CU spent 52% and 13% on furnace oil and gas. These factors will be used for double deflation, viz deflating inputs differently from output and with price changes pertaining as far as possible to actual physical conditions of production.

Economy is heavily dependent on its performance. Fluctuations are high as clear from the ***table 5***, small changes produce large variations in percentages. This is due to the smallness of the base.

Extrapolation and current and constant prices

Output, intermediate consumption and value added will be calculated for each year. The current and constant estimates will be prepared for the year 't' in the light of analysis as follows:

a) **WAPDA and KESC:** Output and intermediate consumption at current prices will be calculated every year. Since the major input and output are same, i.e., electricity, deflator of electricity will be applied to the current prices estimates to get constant prices estimate.

b) **Independent power producers:** Output and intermediate consumption at current prices will be calculated every year. Since the major input and output are different, double deflation may be applied. Since output is electricity, deflator of electricity will be applied to the current output to get constant estimate of output. Furnace oil and gas are the major inputs, therefore these deflators can be applied accordingly to have constant estimates. Since subsidies are there to cover the gap, single deflation has been used.

c) **Nuclear power and Captive units:** The base year ratios along with units produced will be applied to have constant estimates for nuclear power. The deflators of (a) will be applied. The captive units will be treated along with IPP's. Both sources are insignificant contributor.

The current and constant prices results for the years 2005-06 to 2009-10, base 2005-06 are given below in table 5.

Table 5 GVA at current and at constant prices according to the base 2005-06 (Rs. Million)

Electricity GVA	2005-06	2006-07	2007-08	2008-09	2009-10
Current prices	93406	85896	125756	127515	186540
Change over previous year in %		-8.04	46.40	1.40	46.29
Constant prices (2005-06)	93406	82433	111838	100994	120003
Change over previous year in %		-11.75	35.67	-9.70	18.82

C II Gas Distribution

Natural gas forms a part of the output of mining. Its contribution to GDP has been discussed in the relevant industry (mining). The distribution activity is being discussed under a separate industry (class 4020 in PSIC 2007 and class 3520 in PSIC 2010) but it should be noted that gas distribution here is confined to distribution through mains while sales of gas as energy for vehicles through CNG-stations does not fall under "gas distribution" but is covered under retail trade in class 5050 of PSIC 2007 ("Retail sale of automotive fuels") and class 4730 of PSIC 2010. It should further be noted that production of Liquefied Petroleum Gas (LPG) is covered under manufacturing, class 1920 and its distribution is covered under trade in class 4661 of PSIC 2010.

Sui Northern Gas Company (SNGC), Sui Southern Gas Company (SSGC) and Mari Gas Company are the major distributors, distributing about 90 per cent of the supply of gas to the economy. The analysis of supply of gas shows that SNGC supplies 45%, SSGC supplies 31%, Mari shares 14%, and the share of other companies is about 10%. "Other" companies are classified under mining as their main activity is the production of gas while Sui Southern and Sui Northern mainly are engaged in the distribution of gas. However Mari Gas Company is producing as well as distributing gas.

Mari Gas Company is treated as a special case. The production of gas activity has been covered under functional approach in mining and quarrying industry. If the secondary activity is nearly as important as the primary one, then the secondary activity may also be covered as a separate establishment. First the gas is produced under one industry (PSIC) and then it is distributed under another industry (PSIC). According to the vertical integration rule such situation demands separate establishments to be assigned to each activity. For reference, paras of SNA 2008 are given below.

> " 5.15 Although the definition of an establishment allows for the possibility that there may be one or more secondary activities carried out, they should be on a small scale compared with the principal activity. *If a secondary activity within an enterprise is as important, or nearly as important, as the principal activity, then that activity should be treated as taking place within a separate establishment from that in which the principal activity takes place.*
>
> 5.22 Within the SNA, a separate establishment should be identified for each different kind of activity wherever possible.
>
> 5.23 *A vertically integrated enterprise is one in which different stages of production, which are usually carried out by different enterprises, are carried out in succession by different parts of the same enterprise.* The output of one stage becomes an input into the next stage, only the output from the final stage being actually sold on the market. *ISIC* describes vertically integrated enterprises as follows:
>
> *Vertical integration of activities occurs where the different stages of production are carried out in succession by the same unit and where the output of one process serves as input to the next. Examples of common vertical integration include tree felling and subsequent on-site sawmilling, a clay pit combined with a brickworks, or production of synthetic fibres in a textile mill."*

It is clear that vertical integration means to record deliveries between different establishments of Mari Gas "gross" while in the company's record they are netted out (consolidated). Vertical integration also requires splitting the intermediate consumption as per company record between the establishments involved. This has been done in the method described below.

Coverage:

The coverage according to PSIC 2007 is in division 40, class 4020, under "Electricity, gas and water supply". In PSIC 2010, gas distribution activity pertains to PSIC class 3520 of 352 group of 35 division. In Pakistan gas distribution only comprises of Sui Southern, Sui Northern and Mari Gas companies.

Data:

The data has been supplied by the distribution companies. The annual reports of the companies are a major source of mature data. Energy year book 2006 and onward are another authentic source for details. It has been tried to combine and to reconcile these two sources as far as possible.

Output:

As a first round compilation, output has been delineated by using the annual reports of Sui Northern, Sui Southern and Mari gas companies. ***Table 1*** shows the results for Sui Southern.

Table 1 Distribution and cost of gas distributed (MMCFt) of "SSGC" 2005-06			
Item		**MMCF**	**Mill. Rs**
Stock in pipelines	beginning of the year	885	113
	end of the year	809	125
Purchased		385362	65123
Internally consumed		966	170
Total		386404	65110

For Sui Northern the distribution among changes in stock and purchases is available in monetary terms, only. But it is assumed that the average Rs. per MMCF is the same as with Sui Southern. With applying that for 2005-06 we get total production in MMCF and arrive at the following table.

Table 2 Distribution and cost of gas distributed (MMCFt) of "SNGC" 2005-06			
Item		**MMCF**	**Mill.Rs**
Stock in pipelines	beginning of year		346
	end of the year		446
Purchased			93727
Internally consumed		9748	
Total		563754	

SSGC and SNGC consumed the gas internally 966 and 9748 MMCFt which is in the supply but not in the consumption. The output of the distributors during FY 2005-06 can be summed up and compared with mining production and with the total consumption of gas of the same year as per Energy Yearbook as follows:

Table 3 Distribution and Consumption of gas during FY 2005-06 (MMCF)		
Production of gas by mining		1400026
Distribution of gas	Sui Southern Gas	386404
	Sui Northern Gas	563754
	Mari Gas & others	293390
	total	1243548
Consumption of gas		1223385
Internal consumption of Sui Northern & Sui Southern		10714
Total Consumption		1234099
Gap distribution minus consumption *		9449

**Source: Energy Yearbook of Hydrocarbon Institute Pakistan and company reports*

The quantity distributed by Mari Gas Company and output, intermediate consumption and gross value added has been calculated from the annual reports. It includes the quantities stemming from Mari's mining activities

In National Accounts output and value added are measured at basic prices. This means that any tax levied on the products is excluded while any subsidy given to distribution of gas is included. In case of gas distribution taxes on products (here GST, only) is not shown separately in the company reports. Subsidies on products are nil. These figures are relevant for calculating GDP which is the sum of all value added at basic prices plus taxes on products minus subsidies on products.

Taxes and subsidies on the production process as such are not observed in gas distribution or are negligible as, for example, vehicle taxes on the transport facilities.

Intermediate consumption:

According to their respective annual reports the input-output ratio for SNGC is 88% and for SSGC is 90%. For Mari Gas Company the input–output ratio is 10% for the base year which is due to heavy taxation. In National Accounts the intermediate consumption is measured at purchasers' prices viz including any tax levied on the purchased products. For Sui Southern and Sui Northern the major input is the gas they are purchasing from the mining companies, heavily taxed already. For Mari Gas the gas they are distributing is widely coming from own production in their mining establishments. This internal delivery has not yet been object to taxation. This is the reason for Mari's low input-output ratio.

Gross value added:

Gross value added is calculated as output minus intermediate consumption. Gas distributed and its per unit value added by the companies have also been calculated. ***Table 4*** shows the results.

Table 4 Output, intermediate consumption and GVA of distribution of gas during FY 2005-06 (Rs. million)

Distributor	Output	Intermediate consumption	Gross Value added	Input /Output ratio in %	Gas distributed (MMCF)	Per unit value added (Mill. Rs per MMCF)
SSGC	73919	66141	7778	89.5	386404	0.020
SNGC	108402	95354	13048	88.0	563754	0.023
Mari Gas Co.	2879	291	2588	10.1	171045	0.015
Total	185199	161785	23414			

Comparison of old and new base:

The old and new series are based on conceptually different methods. In the new base 2005-06 the figures are totally worked out on establishment concept. "Mari Gas Company and others" have major activity as gas production. Their contribution to the extraction of natural gas has been included in the functional approach of mining while the distribution activity of Mari Gas Company has been included in distribution. The direct comparison is distorted. However the figures of the base year are discussed to show the changes in the calculations.

The figures calculated for the new base year 2005-06 as compared with those calculated under existing base year for 1999-2000 show an increase of value added of gas distribution activity by 28.5%. However, methods have been changed between the two base years. The effect of rebasing can better be seen by comparing the new base year's figures with those calculated for 2005-06 according to the old method from rebasing 1999-2000. It is clear from the comparison that the "old" output had been over-estimated (Table 5). Input structure of both estimates is almost same, fluctuations being adjusted within each other. Value added for 2005-06, in the base year 1999-2000 series had been over-estimated, also. Gross value added now is 63.0% lower than calculated according to base 1999-2000. This was due to the inclusion of some production component in the distribution as well (double counting). This double counting has been rectified in the base year 2005-06. Compressed natural gas was included in the distribution but now it has been included in the trade sector.

Table 5 Comparison of output and GVA of gas distribution for 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Million)					
Description	Base 1999-2000 *		Base 2005-06	% Change	
	Results 1999-2000	Results 2005-06 at the prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
A. Gross output		219382	185199		- 15.6
B. Input and other charges		156142	161785		3.6
SNGC		92957	95354		2.6
SSGC		61752	66141		7.1
Mari gas company		1433	291		
C. Gross Value Added (A-B)	18224	63240*	23414	28.5	- 63.0

* *CNG is included in it*

Analysis:

Two types of distribution channels exist, combined for all types of distribution, e.g., domestic, commercial, industrial, retail and bulk supplies etc. SNGC and SSGC are contributing in all types of distributions. The other channel is oriented highly towards the industrial distribution in bulk (fertilizer and power industry) and Mari Gas Company is contributing in this sphere. The input – output structures of the two channels differ heavily. It is also indicated from the input-output ratios that the universe of operation and operating environments are different. Input and output are the same (gas) however, inputs are in bulk and the distribution is to the consumers. The consumers are of four types. The quantity in the base year is consumed in domestic segment by 14%, commercial segment consumed 2.4%, industry consumed by 80.4% and trade (CNG) took a share of 3.2%, in the base year. The difference in total production of gas in mining sector and consumption in different segments is assumed as the losses of shrinkage and distribution system.

Extrapolation and current and constant prices

Output, intermediate consumption and value added will be calculated for each year. The current and constant estimates will be prepared for the year t as follows:

- Output at current (basic) prices of year “t” will be calculated from the reports / questionnaires of the companies.
- Intermediate consumption of the year ”t” at current prices will be calculated from the reports / questionnaires of the companies.
- Output at current basic prices of the year ‘t’ will be deflated by the deflator of gas. The result is output of the year “t” at constant prices of 2005-06.
- Intermediate consumption of year ‘t’ at constant prices will be calculated by deflating the intermediate consumption of year ‘t’ at current prices.
- Gross value added will be obtained by subtracting intermediate consumption from output for the constant prices and for the current prices figures, respectively.

The data of ***table 6*** below will be used for the years 2005-06 to 2009-10. FISIM and insurance services, calculated by the financial section, have been adjusted in the GVA.

Table 6 Gross value added at current and constant prices, base 2005-06 (Rs. Million)					
Current GVA	2005-06	2006-07	2007-08	2008-09	2009-10
Electricity	93406	85896	125756	127515	186540
Gas	23414	23481	29803	32119	35943
GVA - unadjusted	116819	109377	155559	159634	222483
Growth rate		-6.37	42.22	2.62	39.37
FISIM	6710	8146	9434	12651	12547
GVA-adjusted	110109	101231	146125	146983	209936
Growth rate		-8.06	44.35	0.59	42.83
Constant GVA	2005-06	2006-07	2007-08	2008-09	2009-10
Electricity	93406	82433	111838	100994	120003
Gas	23414	20789	27342	21722	22163
GVA - unadjusted	116819	103221	139181	122716	142166
Growth rate		-11.64	34.84	-11.83	15.85
FISIM	6710	7157	7414	6904	7067
GVA-adjusted	110109	96066	131767	115812	135099
Growth rate		-12.75	37.16	-12.11	16.65

D. Construction

Introduction

Construction contributes 2.2 per cent towards GDP in 2005-06 at constant prices of 1999-2000 base. It is covered as division 45 in section F of the Pakistan Standard Industrial Classification (PSIC 2007) which has been adopted from International Standard industrial Classification of all economic activities (ISIC rev 3.1). In the Pakistan Standard Industrial Classification (PSIC 2010, adopted from ISIC rev-4 it is covered as Section F with general construction and specialized construction activities for building and civil engineering works. It includes new work, repair, additions and alteration, the erection of pre-fabricated buildings or structures on the site and also a construction of temporary nature. In PSIC 2010 the section includes the complete construction of buildings (division 41), the complete construction of Civil engineering works (division 42) as well as specialized construction activities, if carried out as a part of the construction process (division 43). The renting of constructions equipment with operators is classified with the specific construction activity carried out with the equipment.

Methodology

Viewed from its products the construction activity covers land improvement and construction of all type of buildings, roads, bridges, railway lines, utility lines (telecommunication lines, power lines, pipe lines) waterways, dams as well as repairs and maintenance of such infrastructure. The estimates of construction activity have been developed by a commodity flow approach on the basis of the expenditure, incurred by the establishments undertaking the construction or the contractors or the sub-contractors purchasing the construction material. The data on expenditure on construction of these activities have been obtained from data set of GFCF of all investors of the economy. The estimates of previous base had been based on the 'study on construction 1999-2000' conducted for change of base. For the change of base 2005-06 a survey on 'private building construction survey 2007-08' was conducted but it was only restricted to private construction covering partial construction activity. The other option to compile the GVA of construction based on material inputs and labour force available for construction were also explored but could not be adopted due to abnormal movements/ jumps. Therefore the technical committee decided to continue with the existing practice of compilation of construction output. The coefficients for deriving gross value added from output have been adopted from base 1999-2000 without change. They had been based on data collected from concerned agencies such as WAPDA, CAA, Railways, PWD, KPT, KDA, Irrigation Departments, Development Authorities and Construction Companies. The co-efficient of value added of the existing base 1999-2000 which have been applied in 2005-06 base as well, are given in ***table-1*** below.

Table 1 GVA coefficients by activity

S. No	Type of assets	Co-efficient
1	Land	0.44
2	Res Buildings	0.31
3	Non Res Buildings	0.39
4	Other Construction	
4.1	Canals	0.44
4.2	Drainage	0.45
4.3	Gas Pipelines	0.44
4.4	Power Lines	0.11
4.5	Roads Streets Highways	0.31
4.6	Railway tracks Runways	0.12
4.7	Telecom Lines	0.33
4.8	Tube wells	0.37
4.9	Other Construction (n.e.c.)	0.37

Table-2 below, shows the comparison of GVA of construction sector 2005-06 (New base) with the estimates of previous base for the year 2005-06 as well of the base 1999-2000. It shows that the new base

estimates stand at Rs. 186.4 billion after the adjustment of the FISIM, as compared with 2005-06 (old base) of Rs. 179.9 billion. The estimates of new base have increased by 3.6% due to change in the gross fixed capital figures of different sectors of the economy.

Table.2 Comparison of GVA of construction at 1999-2000 and 2005-06 base					
	Base 1999-2000		2005-06 (Base)	% age Change	
Period and base	1999-2000	2005-06		Col. 4 by 2	Col. 4 by 3
1	2	3	4	5	6
GVA	87386	179885	186380	113.3	3.6

Extrapolation and current and constant prices

The current estimates are calculated every year from the GFCF data. For converting these estimates into constant price figures information on prices of construction material has been used. The index, the respective deflator is based on, can be termed as a Producer Price Index (PPI) for construction, albeit this PPI is an input PPI and not an output PPI and based on prices collected from vendors and not at the factory gate of the contractors. The major components of the index are cement and iron, the prices of which are responsible for the variation in index.

The estimates of the sector for the year 2005-06 to 2009-10 are given in ***table-3*** below.

Table.3 GVA at current and constant prices at 2005-06 base (Rs. Millions)					
Years	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Current prices	186380	220169	268016	303036	303429
Change over previous year in %		18.13	21.73	13.07	0.13
Index (construction material)	100.00	100.70	123.22	157.17	146.24
Constant prices	186380	219036	217500	192978	208018
Change over previous year in %		17.52	-0.70	-11.27	7.79

Below is the summary of results for industry, adjusted for FISIM, for the years 2005-06 to 2009-10 on the base 2005-06

Table 4 Summary table of GVA for industry (Rs. Millions)					
Year / Industry / Sector	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Industry total	1616157	1753448	1875779	1810152	1834582
A. Mining and quarrying	254345	273166	279968	275361	283091
B. Manufacturing	1065323	1161551	1232430	1180964	1197163
BI. Large scale manufacturing	903323	989896	1050276	986887	990928
BII. Small scale manufacturing	89116	96470	104519	113474	123083
BIII. Slaughtering	72884	75185	77635	80603	83152
C. Electricity generation & distribution and gas distribution	110109	99695	145881	160849	146310
D. Construction	186380	219036	217500	192978	208018

CHAPTER 4

Services industries

Introduction

The title of this introduction to the methodology of calculation of output and gross value added needs some explanation as in Pakistan it is quite common to speak of a services "sector", instead. In the language of National Accounts the term "sector" has a very specific meaning. It indicates one of the five sectors of the domestic economy: the non-financial corporations sector, the financial corporations sector, General government sector, the non-profit institutions serving households sector and the household sector. In the language of the SNA, services can be a "product" or an "activity" but not a "sector".

Services as a product are classified according to the (internationally agreed) Central Product Classification CPC. They may – in principle - be produced / provided by any kind of industry. Real estate services, for example, may be provided by any kind of activity having unused building capacity to be rented out. Other examples are research or educational services which might be produced as a secondary activity even by units classified by their major activity as manufacturers. However, as far as the production of services is the primary activity of an establishment or an enterprise this unit will be classified under one of the classes in the Pakistan Standard Industrial Classification (PSIC) reserved for "services". The introduction of PSIC as a modern industrial classification was one of the core elements of the rebasing of National Accounts for 2005-06. The PSIC is delineated from the internationally agreed "International Standard Industrial Classification" (ISIC) of the UN.

In textbooks and literature there are various definitions of "services". Some include, for example, trade and government services, while others do not. The rough structure of PSIC groups the following "Sections" (PSIC version 2007) which may be subsumed under "services":

G	Whole sale and retail trade; repair of motor vehicles, motor cycles and personal and household goods
H	Hotel and restaurant
I	Transport, storage and communication
J	Financial intermediation
K	Real State, renting and business activities
L	Public administration and defence
M	Education
N	Health and Social work
O	Other community social and personal services
P	Activities of private households as employers and undifferentiated production activities of private households
Q	Extraterritorial organization and bodies

Sections G, H, I, J and a special part of K (housing services) are tackled in separate chapters of the rebasing methodology while the services of sections K (unless housing services) to Q are discussed summarily but in two different chapters: one of them tackling the services produced by units of the general government sector (see chapter 4, part E) and the other one tackling the services of the other institutional sectors as the rest.

According to the latest classification PSIC 2010 (parallel to ISIC Rev. 4) the structure of classification differs a little bit and the sections are as under.

G	Whole sale and retail trade; repair of motor vehicles, motor cycles
H	Transportation and storage
I	Accommodation and food service activities

J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities
T	Activities of households as employers; undifferentiated goods-and-services producing activities of households for own use
U	Activities of extraterritorial organizations and bodies

Sections G, H, I, J, K and a special part of L (real estate activities) are tackled in separate chapters of the rebasing methodology while the services of sections L (unless housing services) to U are discussed summarily but in two different chapters: one of them tackling the services produced by units of the general government sector (see chapter 4, part E) and the other one tackling the services of the other institutional sectors as the rest. There are two reasons for this partition.

One reason is that, unlike the treatment in out-dated former classifications, the general government as such is no more an industrial class of its own. Its activities are allocated to whatever their nature is. That means, for example, that in PSIC 2007 Section M covers all education activity, regardless whether provided by the government, by non-profit organisations or by other private producers. The same holds for health, social work and the like. However, the core activity of the government which is “public administration and defence” (Section L) can by definition only be carried out by the general government. The new structure of the classifications makes it difficult to compare the rebased figures with those of the old base. The idea of partly disregarding the PSIC for the chaptering of this methodology is to continue providing “government” for comparisons with the old base.

The other reason for partitioning the services of K to Q in different chapters is that by definition the institutional units of general government are non-market producers and their output and their value added is calculated homogeneously and from the same sources (mainly appropriation of the budgets of the government).

The disadvantage of this partition is that the totals for the respective sections of PSIC have to be added up out of these two approaches / chapters. But this disadvantage is confined to K, M, N, O and P as section L by definition comprises of non-market activity of general government, exclusively. Section Q is of low significance as it mainly covers Pakistan’s embassies, only. Separate figures are not available. The respective figures are included in Section L, instead.

As – with the exception of Section L – all services can in principle be provided by market producers (mainly private producers) or by non-market producers (government or non-profit institutions / NGOs) the results for most of the classes covered here have to be added up as the sum of market production and non-market production. In case of market production the output is valued (simplified) as the sum of the respective revenues, and gross value added then is output minus intermediate consumption. This subtractive way of compilation is the common one for the commodity producing industries and for agriculture. For non-market production we calculate the output in a different (additive) way: we just add up the sum of cost including the wages and salaries, the consumption of fixed capital and the intermediate consumption.

It should be noted that “public sector” does not automatically mean that the units covered there are non-market producers. Public corporations like PIA or Pakistan Railways are definitely market producers even if they are running persistent losses. In other cases like the National Highway Authority the classificatory decisions are not that

clear. Especially the so-called “autonomous bodies” and numerous private universities had to be classified one by one by the three most relevant criteria of the SNA: kind of economic activity (in Pakistan PSIC), kind of institutional sector and market or non-market production.

Figure 22.1 in the SNA illustrates the relation between public sector and the five institutional sectors given in the SNA as follows:

Figure 22.1 Public sector and its relation to institutional sectors

<table>
<tr><th>Non-financial Corporations</th><th>Financial Corporations</th><th>General Government</th><th>NPISH</th><th>Household</th></tr>
<tr><td>Public</td><td>Public</td><td rowspan="2">Public</td><td rowspan="2">Private</td><td rowspan="2">Private</td></tr>
<tr><td>Private</td><td>Private</td></tr>
</table>

It can be added that by definition the units of general government and the Non-profit Institutions Serving Households (NPISHs) are non-market producers (though market production might be a secondary activity) while the corporations by definition are market producers (exception under certain conditions: the central banks) and the households, if producers at all, are either market producers or producers for own final use (e.g. owners of dwellings or subsistence farmers).

Non-Profit Institutions (NPIs) serving enterprises are to be allocated to the corporations sectors. Their revenues are regarded as a reward for a service and thus they are market producers, also. NPIs controlled by the government, e.g. under certain conditions chambers of commerce or the like, are allocated to the institutional sector general government and treated as non-market producers. Non-Government Organisations (NGOs), often indiscriminately confused with NPIs at large, are not a category explicitly recognized and defined in the SNA. If they are non-market producers then they are to be subsumed under one of the three above mentioned kinds of NPIs.

For most enterprises and establishments of agriculture and the commodity producing industries this allocation is straightforward while for a lot of producers of services it is not.

The scope and classification of “services” covered in National Accounts is a result of a lot of methodological discussions dedicated to inclusion or exclusion of home care for the elderly by their relatives, education of children by their mothers or work done by housewives in general etc.. Since long the decisions taken for the SNA follow the same criterion: has the service been carried out against pay (then inclusion in GDP) or not? There is only one major exception. It deals with the utilization of residential building. The SNA recommends including in GDP even the services of providing a dwelling for the use of the owner himself. This is covered under the heading of “owner-occupied dwellings”. The idea is that international comparability must not be hampered by the fact that in one country living in rented flats (which without doubts constitute GDP) is quite common while in another living in the own house is the norm.

Chapter 4 has six parts. In part A, whole sale and retail trade; repair of motor vehicles, motor cycles and accommodation and food service activities (known as hotel and restaurant activities in the previous rebasing) are grouped together for the purpose of comparison with the previous results and presentation. Transport and storage; information and communication are grouped together in part B. Part C covers the financial and insurance services, based on the approach recommended by the SNA 2008. Part D covers the real estate activities related to the housing services (including ownership of dwellings) and its attached services. In the previous rebasing it was known as “Ownership of Dwelling”. Part E covers the “General Government Services” previously known as public administration and defence activities along with non-market producing autonomous bodies and social and community work. All the remaining services activities are taken up summarily together in part F.

A. Wholesale and Retail Trade

Introduction to the chosen approach

For the conceptual clarification and future guidance, the trade activity is briefly described in the light of the SNA 2008, paras 6.146 to 6.150: "Although wholesalers and retailers actually buy and sell goods, the goods purchased are not treated as part of their intermediate consumption when they are resold with only minimal processing such as grading, cleaning, packaging, etc. Wholesalers and retailers are treated as supplying services to their customers by storing and displaying a selection of goods in convenient locations and making them easily available for customers to buy. Their output is measured by the total value of the trade margins realized on the goods they purchase for resale. *A trade margin is defined as the difference between the actual or imputed price realized on a good purchased for resale and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of.*"

According to SNA 6.147, "the standard formula for measuring output has to be modified for wholesalers or retailers by deducting from the value of the goods sold or otherwise used the value of the goods that would need to be purchased to replace them. The latter includes the additional goods needed to make good recurrent losses due to normal wastage, theft or accidental damage. In practice, the output of a wholesaler or retailer is given by the following identity:

the value of output =
the value of sales,
plus the value of goods purchased for resale and used for intermediate consumption, compensation of employees, etc.,
minus the value of goods purchased for resale,
plus the value of additions to inventories of goods for resale,
minus the value of goods withdrawn from inventories of goods for resale,
minus the value of recurrent losses due to normal rates of wastage, theft or accidental damage."

To put it in a simple example: a shopkeeper purchased potatoes for resale in amount of 1000 Rs. and sold them for 1400 Rs. As he did not succeed to sell them all his stock of potatoes grew by 100 Rs. His trade margin in Rs was 1400 minus 1000 plus 100, thus resulting in 500 Rs. In percentage terms, the trade margin is usually calculated by dividing trade margins by sales which in this example would be 500 over 1400 or 35.7 %.

SNA 2008, para 6.150: "The margins realized on goods purchased for resale thus vary according to their eventual use. The margins realized on goods sold at the full prices intended by the traders could be described as the normal margins. In fixing these margins, traders take account not only of their ordinary costs such as intermediate consumption and compensation of employees but also of the fact that some goods may ultimately have to be sold off at reduced prices while others may go to waste or be stolen. The margins realized on goods whose prices have to be marked down are obviously less than the normal margins and could be negative. The margins on goods used to pay employees as compensation in kind or withdrawn for final consumption by owners are zero because of the way these goods are valued. Finally, the margins on goods wasted or stolen are negative and equal to the current purchasers' prices of replacements for them. The average margin realized on goods purchased for resale may be expected to be less than the normal margin, possibly significantly less for certain types of goods such as fashion goods or perishable goods."

In Pakistan the trade margins have to be calculated in an indirect way for the reason that the economy is not well documented. However the results follow the rationale of SNA. The purpose is achieved through determining the marketable supply of the economy and applying ratios representing the above mentioned average trade margins. However, it is important to mention that the ratio for the trade margin must not have sales of the merchants as denominator. It has to be purchases, instead. To use the above given example: We know the (marketable) agricultural output plus imports of potatoes (in the example 1000 Rs) which we use as a starting point of calculation of the trade margin in absolute terms. For that we need to know the ratio of the trade margin as a percentage of the

potatoes the merchants have purchased. In the given example this would be 500 over 1000 (50%). The amount of sales is the sum of purchases plus trade margin but this figure is not needed for our further calculations.

The marketable supply is estimated as the amount of domestically produced commodities (plus respective imports) which are delivered to the customer via trade. In detail this is further outlined below.

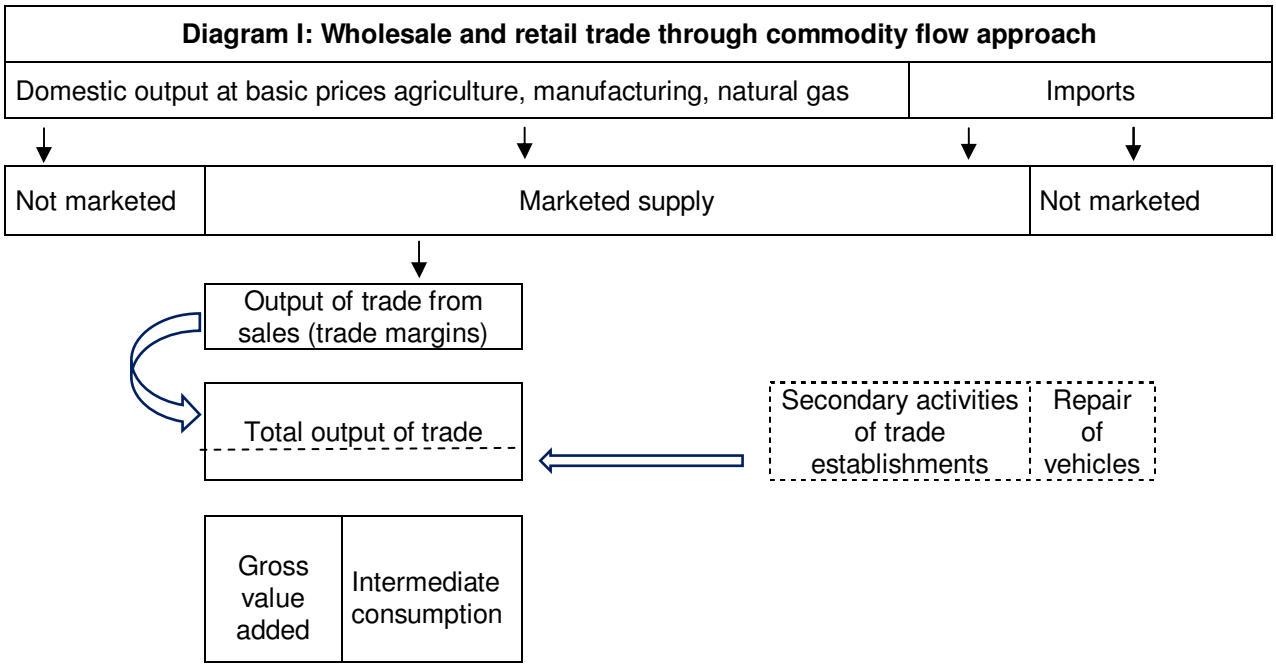
The marketable supply is a commodity based concept. It is also utilized as the weighting scheme for the Wholesale Price index (WPI) as regularly calculated by PBS. Basically it is a commodity flow approach and complies with the "functional" or commodity-wise approach applied for measuring the output of crops, livestock, fishing and slaughtering. The formula is

*Marketable supply at basic prices * ratio for trade margin = output of WRT at basic prices ("trade margin")*

Thus, we need the respective ratios to arrive at the trade margins in monetary terms. These ratios can only be asked from the establishments carrying out the trade activity. This is done by PBS in its Wholesale and Retail Trade Survey 2007-08 in combination with a study on wholesale and retail trade done for the 1999-2000 base. From the above given formula and from the commodity flow approach it follows that the denominator of the ratios of the trade margins we have to deduct from the survey's result is the value of the goods purchased for resale (and not the value of the sales, as already mentioned above). Given the fact that the marketable supply of domestic producers of the commodities is measured at basic prices (which includes subsidies but excludes taxes on the products) we even should enhance the ratios for those commodities which at the input level of trade are levied with excise duties and/or sales tax, already. This, however, has been omitted due to empirical constraints. The respondents of trade surveys have enough problems to determine their purchases at purchasers' prices. They would not be able to assess their purchases excluding the excise duties and sales taxes levied on them. Thus, the trade margin ratios applied in the marketable supply approach are at the lower end of the range of estimates.

The Wholesale and Retail Trade Survey follows the establishment approach and provides figures for sales, purchases and margins by kind of economic activity of the merchants. Margins by commodities can only be estimated from the figures by kind of activity which in Pakistan is classified in the Pakistan Standard Industrial Classification (PSIC). We try to classify the trade activity as detailed as possible in order to combine the establishment oriented average ratios as tailor-made as possible to the commodities for which we have estimated the marketable supply. We also use the Wholesale and Retail Trade Survey for estimates of the input-output ratios and for the ratios for secondary activities of trade as explained below. The results are sub-classified by commodity and reflect the trade margins including secondary output as a sum of wholesale trade and retail trade. This solution does not allow for showing trade in sub-classification of PSIC. ***Table 1*** shows the chosen commodity groups and their related trade activities according to the Pakistan Standard Industrial Classification (PSIC) as far as timber and agricultural products are concerned. For the large scale manufacturing it shows the PSIC classes the marketed supply for the respective commodities is derived from.

The above mentioned concept of marketable supply is applied to three main groups of commodities. Crops, livestock products other than animals sold for slaughtering, forestry products and fishing are one group. The products produced by domestic large scale manufacturing, small scale manufacturing including slaughtering, are another group. The third group consists of imports of consumer goods, capital goods and intermediate goods. In each of these groups we estimate the value of goods that are sold to intermediate or final domestic or foreign users via trade. Final use can be collective or individual final consumption, capital formation or exports. Besides the trade margin (primary output) the establishments of trade generate secondary output which comprises remuneration of services linked to the trade activity, e.g. transporting, fixing or installing the goods purchased. The diagram also shows an element for 'repair of vehicles' as in the PSIC this activity is subsumed under trade (see also coverage below).



The approach is outlined in more detail for separate commodity groups below. It is based on ratios of trade margins, secondary output and intermediate consumption which are assumed to be constant over time. Therefore, once the figures for output, intermediate consumption and value added for the base year have been calculated all relevant arithmetical operations can be bundled in just one ratio to be applied to the marketable supply of the respective period at constant basic prices. It then only needs application of deflators/ inflators to arrive at the current price figures, also.

The functional approach has to be integrated with approaches based on data of enterprises and establishment. Therefore, in order to avoid double-counting the output from trade as a secondary activity of manufacturing (Rs. 32 billion) and the respective intermediate consumption have been omitted by calculating output, intermediate consumption and value added of Large Scale Manufacturing. On the other hand output of trade includes the above mentioned secondary activities of trade.

Table 1 - Major commodity groups by PSIC, chosen for rebasing of calculation of trade activity

MAJOR GROUPS	PSIC 2007	PSIC 2010
Timber & timber products	511031	4610
Grain	512111 +522020	46201 +47210
Seeds (other than oil seeds)	512112	46201
Oil seeds and oleaginous fruits	512113	46202
Animal feeds	512114	46208
Agricultural raw materials n.e.c.	512119	46208
Flowers and plants	512120	46203
Live animals including pet animals	512130	46205
Hides, skins and leather	512140	46206
Un-manufactured tobacco	512150	46206
Agricultural raw materials, n.e.c.	512199	46208
Potatoes	512211	463011

Other unprocessed vegetables	512212	463011
Other unprocessed fruits and nuts	512213 + 522010	463011 +47214
Meat	512221	463015
Poultry	512222	463015
Meat and poultry products	512224 + 522030	463015 +47213
Fish and other seafood	512225 + 522040	463016 +47213
Raw milk and dairy products	512231	463012
Eggs	512232+ 522091	463013 +47212
Large scale Manufacturing Industries		
Textile	17,18	13, 14
Food, Beverages and Tobacco	15,16	10, 11, 12
Coke and Petroleum Products	23	19
Pharmaceuticals	33 + pharmaceuticals covered in chemicals	21
Chemicals	24 (excluding pharmaceuticals 2423 & fertilizer 2412)	20
Non-Metallic Mineral Products	26	23
Automobiles	34, 35	29, 30
Iron and Steel Products	27	24, 25
Fertilizers	2412	2012
Electronics	31, 32	26, 27
Leather Products	19	15
Paper and Board	21, 22	17, 18, 58
Engineering Products	28, 29	25, 27, 28
Rubber Products	25	22
Wood Products	20, 36, others	16, 31, 32
Others	30 + others	

Table 2 below compares the ratios of marketable supply and trade gross value added applied in the base 1999-2000 and 2005-06 base. These have been developed from the WRT survey and applied after rounding.

Table 2 Comparison old and new ratios: compare col 9 with 3 and col 10 with 7

	Base 2005-06						Base 1999-2000	
Items/ Commodities	Market. supply over output at bp	output			gross value added	IC over trade output at bp	MS over output at fc	Trade margin minus IC over MS
		trade margin	secon-dary output	total				
		over marketable supply						
2	3	4	5	6	7	8	9	10
1. Wheat	70.0	24.82	3.13	27.95	21.6	22.9	76.0	15.5
2. Maize	85.0	24.82	3.13	27.95	21.6	22.9	85.0	16.5
3. Rice	87.0	24.82	3.13	27.95	21.6	22.9	88.0	18.5
4. Barley, Bajra, Jowar	80.0	24.82	3.13	27.95	21.6	22.9	80.0	22.0
5. Gram	68.0	24.82	3.13	27.95	21.6	22.9	72.0	18.0
6. Other pulses	80.0	24.82	3.13	27.95	21.6	22.9	65.0	18.0

7. Potatoes & Sweet Potato	96.0	11.44	0.32	11.76	10.2	15.0		
8. Onion	97.0	11.44	0.32	11.76	10.2	15.0		
9. All Other Vegetables	95.0	21.89	4.34	26.23	21.0	19.2	93.0	30.0
10. Vegetables seeds	100.0	9.62	1.82	11.44	9.2	23.3		
11. Fruits	95.0	35.03	1.19	36.22	31.9	11.4	96.0	38.5
12. Oil seeds	93.0	35.03	1.19	36.22	32.0	11.1		
13. Flowers & F. Buds	97.0	41.10	0.00	41.10	34.5	15.9		
14. Spices	97.0	35.03	1.19	36.22	32.0	11.1		
15. Tobacco	40.0	21.00	0.03	21.03	15.6	22.0	40.0	19.5
16. Sugar cane	33.0	25.00	0.0	25.00	20.0	20.0	33.0	20.5
17. Green Fodders	40.0	20.00	0.0	20.00	16.0	20.0	48.0	16.0
18. Dry Fodders	40.0	20.00	0.0	20.00	15.0	25.0	70.0	14.5
19. Cotton	99.0	24.82	3.13	27.95	21.6	22.9	98.0	19.5
20. Live animals to be slaughtered	100.0	5.00	0.55	5.55	4.3	21.8		
21. Poultry & eggs (farming)	97.0	29.55	4.31	33.86	24.0	29.4	94.0	17.5
22. Milk	78.0	29.34	0.24	29.58	22.4	25.3	78.0	24.0
23. Wool & Hair	100.0	20.00	0.00	20.00	15.0	25.0	98.0	25.5
24. Dung & urine	50.0	20.00	0.00	20.00	18.0	10.0	98.0	25.5
25. Forestry	*94.0*	*45.70*	*13.00*	58.70	*53.0*	*10.2*	94.0	30.0
26. Fishing	96.0	*28.30*	*2.00*	30.30	*26.5*	*11.7*	99.0	37.5
27. LSM-Textile	97.0	24.42	0.88	25.30	19.9	21.3	97.0	42.0
28. -Food, Beverages & Tobacco	97.0	28.61	2.99	31.60	24.5	22.5		
29. -Coke and Petroleum Prod.	97.0	26.49	0.97	27.46	19.0	30.9		
30. -Pharmaceuticals	97.0	28.59	2.04	30.63	23.0	24.8		
31. -Chemicals	97.0	31.88	2.07	33.95	30.0	11.8		
32. -Non-Metallic Mineral Prod.	97.0	20.02	1.55	21.57	17.0	21.3		
33. -Automobiles	97.0	22.77	12.50	35.27	25.0	29.2		
34. -Iron and Steel Products	97.0	18.92	0.91	19.83	16.0	19.2		
35. -Fertilizers	97.0	13.97	3.15	17.12	14.4	15.3		
36. -Electronics	97.0	33.73	7.87	41.60	34.0	18.3		
37. -Leather Products	97.0	34.00	1.21	35.21	26.0	26.1		
38. -Paper and Board	97.0	43.12	2.51	45.63	34.0	25.4		
39. -Engineering Products	97.0	29.16	2.45	31.61	28.0	11.4		
40. LSM-Rubber Products	97.0	17.67	0.04	17.71	16.0	9.6		
41. LSM-Wood Products	97.0	25.22	3.63	28.85	21.0	27.1		
42. Small scale manufacturing	90.0	35.00	17.30	52.30	39.7	24.4	89.0	48.5
43. Sl-Meat	97.0	5.43	0.08	5.51	5.0	9.1	97.0	26.5
44. Sl-Other products	100.0	33.33	0.75	34.08	23.0	32.9		
45. Imp-Consumer goods	95.0	26.00	5.00	31.00	25.0	19.4	95.0	24.5
46. Imp-Capital goods	68.0	17.00	5.00	22.00	20.0	9.1	68.0	19.5
47. Imp-Intermediate goods	72.0	20.00	5.00	25.00	22.0	12.0	72.0	22.5
48. Natural Gas (CNG-stations)					80.0	20.0		
49. Maintenance & repair of veh.					90.0	10.0		

Coverage

Wholesale and retail trade covers a full Section ("G") in the Pakistan Standard Industrial Classification (PSIC) 2007. The full title of this section is "Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods". This title indicates the scope of the results presented below. At first glance it might be puzzling that repair of vehicles which basically is a manufacturing activity is covered under this section. The reason is that repair of vehicles as well as repair of household goods is often linked to trade (done in the shops of the vendors). Thus, in ISIC and PSIC even those establishments which do repair as the major activity are allocated to trade rather than manufacturing in order to avoid a split of the "vehicle sector" at the highest level of the classification, already. In the PSIC Rev. 4, 2010, the respective section 'G' now has a shorter title: "Wholesale and retail trade; repair of motor vehicles and motorcycles". For the rebasing 2005-06 the repair of personal and household goods is not included here. However it is included in the personal services for empirical reasons.

It is clear from the title of section 'G' that the commodity-flow approach, outlined above, does not hold for each activity. For maintenance and repair of motor vehicles and motorcycles (group 452 of PSIC 2007) the output and the intermediate consumption are directly taken from the Wholesale and Retail Trade Survey.

Data and sources and results by commodity groups

A. Agricultural products, forestry and fishing: The data for the agricultural products at basic prices is available from the agriculture section of national accounts. The marketable supply is the output of crops, milk, eggs, fish, etc. as calculated by national accounts minus the amounts retained by the producers for their own final consumption or for wages in kind. The ratios for trade margins for crops and livestock have been developed from WRT-Survey 2007-08.

The portion which the farmers retained for their own final consumption has been determined through the Household Integrated Economic Survey 2005-06 of PBS. The information is available on "Own produced and consumed, retained, wages in kind, received as a gift etc." on the agricultural commodities. Marketable percentages have been determined by using this and other relevant information. For fish the data sources are studies on marine fishing and on inland fishing for the purpose of rebasing of National Accounts. For forestry products the output is already calculated from the demand side like firewood. Thus, output is close to the marketable supply. For other minor forestry products like honey, herbs, the figures for 2005-06 of the old base have been adopted as starting point for the new base.

Trade of live animals has been included in the rebasing 2005-06. Previously it was not covered. This was considered necessary as a significant part of live animals are sold through special trade channels. In rural and suburban areas, with a regular periodicity this activity takes place in animal markets but like any other non-stationary kind of trade these services are not included in the normal Wholesale and Retail Trade Survey. The data on animals sold for meat is available and is used as a proxy. However for next rebasing, a study or small survey on "Festivals of animal markets" is recommended where this activity takes place. Vegetable seed is another category which has been covered by rebasing 2005-06 for the first time.

B. Products of large scale manufacturing: Ratios for marketable supply of the study for the base year 1999-2000 have been applied. The output from the "CMI 2005-06" is the base value for the commodity flow approach. However, it has been clubbed according to the groups of the monthly production index "QIM" and the trade margins have been calculated according to the groups using the WRT-Survey 2007-08 as a source. For illustration the delineation of the figures for trade in domestically produced textiles for the base year 2005-06 are given as an example here:

	Variable	**%**	**Billion Rs**
1	Output of textile industry at basic prices		1032
2	Ratio of marketable supply in %	97	
3	Marketable supply (row 2 applied to row 1)		1001

4	Trade margin in % of marketable supply	24.42	
5	Output from trade (row 4 applied to row 3)		244
6	Output from secondary activities (col. % applied to row 3)	0.88	9
7	Total output (row 5 + row 6)		253
8	Intermediate consumption (col. % applied to row 7)	21.36	54
9	Gross value added of trade (row 7 minus row 8)		199

C. Products of small scale manufacturing: Ratios for marketable supply, trade margins and intermediate consumption of the previous base year have been maintained and applied to the output as measured for the rebasing 2005-06.

D. Products of slaughtering: Different outputs of slaughtering avail the trading services. Meat, hides and skins, fats etc. pass through this channel. Trade margins and ratios have been updated through the WRT survey 2007-08. Only farm / commercial poultry avail these services, desi / household poultry has been excluded from it.

E. Imports: This group has been divided into three categories, i. e., consumer goods, capital goods and intermediate goods. The data on respective imports is being supplied by external trade section of PBS. Through a study for 1999-2000 rebasing, the marketable portions of the commodities and trade margins ratios had been determined which also have been applied. As explained above the margins have been chosen commodity wise from results of PSIC-classes most closely related to these commodities.

F. Natural gas: Like any other fuel station CNG-stations are to be classified under retail trade. However, in contrast to other automotive fuels CNG is not covered in PSIC 2007 under section C ("Manufacturing") but under section D, group 352 ("Manufacture of gas; distribution of gaseous fuels through mains"), instead. It therefore needs a separate entry into the commodity flow approach. The calculation for the base year is as follows: According to the "Pakistan energy yearbook 2006" of Hydrocarbon institute CNG-production 2005-06 was 38,885 million CFt or 910,000 tonnes. According to expert opinions the trade margin of a CNG-station is 7,600 Rs/Ton. For 2005-06 this results in an output of trade in natural gas of 6.913 billion Rs. According to expert opinion the input-output ratio is 20% (to be noted: measured with the purchase value at basic prices as denominator). Thus, gross value added related to sales of CNG is 5.530 billion Rs. Secondary activities like car wash etc. might be linked to the CNG-stations but are neglected here.

G. Maintenance and repair of motor vehicles and motorcycles (group 502 of PSIC 2007, 452 of PSIC 2010): As mentioned already under section "coverage" above the repair of motor vehicles is basically a service but nevertheless covered under section 'G' of the PSIC. The output of the repair as such is measured as the remuneration for it and falls outside the calculation of trade margins. It should be noted that repair and maintenance" is functionally defined and covers only the reward for labour and other inputs in the respective shops regardless whether trade of vehicles is their major activity or not. The component of trade in vehicles and spare parts thereof is covered through the marketable supply approach, already.

The output at basic prices is 35826 and intermediate consumption for 2007-08 is Rs. 3583 million at the (estimated) rate of 10%. The value added is Rs. 32243 million and extrapolating the value added backward with the growth of output of road transport gives Rs. 28701 million as base year figure for 2005-06. The base year figures will be extrapolated with the mechanised road transport activity. Input-Output ratios of the base year will be applied for the estimates of intermediate consumption and gross value added.

Table 3 (trade in products of agriculture, forestry and fishing), ***table 4*** (trade in domestically manufactured commodities and imports) and ***table 5*** (application of ratios for the year 2005-06) show the results by commodity group. The columns show – from left to right – the process of calculation. The last two columns of tables 3 and 4 show the ratios for output and gross value added to be applied throughout the new time-series once the marketable supply for the respective year has been determined. Intermediate consumption has been taken as a residual to avoid the mismatch of rounding. While the compilation for the base year is a complicated issue the calculation for the following and preceding years is easy.

Table 3 Delineation of output, intermediate consumption and value added of wholesale and retail trade in agricultural commodities 2005-06																
Items/ Commodities	Supply (output b.p / imports cif) Rs. Mil.	Ratio (%) of marke-table supply	Marke-table supply in Mil. Rs	Trade margin as % of MS	Output of trade				Intermediate consumption		Gross value added	Base year ratios in % of col. 4 for extrapolation			Ratios to be applied to MS	
					from primary activity (sales Rs. Mil)	from secondary activity		total				total output	Interm. Cons.	Gross value added	Trade Output	Trade GVA
						% of purch.	Mill. Rs		% of total OP	Mill. Rs						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Wheat	214305	70	150014	24.82	37233	3.13	4695	41929	22.76	9543	32386	27.95	6.36	21.59	28.00	21.60
Maize	35977	85	30580	24.82	7590	3.13	957	8547	22.76	1945	6602	27.95	6.36	21.59	28.00	21.60
Rice	69760	87	60691	24.82	15064	3.13	1900	16963	22.76	3860	13103	27.95	6.36	21.59	28.00	21.60
Barley, Bajra, Jowar	6348	80	5079	24.82	1260	3.13	159	1419	22.76	323	1096	27.95	6.36	21.59	28.00	21.60
Gram	10270	68	6983	24.82	1733	3.13	219	1952	22.76	444	1508	27.95	6.36	21.59	28.00	21.60
Other pulses	6661	80	5329	24.82	1323	3.13	167	1490	22.76	339	1151	27.95	6.36	21.59	28.00	21.60
Potatoes & Sweet Potato	14447	96	13869	11.44	1587	0.32	44	1631	12.76	208	1423	11.76	1.50	10.26	12.00	10.20
Onion	24372	97	23641	11.44	2705	0.32	76	2780	12.76	355	2425	11.76	1.50	10.26	12.00	10.20
All Other Vegetables	19337	95	18370	21.89	4021	4.34	797	4818	19.25	928	3891	26.23	5.05	21.18	26.00	21.00
Vegetables seeds	6051	100	6051	9.62	582	1.82	110	692	19.37	134	558	11.44	2.22	9.22	12.00	9.20
Fruits	109051	95	103598	35.03	36290	1.19	1233	37523	11.92	4472	33051	36.22	4.32	31.90	36.00	31.90
Oil seeds	11572	93	10762	35.03	3770	1.19	128	3898	11.92	465	3434	36.22	4.32	31.90	36.00	32.00
Flowers & F. Buds	2020	97	1960	41.10	805	0.00	0	805	16.04	129	676	41.10	6.59	34.51	41.00	34.50
Spices	7767	97	7534	35.03	2639	1.19	90	2729	11.92	325	2403	36.22	4.32	31.90	36.00	32.00
Tobacco	3979	40	1592	21.00	334	0.03	0	335	25.91	87	248	21.03	5.45	15.58	20.00	15.60
Sugar cane	56257	33	18565	25.00	4641	0.0	0	4641	20.00	928	3713	25.00	5.00	20.00	25.00	20.00
Green Fodders	81398	40	32559	20.00	6512	0.0	0	6512	20.00	1302	5209	20.00	4.00	16.00	20.00	16.00
Dry Fodders	89563	40	35825	20.00	7165	0.0	0	7165	25.00	1791	5374	20.00	5.00	15.00	20.00	15.00
Cotton	170140	99	168438	24.82	41806	3.13	5272	47079	22.76	10713	36365	27.95	6.36	21.59	28.00	21.60
total of crops	*939274*	*75*	*701440*	*25.24*	*177061*	*1.80*	*15847*	*192909*	*19.85*	*38292*	*154617*	27.50	5.46	22.04		
Live animals to be slaugh.	271379	100	271379	5.00	13569	0.55	1493	15062	22.49	3387	11674	5.55	1.25	4.30	5.50	4.30
Poultry & eggs (farming)	52217	97	50650	29.55	14967	4.31	2183	17150	30.12	5166	11985	33.86	10.20	23.66	34.00	24.00
Milk	511783	78	399191	29.34	117123	0.24	958	118081	24.18	28552	89529	29.58	7.15	22.43	30.00	22.40
Wool & Hair	2252	100	2252	20.00	450	0.00	0	450	25.00	113	338	20.00	5.00	15.00	20.00	15.00
Dung & urine	58550	50	29275	20.00	5855	0.00	0	5855	10.00	586	5270	20.00	2.00	18.00	20.00	18.00
total of livestock	*896181*	*84*	*752747*	*20.19*	*151964*	*0.51*	*4634*	*156598*	*24.14*	*37803*	*118795*	20.80	5.02	15.78		
Forestry	46336	94	43556	45.70	19905	13.00	5662	25567	9.50	2429	23138	58.70	5.58	53.12	59.00	53.00
Fishing	66090	96	63446	28.30	17955	2.00	1269	19224	12.70	2441	16783	30.30	3.85	26.45	30.00	26.50

Table 4 Delineation of output, intermediate consumption & value added of wholesale and retail trade of domestically produced commodities of manufacturing & imports 2005-06																
Items/ Commodities	Supply (output b.p/imports cif) Rs. Mil.	Ratio (%) of marke-table supply	Marke-table supply in Mil. Rs	Trade margin as % of MS	Output of trade				Intermediate consumption		Gross value added	Base year ratios in % of column 4 for extrapolation			Ratios to be applied to MS	
					from primary activity (sales Rs. Mil)	from secondary activity		total				total output	Interm. Cons.	Gross value added	Trade Output	Trade GVA
						% of purchases.	Mill. Rs		% of total OP	Mill. Rs						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
LSM-Textile	1031870	97	1000914	24.42	244423	0.88	8808	253231	21.36	54090	199141	25.30	5.40	19.896	25.30	19.90
LSM-Food, Beverages and Tobacco	556267	97	539579	28.61	154374	2.99	16133	170507	22.30	38023	132484	31.60	7.05	24.553	31.60	24.50
LSM-Coke and Petroleum Products	310100	97	300797	26.49	79681	0.97	2912	82593	31.59	26091	56502	27.46	8.67	18.784	27.50	19.00
LSM-Pharmaceuticals	111762	97	108409	28.59	30994	2.04	2212	33206	23.84	7916	25289	30.63	7.30	23.328	30.60	23.00
LSM-Chemicals	173436	97	168233	31.88	53633	2.07	3482	57115	12.26	7002	50113	33.95	4.16	29.788	34.00	30.00
LSM-Non-Metallic Mineral Products	126705	97	122903	20.02	24605	1.55	1905	26510	24.04	6373	20137	21.57	5.19	16.385	21.60	17.00
LSM-Automobiles	206054	97	199872	22.77	45511	12.50	24984	70495	28.37	19999	50495	35.27	10.01	25.264	35.30	25.00
LSM-Iron and Steel Products	173929	97	168711	18.92	31920	0.91	1535	33455	18.08	6049	27407	19.83	3.59	16.245	19.80	16.00
LSM-Fertilizers	86924	97	84316	13.97	11779	3.15	2656	14435	15.70	2266	12169	17.12	2.69	14.432	17.00	14.40
LSM-Electronics	64669	97	62729	33.73	21159	7.87	4937	26095	17.44	4551	21544	41.60	7.26	34.345	41.60	34.00
LSM-Leather Products	30848	97	29922	34.00	10174	1.21	362	10536	25.51	2688	7848	35.21	8.98	26.228	35.20	26.00
LSM-Paper and Board	130454	97	126540	43.12	54564	2.51	3176	57740	25.63	14799	42941	45.63	11.69	33.935	45.60	34.00
LSM-Engineering Products	89039	97	86368	29.16	25185	2.45	2116	27301	11.79	3219	24082	31.61	3.73	27.883	31.60	28.00
LSM-Rubber Products	40592	97	39374	17.67	6957	0.04	16	6973	8.44	589	6385	17.71	1.49	16.215	17.70	16.00
LSM-Wood Products	51016	97	49486	25.22	12480	3.63	1796	14277	27.15	3876	10401	28.85	7.83	21.017	28.80	21.00
total of Large Scale Manu.	*3183664*	*97*	*3088154*	*26.15*	*807439*	*1.98*	*77031*	*884470*	*22.33*	*197531*	*686938*	28.64	6.40	22.24		
Small scale manufacturing	205479	90	184931	35.00	64726	17.30	31993	96719	24.00	23213	73506	52.30	12.55	39.75	52.50	39.70
Sl-Meat	332750	97	322768	5.43	17526	0.08	258	17784	8.54	1519	16266	5.51	0.47	5.04	5.50	5.00
Sl-Other products	64160	100	64160	33.33	21385	0.75	481	21866	32.50	7106	14759	34.08	11.08	23.00	34.30	23.20
total of Slaughtering	*396910*	*97*	*386928*	*10.06*	*38911*	*0.17*	*739*	*39650*	*21.75*	*8625*	*31025*	10.25	2.23	8.02		
Imp-Consumer goods	185698	95	176414	26.00	45868	5.00	8821	54688	20.00	10938	43751	31.00	6.20	24.80	31.00	25.00
Imp-Capital goods	631644	68	429518	17.00	73018	5.00	21476	94494	8.65	8174	86320	22.00	1.90	20.097	22.00	20.00
Imp-Intermediate goods	893817	72	643548	20.00	128710	5.00	32177	160887	12.25	19709	141178	25.00	3.06	21.938	25.00	22.00
total of imports	*1711159*	*73*	*1249480*	*19.82*	*247595*	*4.17*	*62474*	*310069*	*12.52*	*38820*	*271249*	24.82	3.11	21.71		
Natural Gas (CNG-stations)			6913		6913	0.00	0	6913	20.00	1383	5530					
Maintenance and repair of vehicles	0		31890		0	0.00	0	31890	10.00	3189	28701					

Table 5 Application of ratios of WRT for trade value added and extrapolation, base 2005-06									
Sr. #	Items/ Commodities	Ratios to output for %			2005-06 (Rs. Million)				
		Mar. Sup.	Trade (MS)		Output	MS	Trade		
			Output	GVA			Output	GVA	IC
1	Wheat	70.0	28.0	21.6	214305	150014	42004	32403	9601
2	Maize	85.0	28.0	21.6	35977	30580	8562	6605	1957
3	Rice	87.0	28.0	21.6	69760	60691	16993	13109	3884
4	Barley, Bajra, Jowar	80.0	28.0	21.6	6348	5079	1422	1097	325
5	Gram	68.0	28.0	21.6	10270	6983	1955	1508	447
6	Other pulses	80.0	28.0	21.6	6661	5329	1492	1151	341
7	Potatoes & Sweet Potato	96.0	12.0	10.2	14447	13869	1664	1415	250
8	Onion	97.0	12.0	10.2	24372	23641	2837	2411	426
9	All Other Vegetables	95.0	26.0	21.0	19337	18370	4776	3858	918
10	Vegetables seeds	100.0	12.0	9.2	6051	6051	726	557	169
11	Fruits	95.0	36.0	31.9	109051	103598	37295	33048	4248
12	Oil seeds	93.0	36.0	32.0	11572	10762	3874	3444	430
13	Flowers & F. Buds	97.0	41.0	34.5	2020	1960	803	676	127
14	Spices	97.0	36.0	32.0	7767	7534	2712	2411	301
15	Tobacco	40.0	20.0	15.6	3979	1592	318	248	70
16	Sugar cane	33.0	25.0	20.0	56257	18565	4641	3713	928
17	Green Fodders	40.0	20.0	16.0	81398	32559	6512	5209	1302
18	Dry Fodders	40.0	20.0	15.0	89563	35825	7165	5374	1791
19	Cotton	99.0	28.0	21.6	170140	168438	47163	36383	10780
20	Live animals (Sl.)	100	5.5	4.3	271379	271379	14926	11669	3257
21	Poultry & eggs (farming)	97.0	34.0	24.0	52217	50650	17221	12156	5065
22	Milk	78.0	30.0	22.4	511783	399191	119757	89419	30338
23	Wool & Hair	100.0	20.0	15.0	2252	2252	450	338	113
24	Dung & Urine	50.0	20.0	18.0	58550	29275	5855	5270	586
25	Forestry	94.0	59.0	53.0	46336	43556	25698	23085	2613
26	Fishing	96.0	30.0	26.5	66090	63446	19034	16813	2221
27	LSM-Textile	97.0	25.3	19.9	1031870	1000914	253231	199182	54049
28	-Food, Beverages & Tobacco	97.0	31.6	24.5	556267	539579	170507	132197	38310
29	-Coke and Petroleum Prod.	97.0	27.5	19.0	310100	300797	82719	57151	25568
30	-Pharmaceuticals	97.0	30.6	23.0	111762	108409	33173	24934	8239
31	-Chemicals	97.0	34.0	30.0	173436	168233	57199	50470	6729
32	-Non-Metallic Mineral Prod.	97.0	21.6	17.0	126705	122903	26547	20894	5654
33	-Automobiles	97.0	35.3	25.0	206054	199872	70555	49968	20587
34	-Iron and Steel Products	97.0	19.8	16.0	173929	168711	33405	26994	6411
35	-Fertilizers	97.0	17.0	14.4	86924	84316	14334	12142	2192
36	-Electronics	97.0	41.6	34.0	64669	62729	26095	21328	4767
37	-Leather Products	97.0	35.2	26.0	30848	29922	10533	7780	2753
38	-Paper and Board	97.0	45.6	34.0	130454	126540	57702	43024	14679
39	-Engineering Products	97.0	31.6	28.0	89039	86368	27292	24183	3109

40	-Rubber Products	97.0	17.7	16.0	40592	39374	6969	6300	669
41	LSM-Wood Products	97.0	28.8	21.0	51016	49486	14252	10392	3860
42	Small scale manufacturing	90.0	52.5	39.7	205479	184931	97089	73418	23671
43	SI-Meat	97.0	5.5	5.0	332750	322768	17752	16138	1614
44	SI-Other products	100.0	34.3	23.0	64160	64160	22007	14757	7250
45	Imp-Consumer goods	95.0	31.0	25.0	185698	176414	54688	44103	10585
46	Imp-Capital goods	68.0	22.0	20.0	631644	429518	94494	85904	8590
47	Imp-Intermediate goods	72.0	25.0	22.0	893817	643548	160887	141581	19306
48	CNG (special stores)			80.0	6913	6913	6913	5530	1383
49	Maintenance & repair of veh.			90.0	31890	31890	31890	28701	3189
	Total				7483897	6509485	1766093	1410439	355654

Effect of rebasing

The effect of the rebasing 2005-06 can be shown by comparison of the results 2005-06 according to the new base with those extrapolated for 2005-06 out of the old base year 1999-2000. It is shown in ***table 6*** below. The figures of the table are not easy to interpret as a certain base year stands for a certain empirical base of accurately measured production, input-output ratios and the like. But it also stands for a certain price basis. The relevant columns for interpretation are 5 and 6. Column 5 shows the growth of GVA of trade between the old base year 1999-2000 and the new base 2005-06. For trade as a total it shows an increase of 153.4 % which results in an exorbitant annual average increase of 25.7%. It is influenced by the improvements of comprehensiveness and methods, explained below and does not reflect real growth. The realistic comparison over time will be possible once the figures of the new base year are retropolated to 1999-2000, also (which will be done at a later stage).

Table 6- Gross Value Added of Trade 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Mil.)

Gross value added of trade in	Base 1999-2000	Base 2005-06		% Increase	
	Results 1999-2000	Results 2005-06 at prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
Crops	92224	137388	154,620	67.7	12.5
Livestock and its products	113145	119636	118,851	5.0	-0.7
Forestry	8664	10139	23,085	166.4	127.7
Fishery	7346	14887	16,813	128.9	12.9
Manufacturing	247479	546118	791,250	219.7	44.9
LSM		408,647	686,937		68.1
SSM		106,169	73,418		-30.8
Slaughtering		31,301	30,895		-1.3
Imports	87680	271776	271,588	209.7	-0.1
CNG (special stores)			5,530		
Maintenance and repair of vehicles			28,701		
Gross Value Added	556538	1099944	1410439	153.4	28.2

Column 6 compares the figures for the FY 2005-06, both in prices of that very year but of different bases of calculation. The result is the impact of the rebasing 2005-06 which has four main reasons for discrepancies:

- Comprehensiveness: Now trade in living animals and in CNG is included, ditto repair &

maintenance of motor vehicles & motor cycles and the secondary activities related to trade.

- Corrections of methods: the ratios for trade margins now refer to the purchase value of WRT instead of to the sales value which mistakenly was the old method.

- Updates of ratios for trade margins and input-output ratios.

- Updates of marketable supply: compared to the old base the composition of marketable supply has changed as can easily be seen by increases in trade of livestock, forestry products and LSM and decreases in trade of small scale manufacturing products.

Minor impacts may also have come from some changes in the classificatory structure (cotton ginning is now included in agriculture and excluded from manufacturing).

Extrapolation and current and constant prices

The commodity flow approach chosen for wholesale and retail trade allows for a simple solution for extrapolation of current and constant prices. The non-trade sections of National Accounts will be able to provide the output at basic prices of the respective commodity groups at current as well as at constant prices. It is assumed that the ratios for marketable supply, for trade margin, for secondary output and for intermediate consumption do not differ between the valuation at current and that at constant prices. Thus, in case of trade activity double deflation (separate deflation of inputs and outputs) is not required.

The applications of the respective ratios will be applied to the marketable supply at current as well as constant prices in order to get output, intermediate consumption and value added for both valuations.

The trade value added estimates for the years 2005-06 to 2009-10 at constant and current prices, unadjusted and adjusted for FISIM are given below in ***table 7***.

Table 7 Trade value added estimates for the years 2005-06 to 2009-10 (Rs. Million)

Year/ Item	2005-06	2006-07	2007-08	2008-09	2009-10
Constant					
Trade VA-unadjusted	1410439	1494096	1579606	1520443	1542583
FISIM	18496	19586	20209	19015	19015
Trade VA-adjusted	1391943	1474510	1559397	1501428	1523568
Growth rate		5.93	5.76	-3.72	1.47
Current					
Trade VA-unadjusted	1410439	1593843	2052191	2296627	2608551
FISIM	18496	21723	24747	30786	31546
Trade VA-adjusted	1391943	1572120	2027444	2265841	2577005
Growth rate		12.94	28.96	11.76	13.73

AI Hotels and Restaurants

Hotels and restaurants are covered in section H (Division 55) of the Pakistan Standard Industrial Classification (PSIC 2007) under two broader categories i.e., 551-Hotels; camping sites and other provision of short-stay accommodation and 552-Restaurants, bars and canteens. However, in Pakistan Standard Industrial Classification (PSIC Rev.4, 2010), hotels and restaurants are covered in section I-Accommodation and Food Service Activities under industry Divisions 55-Accomodation and 56-Food and beverage service activities. For the purpose of comparison, the structure of releasing the gross value added estimates will be maintained according to the previous format. Hence this industry will remain a part of wholesale and retail trade as was in the previous base.

Keeping in view the importance of hotels and restaurants, FBS conducted a survey of Wholesale, Retail Trade and Hotels and Restaurants during 1975-76 in urban area of Pakistan followed by another survey of Distributive Trades & Services conducted during 1984-85 in both urban & rural areas of Pakistan. A study on Wholesale, Retail Trade and Hotels and Restaurants was also undertaken for the change of base of national accounts from 1980-81 to 1999-2000. The study estimated the value added for hotels & restaurants as Rs.66 billion in 1999-2000 and this estimate had been raised with constant growth rate of 10 per cent and converted to current prices by applying the CPI General. The constant growth rate is higher compared to the new calculations.

PBS has conducted a Survey of Wholesale & Retail Trade and Hotels & Restaurants in 2006-07 for the change of base of national accounts from 1999-2000 to 2005-2006. The growth rate calculated from 1984-85 to 2006-07 based on the surveys, at the 1980-81 prices is 4.92%. It has been observed that due to coverage problems in this industry, the estimates of 1999-2000 base will be raised with constant growth rate of 4.92 and be made current with CPI General to adopt for the base year estimate for the year 2005-06. The estimate comes to be Rs. 131124 million at current prices of 2005-06 which will be adopted for the base 2005-06. Separate survey may be conducted for this industry for the next rebasing.

However, annual compound growth rate between two surveys 1984-85 and 2005-06 comes at 4.92 per cent which is quite reasonable. The gross value added estimates of benchmark year 2005-06 will be extrapolated for subsequent years by applying a constant growth rate of 4.92 per cent at constant prices. The estimates at constant prices will be converted into current prices by applying the CPI general.

The assumption of constant growth rate and adoption of the results of 1999-2000 base are weaknesses which should be addressed in the next rebasing.

The results from 2005-06 to 2009-10, at constant and current prices are given below in ***table 1***.

Table 1 GVA (at bp) of hotels and restaurants at 2005-06 base for the years 2005-06 to 2009-10 (Rs. Million)

Description/ Year	2005-06	2006-07	2007-08	2008-09	2009-10
Constant	131124	137576	144344	151446	158897
Current	131124	148265	174223	213917	247132

B. Transport, Storage and Communication

Introduction

It is a vast sector, data sources are multiple, and data availability is the main factor to determine the estimation approach. The sources are the annual reports and questionnaires of respective departments. These have been supplemented by studies and surveys. The estimation is combination of functional, enterprise and establishment approaches. The indicators and ratios have also been taken from the studies of 1999-2000 base and previous records. The sources have been mentioned in the respective parts. The structure of the presentation, for the purpose of comparison, has been kept as was previously. It does not affect the estimates or the growth rates.

Coverage and classification

The coverage is according to the PSICs (2007 & 2010). The provision of passenger or freight transportation; by land, water and air is the universe. It includes rail, road, pipeline, water, air and associated activities such as terminal and parking, cargo handling, storage etc. The renting of transportation equipment with operators is also part of this sector. Postal and courier services, and Telecommunications and related services are also covered here. The sources of data and the PSICs references for the rebasing and subsequent estimation have been tabulated below.

Transport, storage and communication, Structure and sources of data by PSIC				
PSIC 2007	**PSIC 2010**	**Description**	**Company reports**	**Surveys and studies**
601	491	Railway transport	Pakistan Railways	
602	492	Other land transport		Road Transport
603	493	Transport via pipelines	APL, PARCO (oil pipeline), FOTCO	
611	501	Sea and coastal water transport	Pakistan National Shipping Corporation (PNSC)	
612	502	Inland water transport		Inland Water Transport (Boats Inland)
62	511	Air transport	Domestic airlines (PIA, SAI, Air Blue), Foreign airlines	
6302	521	Storage and warehousing		1999-2000 base ratios
6304	791	Travel agencies and tour operators		Travel agents/Tour operators & Railways franchised booking agents
6301, 6303, 6309	522	Other supporting and auxiliary transport activities	KPT, PQA, KICT, QICT, PICT, Engro Vopak Container Terminal, CAA	Shipping, Goods Forwarding and Custom Clearing agents, International freight forwarders,
6411	531	National post activities	Post Office, Pakistan	
6412	532	Other courier services		Courier services & franchised post offices
6420	61	Tele-communications	PTCL, NTC, PTA, Pak Data Comm., Telecard, Telecom Foundation (TF) and Worldcall Telecom Limited etc	Cable operators & internet service providers and Public call offices & payphone companies

Note: I. The data has been collected from National Transport Research centre (NTRC), Business & Communication Section (PBS), Mercantile Marine Department. PTA. Provided the data for Mobile phones and number of PCO's. Sialkot International Airport SIA) and Gwadar Port Authority (GPA) have been included since 2008-09.

II. Abbreviations used in the table: Asia Petroleum Limited (APL), Pak Arab Refinery Company (PARCO) (oil pipeline), Fauji Oil Terminal and distribution Company (FOTCO), Karachi Port Trust (KPT), Port Qasim Authority (PQA), Karachi International Container Terminal (KICT), Qasim International Container Terminal (QICT), Pakistan International Container Terminal (PICT), Pakistan Telecommunication Company Limited (PTCL), National telecommunication Corporation (NTC), Telecom Foundation (TF), Civil Aviation Authority (CAA) and Pakistan Telecommunication Authority (PTA),

From the conceptual point of view it is important to know that due to empirical constraints the figures are partly related to enterprises, partly to establishments and partly they are measured by function. The company reports serve the enterprise concept. The studies are based on the establishment concept and some figures as, for example, mechanized road transport is calculated according to the activity or "function". In case of road transport the most reliable figure is that of registered vehicles used for professional transport. Therefore, the output and the input of road transport has been estimated per vehicle. This is a weak method as it is not known how many trucks are run by manufacturers, contractors, government entities or other producers not having their main activities in transport. For the non-mechanized road transport another estimate was necessary: the unregistered part has been assumed to be double of the amount of the registered part.

Methodology

The estimate on transport, storage & communication sector has been compiled on production approach. Gross value added is computed by deducting the value of intermediate consumption from the value of output. The requisite data was collected from source agencies. To enhance the coverage and update the estimates, studies were made. The studies were on Railways franchised booking agents, inter-city & intra-city road transport (Mechanized & Non-Mechanized) , Inland Water transport (Boats Inland), Shipping, goods forwarding and custom clearing agents, International freight forwarders, Travel agents/ Tour operators, Courier services & franchised post offices, Cable operators & internet service providers and Public call offices & payphone companies. Un-registered part of non-mechanized road transport has been adjusted approximately as double of registered part of non-mechanized road transport.

The estimates for each category have been prepared separately. The comparison for the year 2005-06 at the current prices of base 1999-2000 and for the base year 2005-06 has been discussed. Input and output items are not moving together. Therefore double deflation has been applied. The detail of activities is given below.

A. Transport

It has been divided in to three main groups; land, water and air transport. These are further sub divided in to sub groups according to their characteristics. Passengers and freight transportation are the main categories according to the PSICs.

I. Land transportation

This is the major category of the industry. Transportation via railways, road and pipelines are the sub-categories. These are briefly discussed below.

Ia. Transportation via Railways

The data are collected through questionnaire and supplemented by the annual reports. The coverage has been enhanced by including two supporting agencies, i. e., Railways franchised booking agents and Pakistan Railway Advisory and Consultancy Services (PRACS). As the output and input are moving differently, double deflation has been applied to convert the current price estimates to constant price estimates. The estimates are derived at current prices. These are converted to constant prices by applying unit value indices of passengers and tonnage kilometer on output and PPI of diesel on intermediate consumption.

The Railways sub-sector has shown 1.2 % increase in rebasing 2005-06 as compared with the figures of 2005-06 (1999-2000 base) at current prices.

Ib. Road transport

It is the major component of the transportation activities responsible for 74% of the sector's GVA. Oil and water tankers have been evaluated separately due to the availability of data, separate number of vehicles for both types were not available in the previous rebasing (1999-2000). Data are available on mechanized and non-mechanized categories of road transport. Further the information is available on 8 categories of mechanized transport working intra-city (short distances) and on 7 categories running on inter-city (long distances) routs. Data on non-mechanized transport which has been registered is available but the non-registered has been assumed as double of the registered. It is according to the previous practice. However, non-mechanized activity is a minor contributor. National Transport Research Centre (NTRC) is the source agency for mechanized transport data. Registered non-mechanized transport data is collected by Pakistan Bureau of Statistics.

A study was made to determine output and intermediate consumption per vehicle for the categories mentioned above. Data was collected from major cities of the country to calculate the average of indicators. These averages for different types of vehicles were multiplied with the number of vehicles in that category. The contribution is available at constant prices.

The estimates are derived at constant prices. Double deflation has been applied. The constant estimates are converted in to current prices by applying consumer price index of fare on output and producer price index of diesel on intermediate consumption.

The estimates for the base year 2005-06 as compared to the current estimates of 2005-06 on the base 1999-2000 for the road transport sub-sector increased by 4.0 %. The major reason for this increase is inclusion of Oil & Water tankers in value added estimates of the economy. The change has been observed in Input/ Output structure (Output, intermediate consumption) of mechanized & non-mechanized vehicles on road. Mechanized and non-mechanized road transport increased by 3.7% & 7.5 % respectively. Intercity & intra-city road transport has shown an increase of 2.4 % and 5.3 % respectively as compared with the figures of 2005-06 (1999-2000 base). Buses, air conditioned on intercity routs has shown the increase as 12.9 % and buses, non-air conditioned on intra-city routs increased by 12.5%. The percentage share of this sub-sector is 74 % which is the major share of the sector. Mechanized road transport contributed 91 % & non-mechanized road transport contributed 9 % in the sub sector. Intercity transport contributed 55.6 % and intra-city transport contributed 44.4% in the road sub-sector.

Ic. Transportation via Pipelines

This is a small component. Asia Petroleum Limited, Pak-Arab Refinery Company and Fouji Oil Terminal and Distribution Company are the source agencies. Data are available at current prices from the companies. Pipeline transport sub-sector has shown the decline of 10.8 % in rebasing 2005-2006 as compared with the figures in 2005-06 (1999-2000 base). This is due to conceptual clarification and bifurcation of "Other Income" of PARCO (oil pipeline) as being a part of output and not as a part of output, such as return on long/ short investment & deposits, margin on EIB loans, interest and dividend. Pipeline transport contributed 0.5 % in rebasing 2005-06 in the sector.

The estimates are at current prices. The constant estimates are obtained by applying CPI general to output as well as intermediate, i.e., to GVA.

II. Water transport

This category has two components, sea and coastal area water transport and inland water transport. The auxiliaries of this sub-sector are also included here.

IIa. Water transport (Sea and coastal areas)

Goods forwarding agents and International Freight Forwarder activities are the new coverage. This sub-sector increased by 22.9 % in rebasing 2005-06 as compared with the figures of 2005-06 (1999-2000 base). This increase is due to inclusion of the new activities mentioned above, which were not covered in previous rebasing (1999-2000). Goods forwarding agents contribute 43.3% in the study conducted on Shipping, Goods forwarding & custom clearing agents. The contribution of this sub-sector is 3.4 % in transport, storage & communication sector.

Current data are available from the sources. Double deflation has been applied. Current estimates of output are converted to constant estimates by applying indices of passengers and tonnage kilometers and cargo handled at sea ports and intermediate consumption is converted by PPI of diesel.

IIb. Inland water transport

Study has been conducted to determine the contribution and to update the input – output ratios of this category. It is a very small component of the activity, being conducted in the rivers, serving the areas where the river bridges are at far distances.

III. Air transport

Current data are available from the sources. Domestic and foreign airlines are the components of the sub-sector. Its auxiliaries are also included here. Air Transport sub-sector increased 32 % which is due to enhancement in coverage of Foreign Airlines. The intermediate consumption for Private domestic Airlines (Air Blue, Shaheen Air International) has shown the decline due to bifurcation of figures for other expenditure into being a part of Intermediate consumption and not being a part of Intermediate Consumption. The percentage share of this sub-sector is 4.5 in the sector.

The estimates are at current prices. These are converted to constant prices by applying indices of passengers and tonnage kilometer to both, output and input.

B. Communication

Postal system including courier services and telecommunication activities is the universe for coverage. Auxiliaries of the sub-sector have been included here as well. Communication sub-sector has shown an increase of 9.4 % in rebasing 2005-06 as compares with figures for 2005-06 in 1999-2000 base. This increase is due to inclusion of services rendered by Franchised Post Offices, Cable Operators & Internet Service Providers and Pay phone Companies. Communication contributes 13.5 % in transport, storage & communication sector.

The estimates are at current prices. These are converted to constant prices by applying CPI index of communication on both, output and input.

C. Storage

The ratios of the base year 1999-2000 have been adopted for the base year 2005-06. Separate survey is recommended for the future exercise.

The detailed results for the base year 2005-06 are given in table 1 below.

Table 1 Output, Intermediate Consumption, GVA (at bp), Share (%) & I / O Ratio. 2005-06 (Rs. Mill)

Sub-sectors	Output	Share (%)	Inter. Consump.	Share (%)	GVA	Share (%)	Input - Ootput ratio
Railways	18615	1.07	11142	1.39	7473	0.77	59.85
Road Transport	1292664	74.24	571066	71.41	721597	74.39	44.18

Pipeline Transport	6090	0.35	887	0.11	5203	0.54	14.56
Water Transport	52539	3.02	19372	2.42	33167	3.42	36.87
Air Transport	111577	6.41	67907	8.49	43670	4.50	60.86
Communication	259991	14.93	129282	16.17	130709	13.47	49.73
Storage	-	-	-	-	28208	2.91	-
Total	1741476	100.00	799656	100.00	970028	100.00	

Summary

Output: There are seven sub sectors in this sector. Total output is Rs. 1741.5 billion. Road transport (mechanized & non mechanizes) is the main contributor to output. Its share is 74 %, followed by communication as it contributes 15 %, air transport contributes 6.4 %, water transport 3 % and railways 1 %.

Intermediate Consumption: Total intermediate consumption for transport, storage & communication has been estimated to Rs.799.7 billion. Like the output Road transport (mechanized & non mechanizes) is the main contributor to intermediate consumption. Its share is 71 %, followed by communication as it contributes 16 %, The contribution of air transport is 8.5 %, water transport 2.4 % and railways 1.4 %. The input-output ratio for air transport is 61 %, for railways is 60 %, for communication is 50, for road transport is 44 %, for water transport is 37 % and pipeline transport is 15 %.

Gross Value Added: The estimates of value added are measured through production approach. Gross value added is computed by deducting the value of intermediate consumption from the output. Gross value added for transport, storage & communication has been estimated to Rs. 970 billion. Gross value added for Road transport (mechanized & non mechanizes) has been calculated as Rs. 721.6 billion. Its contribution to the whole sector is 74 %, communication contributes 13.5 %, air transports contribution is 4.5 %, water transport 3.4 % storage 2.9 %, railways 0.8 % and pipeline transport 0.5 %.

Comparison of the bases for the year 2005-06 is given in ***table 2*** below.

Table 2a Comparison of Output, Intermediate Consumption and GVA for 2005-2006 as per base years 1999-2000 and 2005-2006 at basic prices (Rs. Million)

Sub-sectors	1999-2000 Base			2005-2006 Base			% Change		
	Output	Interm. Consum	GVA	Output	Interm. Consum	GVA	Col. 5 / 2	Col. 6 / 3	Col. 7 / 4
1	2	3	4	5	6	7	8	9	10
Railways	18265	10879	7386	18615	11142	7473	1.92	2.42	1.19
Road Transport			693621	1292664	571066	721597	-	-	4.03
Pipeline Transport	6746	911	5835	6090	887	5203	-9.72	-2.63	-10.83
Water Transport	41760	14767	26993	52539	19372	33167	25.81	31.19	22.87
Air Transport	110172	77097	33075	111577	67907	43670	1.28	-11.92	32.03
Communication	241231	121731	119500	259991	129282	130709	7.78	6.20	9.38
Storage	-	-	21999	0	-	28208	-	-	28.23
Total-unadjusted	-	-	908409	1741476	799656	970028			6.78
FISIM					10528				
Total-adjusted			908409		810184	959500			5.62

Table 2b Comparison of GVA(at bp) for 2005-2006 as per base years 1999-2000 & 2005-2006 (Rs. Million)						
Name of activity	**Base 1999-2000 Current prices**		**Base 2005-06**	**Growth rate**		**Differ-ence**
	1999-2000	2005-06		Col. 4/2	Col. 4/3	
1	2	3	4	5	6	7
Railways	853	7386	7474	776.16	1.18	88
Road Transport	281478	693621	721597	156.36	4.03	27976
Pipeline Transport	6231	5835	5203	-16.50	-10.83	-632
Water Transport	7934	26993	33167	318.04	22.87	6174
Air Transport	29557	33075	43670	47.75	32.03	10595
Communication	63799	119500	130709	104.88	9.38	11209
Total	389852	886410	941820	141.58	6.25	55410
Storage	11131	21999	28208	153.43	28.23	6209
GVA Total	400983	908409	970027	141.91	6.78	61618
FISIM			10528			
GVA-adjusted	400983	908409	959500	139.29	5.62	51091

Table 2b shows the changes in components due to rebasing. Column 6 of the table gives the overall change of 5.5% when the existing base is replaced by the new 2005-06 base.

The results for the years 2005-06 to 2009-10 at the base 2005-06 are given below.

Table 3 Constant and current results for the years 2005-06 to 2009-10 (Rs. Million)					
GVA/ Year	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Constant					
GVA-unadjusted	970027	1036836	1093941	1147781	1181428
FISIM	10528	11142	11491	10792	10816
GVA-adjusted	959499	1025694	1082450	1136990	1170612
Growth rate		6.90	5.53	5.04	2.96
Current					
GVA-unadjusted	970027	1092577	1079863	1711737	1852660
FISIM	10528	12414	14181	17890	18184
GVA-adjusted	959499	1080163	1065682	1693847	1834476
Growth rate		12.58	-1.34	58.94	8.30

C. Finance and Insurance

C I Financial Institutions / Corporations

1. General Introduction into recommendations of the SNA

1.1 Relevant characteristics of financial services

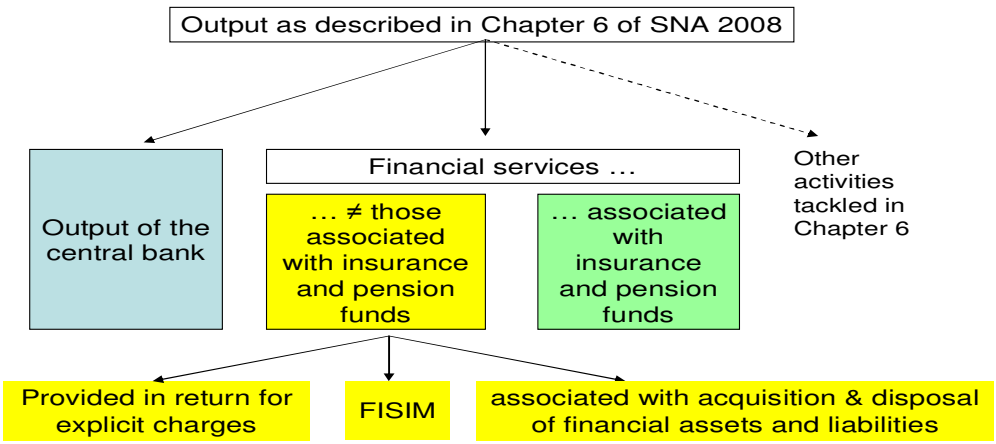
For a certain number of industries, the general rules governing the recording and valuation of output are not sufficient to determine adequately the way in which the output should be measured. This is mostly the case for service industries, such as those of financial institutions.

Financial institutions are mainly engaged in financial transactions. Financial transactions are recorded in the financial account, exclusively. The financial account records changes in financial assets and liabilities. It belongs to the changes of assets accounts and has no counterpart entries with the other accounts. Thus, from the overall concept of the SNA financial transactions have no direct impact on value added, balances of incomes, savings or fixed capital formation. Nevertheless, the financial institutions provide services related to the financial transactions. These services and the respective distributive transactions plus the capital formation related to them have to be recorded in the "real accounts" such as production, generation and use of income and capital account. Two main questions arise: How to measure these services and how to figure out who is consuming these services?

In every country of the world financial institutions form a crucial part of the economy as they are or, at least, should be the custodians of a well-targeted flow of money and other financial assets. Since World War II and thus since an internationally agreed "System" of National Accounts is in place, the markets and instruments for dealing financial assets have changed a lot. The revisions of the SNA regularly have to cope with that. In the 2008 revision of the SNA, the measurement of financial services is the subject of an in-depth review and is further detailed and substantively revised in comparison with what prevailed in the SNA 1993. But the views of how to deal with financial services have changed between the subsequent versions of the SNA, also. This document looks at SNA 2008 as it reflects the latest developments in financial instruments and the latest views of how to deal with them. Wherever it is appropriate former versions of the SNA will also be referred to.

It should be noted that it is possible to apply SNA 2008 and 1993 for financial institutions as both versions cover the same universe and the data support it. The SNA 2008 fully describes all activities which financial corporation may carry out as a primary activity, financial intermediation services indirectly measured (FISIM) being just one of them. With regard to output the structure is as follows:

Diagram I: Output of financial institutions



Section 1 widely follows the above given structure of financial services, leaving aside, however, the services associated with insurance and pension funds. Preliminaries of institutional sector accounts are given in sub-section 1.2, along with the sub-classification of financial sector. Financial sector and general government sector are potential candidates for the initiative of institutional sector accounts due to the data situation. To calculate financial services provided in return for explicit charges is straightforward and explained in sub-section 1.3. Sub-section 1.4 describes financial services associated with acquisition and disposal of financial assets and liabilities (trade margins). Sub-section 1.5 deals with FISIM, the most complicated kind of the financial services. Sub-section 1.6 describes how to obtain intermediate consumption and gross value added. The services of the central bank will be dealt within sub-section 1.7 while sub-section 1.8 deals with constant price estimates. In sub-section 1.9 it is explained why in National Accounts we omit some transactions like writing off of bad debts or capital gains from calculating output and value added of the banks. Section 1 of this document is meant to explain concisely the rationale mere than to give the cooking recipe. The calculations in detail are given in the following sections.

1.2 Institutional units and sectors

The fundamental units identified in the SNA are the economic units that can engage in the full range of transactions and are capable of owning assets and incurring liabilities on their own behalf. These units are called institutional units. Further, because they have legal responsibility for their actions, institutional units are centres of decision-making for all aspects of economic behaviour. In the SNA, preference is generally given to the first aspect because it provides a better way to organize the collection and presentation of statistics even if its usefulness is limited in some cases.

There are two main types of units in the real world that may qualify as institutional units, namely persons or groups of persons in the form of households, and legal or social entities. For purposes of the SNA, a household is a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. The second type of institutional unit is a legal or social entity that engages in economic activities and transactions in its own right, such as a corporation, non-profit institution (NPI) or government unit. A legal or social entity is one whose existence is recognized by law or society independently of the persons, or other entities, that may own or control it. In the SNA, the term corporation covers legally constituted corporations and also cooperatives, limited liability partnerships, notional resident units and quasi-corporations.

The total economy is defined as the entire set of resident institutional units. In the classification hierarchies of the SNA, its standard code is S1. The resident institutional units that make up the total economy are grouped into five mutually exclusive institutional sectors (code varies from S11 to S15). Sectors are groups of institutional units and the whole of each institutional unit must be classified to one or other sector of the SNA. The full sequence of accounts of the SNA may be constructed for a single institutional unit or a group of units.

The institutional units are grouped together to form institutional sectors, on the basis of their principal functions, behaviour and objectives. The institutional sectors of the SNA group together similar kinds of institutional units. Corporations, NPIs, government units and households are intrinsically different from each other in that their economic objectives, functions and behavior are different from each other.

Institutional units are allocated to sector according to the nature of the economic activity they undertake. The three basic economic activities recorded in the SNA are:

i. production of goods and services,
ii. consumption to satisfy human wants or needs and
iii. accumulation of various forms of capital.

Corporations undertake either production or accumulation (or both) but do not undertake (final) consumption. Government undertakes production (but mainly of a different type from corporations), accumulation and final consumption on behalf of the population. All households undertake consumption on their own behalf and may also engage in production and accumulation. NPIs are diverse in nature. Some behave like corporations, some are effectively part of government and some undertake activities similar to government but independently of it.

The following are the institutional sectors:

a. *Non-financial corporations (S11)* are institutional units that are principally engaged in the production of market goods and non-financial services.

b. *Financial corporations(S12)* are institutional units that are principally engaged in financial services including financial intermediation.

c. *General government (S13)* consists of institutional units that, in addition to fulfilling their political responsibilities and their role of economic regulation, produce services (and possibly goods) for individual or collective consumption mainly on a non-market basis and redistribute income and wealth.

d. *Households (S14)* are institutional units consisting of one individual or a group of individuals. All physical persons in the economy must belong to one and only one household. The principal functions of households are to supply labour, to undertake final consumption and, as entrepreneurs, to produce market goods and non-financial (and possibly financial) services. The entrepreneurial activities of a household consist of unincorporated enterprises that remain within the household except under certain specific conditions.

e. *Non-profit institutions serving households (NPISHs) (S15)* are legal entities that are principally engaged in the production of non-market services for households or the community at large and whose main resources are voluntary contributions.

f. *Rest of the world (S2)* deals with the international engagements.

Each sector contains a number of subsectors distinguished according to a hierarchical classification. A subsector comprises entire institutional units, and each institutional unit belongs to only one subsector though alternative groupings are possible. Further sub-classification of the financial corporations sector is given below.

The financial corporations sector and its sub-sectors

The production of financial services is the result of financial intermediation, financial risk management, liquidity transformation or auxiliary financial activities. According to SNA 2008 financial intermediation is carried out by financial corporations, exclusively. Financial corporations consist of all resident corporations that are principally engaged in providing financial services, including insurance and pension fund services, to other institutional units. In the International standard industrial classification (in Pakistan PSIC 2007) there is a special group 651, “monetary intermediation”, subdivided into 6511 “central banking” and 6512 “other monetary intermediation”. In the standard industrial classification, in Pakistan PSIC 2010 (equivalent to ISIC Rev. 4), of the United Nations (2008a) this sector is covered under section “K” and divisions 64, 65 and 66. In the “Central Product Classification (CPC)”, Ver. 2 of the United Nations (2008b), the services of the financial corporations are covered under Division 71 “Financial intermediation, insurance and auxiliary services.

The SNA 2008 now sub-classifies the financial corporations sector S12 into nine sub-sectors according to its activity in the market and the liquidity of its liabilities. These nine subsectors are shown below. Subsector 6 corresponds to financial auxiliaries; subsector 7 corresponds to other financial corporations. All the other subsectors are financial intermediaries of one sort or another.

Subsectors of the financial corporations sector

1. Central Bank
2. Deposit-taking corporations except the Central Bank
3. Money market funds (MMF)
4. Non-MMF investment funds
5. Other financial intermediaries except insurance corporations and pension funds (ICPF)
6. Financial auxiliaries
7. Captive financial institutions and money lenders

8. Insurance corporations (IC)
9. Pension funds (PF)

The sub-sectors of financial corporations can more broadly be aggregated to:

- *Financial intermediaries* (S121 to S125, S128, S129): institutional units that incur liabilities on their own account for the purpose of acquiring financial assets by engaging in financial transactions on the market. They include insurance corporations and pension funds.
- *Financial auxiliaries* (S126): institutional units principally engaged in serving financial markets, but do not take ownership of the financial assets and liabilities they handle.
- *Other financial corporations* (S127): institutional units providing financial services, where most of their assets or liabilities are not available on open financial markets.

The SNA 2008 often uses the term "financial institution" which is a pure synonym for "financial corporation".

Because the provision of financial services is typically subject to strict regulation, it is usually the case that units providing financial services do not produce other goods and services (unless real estate services like renting buildings, offices, shops or flats) and, vice versa, financial services are not provided as secondary production. This is of advantage for compiling supply and use tables and for compiling results for industries.

1.3 Financial services in return for explicit charges

Financial services may be paid for explicitly or implicitly or both. The financial services the clients directly pay for may be provided by different categories of financial institutions:

- *Deposit taking institutions (i.e. such as banks) may charge households or enterprises to arrange a mortgage, manage an investment portfolio, etc.*
- *Specialized financial institutions may charge non-financial corporations to arrange a flotation of shares or to administer a restructuring of a group of corporations.*

Most probably, the largest direct fee charged is the one by credit card issuers:

- *to the units that accept credit cards as a means of payment for the goods and services they provide. The charge is usually calculated as a percentage of the sale.*
- *to a card holder who may also be charged an explicit fee, usually each year, for holding the card.*

The fees constitute output of financial institutions. But for the commercial banks (also called "scheduled' banks) it is not their most outstanding kind of output. Other kinds are treated below.

We get the figures for financial services in return for explicit charges out of the profit & loss accounts of the banks (position "fees, commissions, brokerage"). If possible we get some information about the structure of the clients absorbing these services

1.4 Financial services linked to dealing in securities and in foreign exchange

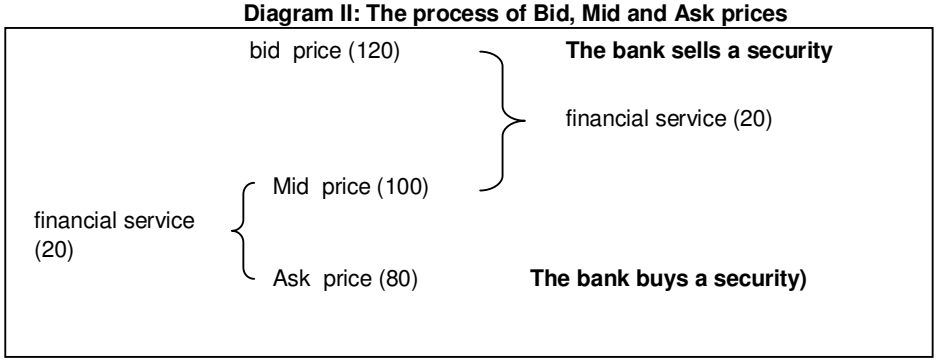
In practice, virtually all transactions in foreign exchange and securities are carried out via financial corporations. In both cases – foreign exchange as well as securities – two prices are quoted: a bid price and an ask price. The first is the price which the potential buyer is to pay, and the second is the price that the owner receives on sale. This activity is called *market making* and may be undertaken by specialized financial corporations or financial corporations providing a wide range of financial services.

The SNA 2008 now subsumes market making services under financial services. The full SNA-term is "financial services associated with the acquisition and disposal of financial assets and liabilities in financial markets". The rationale for including these services is that they are a result of risk transformation and of liquidity provision. By buying and selling at different rates the financial corporations arbitrate and therefore, unlike brokers, take risks. Gains arising from a "ask" quote while reselling at a "bid" quote are not to be seen as holding gain, as

the margin between ask and bid does not reflect a change of the price. If buying and selling takes place at different points in time, in each case the current mid-price has to be applied. So, holding gains/ losses are excluded. The issue of holding gains and losses in general will be explained in more depth in section 1.9.

The rationale of the SNA 2008 for measuring this service is very simple. It is proposed to apply a mid-price. The mid-price is by convention taken to be the average of bid-price and ask-price. The difference between the bid price and the mid-price is a margin paid by the buyer to the financial corporation, and the difference between mid-price and the ask price is a margin paid by the seller. If National Accounts provide balance sheets then the value of securities recorded there under financial assets is at mid-price and excludes these margins. The bid-ask spread is the remuneration for the financial service provided by the bank, irrespective of whether the securities are traded on own account or on behalf of clients.

Diagram II: The process of Bid, Mid and Ask prices



The "margins" mentioned in this section must not be confused with the margins making up "FISIM" which is tackled in the following section.

We find figures for financial services linked to dealing in securities and in foreign exchange in the profit & loss accounts of the banks (positions "income from dealing in foreign securities" and "income from dealing in foreign currencies"). We assume that these two positions really are meant for dealing in foreign assets. Margins for dealing in own assets would have to be excluded as for logical reasons the banks cannot provide a service to themselves. We may further assume that capital gains or losses included in these figures are negligible.

1.5 Financial Intermediation Services Indirectly Measured (FISIM)

The question of the definition and the measurement of the output of the banks exists since the birth of the National Accounts. Different solutions in subsequent versions of the SNA had to be built around the following axioms:

- Lending of money as such does not fall within the production boundary of GDP as it does not constitute a product or a service. The remuneration for lending of money (mainly interest) is to be booked as income from property.
- Income from property is to be recorded as distribution of income. It must not be double-counted (see also section 1.9).
- However, lending of money often is supported by services rendered by banks or similar institutions. This service is often referred to as financial intermediation. It is to be included when calculating GDP.
- The remuneration for financial intermediation can only be measured indirectly by imputing a service charge on account of the clients of the banks.

In all four versions of the System of National Accounts (1953, 1968, 1993 and 2008) the basic idea is the same though the term "financial intermediation services indirectly measured" and its easy to pronounce acronym "FISIM" are used in the versions 1993 and 2008, only.

Financial institutions borrow funds which they lend at different terms to others, transforming the funds in ways more suitable to borrowers. They do not charge their clients explicitly for most of their services but do so implicitly by charging an interest on lent funds. The interest rates they receive are generally higher than the rates

they pay to the depositors. The interest margin is not considered as a sale, but as an implicit payment for banking services. It represents charges for FISIM.

Applying this rationale is not straight forward. Users of National Accounts might be puzzled and might ask whether the analytical benefit of such a sophisticated method is worth the efforts we put in to understand and to apply it. The answer would be: If we limit the output of the banks to the value of services they directly charge for then their operating surplus or even their value added would be negative because the charged services often do not even cover the intermediate consumption. A negative contribution of banks to GDP would even be more confusing than any whatsoever complicated construction of FISIM.

The recommendations of the subsequent versions of the SNA differ in their answers to five main questions:

- Is production of FISIM confined to financial institutions or not?
- Is FISIM confined to borrowed funds, exclusively?
- Is FISIM confined to specific financial assets or liabilities?
- How should FISIM be measured?
- Who is consuming FISIM?

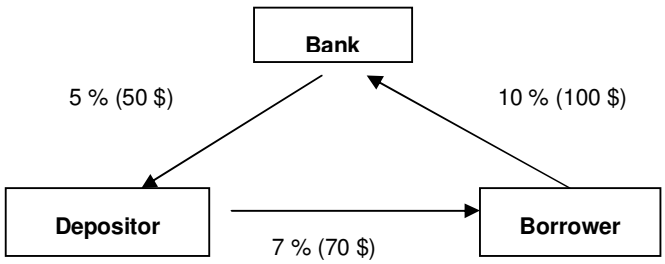
As most countries are supposed to work with the SNA 1993 recommendations, it is still worth presenting the various stages that are considered in this system to calculate FISIM. Two main approaches are to be considered. The first one is that of the SNA 1968 which is a simple one and which may serve as an entry into understanding FISIM. It is still valid as a second best option under SNA 1993. The approach of SNA 1968 was easy to understand but unsatisfactory in its results. In a nutshell it was interest received by the banks minus interest paid by them, fully consumed by a notional institutional unit as intermediate consumption. The SNA 1993 came up with a more sophisticated version but allowed those countries which were not able to implement it to continue with the solution chosen in SNA 1968. The SNA 2008 has dropped now the option to maintain the simple and “old” solution of SNA 1968 but has made some amendments to the approach proposed in SNA 1993. This approach mainly aims at allocating FISIM to specific users.

The data situation is already very good to apply the solution of the SNA 2008. It is explained in section 2.2 of this chapter. The “old” solution of SNA 1993 is not further outlined in this paper as for Pakistan it is obsolete.

The method preferably recommended in SNA 1993 and with some modifications adopted for SNA 2008 consists in calculating so-called reference rates and applying them then to loans and deposits of various sectors. The idea is that the services of the banks are consumed by depositors as well as by borrowers. Let us illustrate it by a simple example:

Imagine: a borrower and a depositor directly negotiate and agree on a loan of 1000 $ at the rate of 7 %. Let us assume this as the reference rate which for the time being should be the rate of pure interest, excluding any charge for services. In practice both do not find each other. They have to employ a bank. In order to get reimbursed for its service the bank pays 5 % to the depositor and gets 10 % from the borrower:

Now we define the service rendered to the depositor. It is 70 minus 50. He accepts that the bank does not pay him the full reference rate. For the borrower it is 100 minus 70. He accepts to pay more than the reference rate. In National accounts we would have total production of FISIM in amount of 50.



Who is now consumer of these services? If we assume …

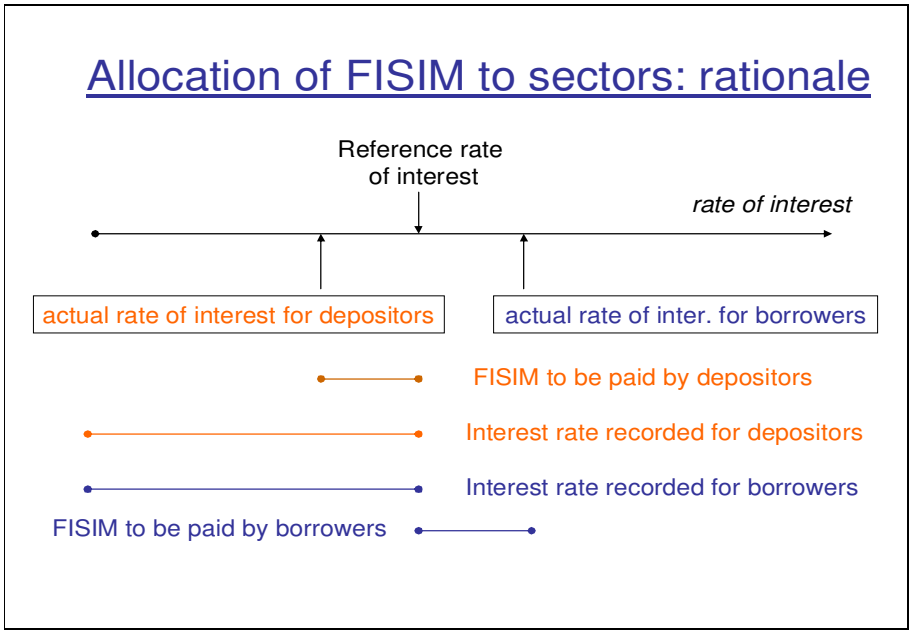
a) that the depositor is a private household then 20 would be recorded as private consumption.
b) that the borrower is a non-financial corporation then 30 would be recorded as intermediate consumption.
c) that the borrower is general government then 30 would be recorded as intermediate consumption of the government and finally as a consequence of that simultaneously as collective consumption (because collective consumption is calculated as the sum of cost).
d) that the borrower is a non-resident then 30 would be recorded as an export.
e) that the depositor is a non-resident then 20 would be recorded as an export.

FISIM would be recorded under imports when residents in their capacity as borrowers or depositors employ a foreign bank.

From the above given example it can easily be seen that in cases a, c, d and e we have an impact on the level of GDP as final consumption or export or import are affected. We also have to be aware that the structure of the value added of the industries (branches) will be affected.

The scheme below puts this in more general terms. It also shows that this option to calculate FISIM has an impact of the recording of interest in the allocation of primary income account. Interest is recorded as if the reference rate was the yardstick for it. Depositors "get" more than actually paid and out of this virtual increase of income they virtually pay for their consumption of FISIM. Borrowers "give" less than they actually pay. Thus, they also have a virtual increase of income which they use to virtually pay for their consumption of FISIM. After all, saving of depositors and borrowers will exactly be the same as compared to the variant of "no allocation".

Diagram III: Rationale of allocation of FISIM to sectors



FISIM on the assets of the bank is interest actually received minus interest if reference rate would have been applied.

FISIM on liabilities of the bank is interest if reference rate would have been applied minus interest actually paid.

In the form of a formula:

$$(r_L^t - rr^t)Y_L^t - (r_D^t - rr^t)Y_D^t$$

Or

$$(r_L^t - rr^t)Y_L^t + (rr^t - r_D^t)Y_D^t$$

where r is actual rate of interest, rr is reference rate, D stands for deposits and L for loans, Y for total value and t for current period. This formula is to be applied for all types of assets and liabilities to be covered by FISIM calculation. FISIM then is the sum of it.

This more ambitious option recommended by the SNA 1993 presupposes good banking statistics. The corner stone is the determination of the reference rate. According to SNA 2008 the reference rate should represent a risk-free rate of interest such as that for inter-bank borrowing and lending. However, different reference rates may be needed for each currency in which loans and deposits are denominated.

For domestic as well as for cross-border inter-bank activities FISIM is neglected as there is almost no service. The exclusion of cross border inter-bank transaction is new in SNA 2008.

By using the reference rate as determined above, we obtain the net allocation of FISIM of the operations between resident financial institutions, between residents and non-residents, and then between the main resident institutional sectors. It is necessary to detail the calculations related to the non-financial residents. Moreover it is necessary to identify the share of the service allocated to the households by distinguishing what is consumed by the unincorporated enterprises within households (intermediate consumption), in context with building activities (intermediate consumption of owner-occupied dwellings) and the private households in their capacity as consumers (private consumption). The distinction between intermediate and final use has implication on the level of GDP.

For imports of FISIM we may apply specific reference rates for every currency. But for simplicity we may use the same reference rate as for the resident financial institutions. We can justify this by saying that the non-resident financial institutions adapt themselves to the market on which they intervene.

It should finally be noted that in the SNA 2008 revision the source of the funds (bank's own funds or intermediated funds) is not an issue anymore as it is now considered that an indirect service charge is imputed anyway for all loans and deposits offered by a bank irrespective of the source of the funds. According to the updated definition of SNA 2008 revision, FISIM is "the difference between the rate paid to banks by borrowers and the reference rate plus the difference between the reference rate and the rate actually paid to depositors represent charges for financial intermediation services indirectly measured."

1.6 Intermediate consumption of the banks (others than State Bank)

For the rebasing of National Accounts we have so far defined the algorithm how to calculate the output of FISIM and the output provided in return for explicit charges and have calculated the figures out of data published for the scheduled banks.

In order to calculate value added we have to subtract intermediate consumption of the banks from their output. For this purpose we assume that the Profit & Loss Accounts of the banks are standardized and that the position "Non mark-up / interest expenses" consists of the three positions:

- Administrative expenses
- Other provisions / write offs net
- Other charges

We further assume that "Other provisions / write offs net" mainly is write offs which are revaluation of financial assets and fall outside the boundary of intermediate consumption. Ditto we consider that "Other charges" mainly are fines and penalties imposed by the State Bank of Pakistan. According to par. 8.135 SNA 2008, these penalties fall under "current transfers" and are to be omitted, also, when calculating intermediate consumption.

Thus, for intermediate consumption we can simply focus on “Administrative expenses”. This position covers the information we need. However, we have to split it:

- The following positions form compensation of employees, viz do not contribute to intermediate consumption:
  - Salaries, allowances, etc
  - Charge for defined benefit plan and other benefits
  - Non-executive directors’ fees, allowances and other expenses
- Ditto what is shown under “amortization” and / or “depreciation”. These positions can be taken as a proxy for consumption of fixed capital.
- Theoretically, the position “insurance” has to be replaced by the insurance service charge as calculated by National Accounts.
- Donations are to be excluded from intermediate consumption. They form current transfers if given to Non-Profit-Institutions Serving Households (see par. 8.125 SNA 2008). They can also be capital transfers if they are meant to finance capital formation of NPIs.
- All other components of administrative expenses form intermediate consumption.

1.7 Treatment of the services of Central Banks

Central Banks play a wider role than the other banks. Their main functions consist in formulating and implementing the monetary policy, emitting and replacing bank notes, supplying centralized banking services and managing the national debt. The relation between the state and the central bank is different from the relation between the state and other financial institutions even if they are from the public sector.

This situation brought several countries to demand a particular treatment of financial services supplied by central bank in the National Accounts. The 2008 revision of the SNA now describes in more detail the three potential activities of central banks:

1. Either central banks are predominantly involved in financial intermediation. These services are individual in nature and in the absence of policy intervention, the interest rates charged by the central banks would be treated as market production.
2. Or central banks are predominantly involved in regulatory tasks like monetary policy services. These services are collective in nature, serving the community as a whole, and thus represent non-market output.
3. Or central banks are involved in both market and non-market production. The borderline cases, such as supervisory services, may be classified as market or non-market services depending on whether explicit fees are charged that are sufficient to cover the costs of providing the services.

In case of financial intermediation the calculation of output in principle is as with the commercial banks. In case of monetary policy services (non-market output) we proceed as if we are compiling output of public administration of general government: we assume that net operating surplus is zero and we add compensation of employees, consumption of fixed capital and intermediate consumption. For short: we add the cost (“administrative cost approach”).

We do not yet compile institutional sector accounts. If we enter into that then for the non-market output of the central bank we have to solve a problem. This output is produced by the financial corporations sector but is to be recorded as collective consumption which by definition is expenditure by the sector general government. Thus, according to the recording of National Accounts, general government virtually purchases this output from the central bank. In order to counter balance this virtual payment we also record a current transfer in same amount (also a virtual one) and in opposite direction, viz from central bank to general government. As a result, saving and net lending both of general government as well as of central bank remain unaffected.

For the time being (no institutional sector accounts) we have otherwise to make sure that government consumption is enhanced by the non-market output of the State Bank of Pakistan.

Calculation of output and value added for the State Bank of Pakistan is outlined in detail in section 3 (description with figures for 2005-06) of this paper. In order to avoid confusion and misunderstanding, section 3 also shows how we would have recorded the relevant output, intermediate consumption and property incomes in the sequence of institutional sector accounts of the SNA. It gives the idea why especially for the State Bank the GVA deviates a lot from the profits as they are shown in the reports of the central bank.

1.8 Constant price estimates

With regard to eliminating inflation and to calculate figures at constant prices the output of financial services consists of two main components: financial services directly charged by financial corporations to their clients and financial intermediation services indirectly measured (FISIM).

As direct financial services like those attached to activities related to currency exchange, financial advisory services etc., are charged explicitly, prices simply equal the actual fees or commissions charged for providing the services.

But the issue becomes more difficult when it comes to FISIM. Ideally, we should have a price index that reflects the definition of the margin measure of FISIM. But it is a serious challenge as a "margin" cannot have a price. There are no directly observable price or quantity units that actually represent the output of FISIM. This causes major conceptual and practical problems regarding the price and volume measurement of FISIM and would therefore have to be based on conventions.

SNA 1968 and 1993 gave no explicit recommendation in that regard. SNA 2008 (par. 15.104) recommends at least a make shift solution: In the model for calculating FISIM for the current period we simply replace the interest rates with those of the base year and apply them to the real values of corresponding assets and liabilities.

"Corresponding assets and liabilities" means loans and deposits. "Real values" means that we apply a general price index such as consumer price index (CPI) or GDP-deflator. Thus, below the line we calculate the volume of FISIM output by deflating the total of loans and deposits by, for example, CPI and apply the pattern of interest rates of the base year. Mathematically this means that the growth rate of FISIM in real terms equals the growth rate of deflated deposits and loans.

1.9 Treatment of capital gains, bad debts and property incomes

National Accounts and commercial book keeping differ in a lot of aspects. Three of them are highly relevant for compiling output and value added of financial corporations:

- Capital gains or losses – in SNA-language called holding gains or losses – often are related to financial assets. Commercial book keeping usually captures them in the profit and loss account to an extent which depends on national practices and rules for that. In National Accounts holding gains do neither constitute output nor value added nor operating surplus as they do not stem from production or from transactions with other institutional units. They do not even fall under property income. They are to be recorded in the revaluation account, instead, regardless whether they are realized (for example by sale or redemption) or whether they are unrealized.
- Similarly, the writing-off of bad debts forms part of "cost" of the financial corporations but in National Accounts is to be excluded from intermediate consumption. It is to be recorded under "other changes in volume of assets", instead.
- Profit and loss accounts of banks prominently capture property incomes the banks receive or pay. The profit of a bank highly depends on its ability to widen the balance of property incomes paid minus received. From the micro-perspective of a bank it is quite justified to record the profit like that. From the macro-perspective of National Accounts, however, we have to avoid double-counting and must neither include property income received in output nor property income paid in intermediate consumption. Property incomes like interest, dividends or rent on land form part of pure distribution of incomes. Interest or dividends which banks receive from producers have been integral part of the value added and the operating surplus of these producers, already. The rationale of the SNA's concept to exclude all property income except FISIM from calculating production and generation of income is that value added and operating

surplus of the industries should be unaffected by the amount the producers are using own funds or borrowed funds (see also box below).

We have to have this in mind when we compile our figures for financial corporations on the basis of their profit and loss accounts.

Example:

- "A and B" own identical barber shops: same assets, same number of clients, same prices, same output, same intermediate consumption.
- A has paid his assets with a bank loan. B's shop is fully financed by himself.
- Commercial bookkeeping will conclude that A's profit is lower than that of B as it is squeezed by interest payments. In National Accounts, however, the main part of interest payments is recorded under redistribution. Value added as well as operating surplus for both shops are almost the same, ditto is their "productivity" (value added per factor input of labour or of physical capital).
- Only in amount of FISIM, A's value added as well as his operating surplus will be lower as compared to B.

Diagram IV: Overview: Banking Accounting versus National Accounts

<table>
<tr><th>Transaction</th><th>Bank accounting</th><th colspan="2">National Accounts
(situation without FISIM)</th><th colspan="2">National Accounts
(situation with FISIM)</th></tr>
<tr><td rowspan="2">Interest received</td><td rowspan="2">Proceeds
(increases profit)</td><td colspan="2" rowspan="3">Property income
(# production account)</td><td colspan="2">SNA-interest
(property income)</td></tr>
<tr><td colspan="2">FISIM</td></tr>
<tr><td rowspan="2">Interest paid</td><td rowspan="3">Expenses / cost
(reduces profit)</td><td colspan="2">SNA-interest
(property income)</td></tr>
<tr><td>Writing off bad debts</td><td rowspan="3">Changes in assets
(# real accounts)</td><td>Volume change</td><td rowspan="3">Changes in assets
(# real accounts)</td><td>Volume change</td></tr>
<tr><td>Capital losses</td><td rowspan="2">Value change</td><td rowspan="2">Value change</td></tr>
<tr><td>Capital gains</td><td>Proceeds
(increases profit)</td></tr>
</table>

2 The data situation

2.1 Data available with the State Bank

The State Bank provides a great variety of data on its website and in its print publications. The variables are widely those which are relevant for fulfilling its function as a regulatory body for the financial institution. A lot of them can directly be utilized for purposes of National Accounts, as well. To some extent this is true for aggregates of the banks, even. In other cases the figures are scattered around as micro data in the financial statement which the State Bank publishes for each institute. These financial statements include balance sheets and profit & loss accounts. Unfortunately, they are not available as soft copy. SBP only has pdf-versions of it. But data for selected variables it enters into EXCEL-files in order to derive key ratios and key indicators such as "return on assets" or "management expense ratio" for its function as a watchdog of the banks is available with SBP. From time to time PBS might ask SBP to extend the list of the variables of this data entry by just a few in order to create a data base which could also fully serve the purpose of National Accounts.

The data which SBP has digitalized for its own purpose do not, for example, provide figures on intermediate consumption in deep detail. Data on Gross Fixed Capital Formation (GFCF) are also missing. However, in its flow-of-fund compilation the State Bank presently works on implementing variables of the capital account, also, which would include GFCF of all sectors including that of the financial institutions.

SBP presently prepares a publication called "Financial Statement Analysis of Financial Sector". It provides main variables on one page per each of the financial institutions including also those which, like insurance companies or leasing companies, are not under supervision of SBP but of SECP, instead. The figures for 2006 and 2007 (Calendar years) are widely captured, already. PBS should ask for access to this data source, also.

SBP provides a list of financial institutions which is based on the Monetary Financial Statement Manual of the IMF and which is applied throughout the various countries. The Manual has been released in 2000 and is based on the SNA 1993. The sector financial corporations are sub-classified there as under:

- Central bank
- Other depository corporations
- Other financial corporations
- Insurance corporations and pension funds
- Other financial intermediaries, except insurance corporations and pension funds
- Financial auxiliaries

2.2 Data available with PBS

So far, the PBS annually conducts a survey sending a questionnaire directly to the financial institutions. It contains all variables which are necessary to compile GVA and it is widely covering the positions of the profit & loss accounts of the banks. But it was developed for a method which did not exclude capital gains and revenues from property income of the banks and which did not enable the application of FISIM. The new questionnaire (Annexure I), has been developed and from the base year 2005-06 and onward, the data are collected according to the requirement of FISIM.

Moreover, a lot of reports with the annual financial statements of the banks are with PBS. Due to non-response of some banks, neither the questionnaires nor the reports are comprehensively covering the whole financial sector.

For the base year 2005-06 PBS has conducted two studies which are relevant for compilation of GVA and GFCF of financial institutions:

- Study on Exchange Companies
- Study on Stock Exchange brokers
- Study on Stock Exchange Companies

2.3 Data requirements and proposal for a merger of data of SBP and PBS

For the rebasing of National Accounts we have to differ between four various reference periods:

- First of all, we have to make sure that for the base year 2005-06 we have as accurate and as comprehensive figures as possible.
- For the succeeding years we can to some extend make extrapolations of the base year figures and apply some assumptions (as we do in other industries, as well).
- For the current year under observation we have to come up with some estimates even before the year is finalized. The annual financial statements of the banks can of course not be ready, then. Therefore, we need proxy variables for which figures are duly available on sub-annual basis.
- For the years preceding the base year we have to come up with figures at a later stage. These figures shall close the gap between the two base years 1999-2000 and 2005-06 so that long time-series can be provided to the users of statistics.

It is proposed to utilize the already available data and to refrain from cumbersome additional surveys as far as possible.

- For the base year all the figures have already been collected by PBS.
- For the succeeding years data for the most important components of output (FISIM of the scheduled and non-scheduled banks) can directly be depicted and calculated from SBP's figures. The other component of output could in the simpler version be added by a mark-up ratio calculated from the situation in the base year. For a more sophisticated version we may calculate other components of output or other types of banks (e.g., at least the DFIs) directly out of their financial statements, also.

The simpler version might be preferred as it holds for the calculation at current prices, only. With regard to the impact on the more sensitive figures at constant prices ("economic growth rate") we apply a totally different approach, anyway (see section 1.8).

For the current, not yet accomplished year we should apply the method foreseen for the constant prices (sum of deposits and loans compared to previous year). If un-deflated it will give the solution for current price estimates. If deflated by the CPI it will give the constant price figure.

For intermediate consumption we have to calculate accurately for the base year. That means that we deduct all components of compensation of employees and possibly depreciation and donation from the administrative expenses. In the succeeding years we may take the development of administrative expenses in total of the scheduled banks as a proxy for the extrapolation of intermediate consumption of all banks. We can refine this by including other types of banks. The more cumbersome way would be to peruse all the statements of the banks in order to arrive at intermediate consumption proper. We again propose to take the simple solution.

For the years prior to 2005-06 we may develop an appropriate algorithm which we apply to the data from surveys undertaken by PBS itself.

2.4 Aspects of classification

We do not yet compile institutional sector accounts, viz we do not explicitly provide figures for the financial corporation sector. Nevertheless, our approach will be an institutional one: we take the figures for all institutions mainly engaged in financial intermediation. As explained above (section 1.2) financial intermediation generally is confined to the corporations mainly dedicated to it while, vice versa, the financial corporations do not produce other goods or services than financial intermediation services. The only relevant exceptions are real estate services provided mainly by insurance companies and to some extent by some banks, also.

The SNA foresees to compile output and gross value added on the basis of establishments. We apply (as in many other countries) an enterprise approach. The reason is that most data are available at the enterprise level, only, and not at the level of the establishments (affiliates) of the banks. We classify the enterprises

according to their main activities according to Pakistan Standard Industrial Classification (PSIC) 2007 and 2010. The structure of PSIC 2007 is as follows:

Section J: Financial Intermediation

Division 65: Financial Intermediation, except insurance and pension funding
- Group 651: Monetary intermediation
  - Class 6511: Central banking
  - Class 6519: Other monetary intermediation
- Group 659: Other financial intermediation

Division 66: Insurance and pension funding, except compulsory social security

Division 67: Activities auxiliary to financial intermediation
- Group 671: Activities auxiliary to financial intermediation, except insurance and pension funding
- Group 672: Activities auxiliary to insurance and pension funding

The compilation covers all activities of divisions 65 and 66 plus the auxiliaries of group 671. The remaining part of section J will be covered by a separate compilation. For purpose of showing the impact of rebasing the results for total section J will also be presented (see section 6).

For empirical reasons the results of division 65 will for the purpose of National Accounts be sub-classified in slight deviation from PSIC. Class 6519 and group 659 will be put together and then bifurcated as “scheduled banks” (section 4) and “non-scheduled banks” (section 5) as this bifurcation is quite common in Pakistan and fairly supported by the figures of SBP. Class 6511 is fully covered by the figures for the State Bank of Pakistan (see section 3).

The classification according to PSIC must not be confused with the one according to financial corporations sector mentioned in sub-section 1.2 of this document. The latter one will be relevant when we are moving forward in implementing the SNA by compiling the institutional sector accounts for Pakistan, as well.

PSIC 2010 corresponds to United Nation’s classification ISIC Revision 4. The structure of financial intermediation has broadly remained the same as in ISIC Rev. 3.1 / PSIC 2007. The structure of PSIC 2010 is as follows:

Section K: Financial and insurance activities

Division 64: Financial service activities, except insurance and pension funding
- Group 641: Monetary intermediation
  - Class 6411: Central banking
  - Class 6419: Other monetary intermediation
- Group 649: Other financial service activities, except insurance and pension funding activities

Division 65: Insurance, reinsurance and pension funding, except compulsory social security

Division 66: Activities auxiliary to financial services and insurance activities
- Group 661: Activities auxiliary to financial service activities, except insurance and pension funding
- Group 662: Activities auxiliary to insurance and pension funding

3 Output and value added of the State Bank of Pakistan

3.1 Introductory remarks

This section deals with the calculation of all National Accounts aggregates which are necessary to determine the "balance of primary income" of the State Bank of Pakistan (SBP). The calculations follow the rules of the SNA 2008. Statistical source for the calculations are the data given on website by the "Consolidated Financial Statements 2006 – State Bank of Pakistan & Its Subsidiary – Consolidated SBP Accounts".

The structure of this section is as follows. First, main National Accounts aggregates are derived from the statistical source mentioned above. Second, the sequence of accounts of the SBP is presented to the point where the "Balance of primary income" of this unit is determined (sub-section 3.8). Third, a control calculation is presented (sub-section 3.9). The calculation of the figures for the years 2005-06 to 2009-10 are given in sub-section 3.10.

3.2 The profit & loss account of the SBP

Production of central banks is described in SNA 2008 par. 6.151 to 6.156. Considering the various options presented there it is concluded from the information of its website that the SBP is a non-market producer as well as a market producer. SBP is treated as market producer for the services it is directly remunerated for (fees, charges etc.).

For calculating non-market output the general rules can be applied. In this respect SNA 2008 states:

"6.125 The value of the non-market output provided without charge to households is estimated as the sum of costs of production, as follows:

a. Intermediate consumption;
b. Compensation of employees;
c. Consumption of fixed capital
d. A return to fixed capital
e. Rent on land used in the production, if any;
f. Other taxes (less subsidies) on production. "

However, a return to fixed capital (d) will not be included here because the inclusion of this item is controversial.

As the formula presented above has a "bottom up" calculation structure, i.e. output is calculated as the sum of administrative cost, starting point for the calculation is the profit & loss account of the SBP:

Table 1 State Bank of Pakistan and its subsidiaries, Profit & loss account for the year ended June 30, 2006 (2005-06)

Position	Note	Rupees' 000'
Discount, interest/mark-up and/or return earned	35	69, 940,502
Interest / mark-up expense	36	4, 047,802
		65, 892,700
Commission income	37	441,033
Exchange gain- net	38	4,376,273
Dividend income		1,974,628
Other operating income-net	39	799,545
		73, 484,179
Less: Direct operating expenses		
Note printing charges	40	2,431,476
Agency commission	41	2,190,528
Provisions for:		

- loans and advances		0
- diminution in the value of investments		0
- Other doubtful assets		547,691
		547,691
		68, 314,484
Less: General administrative and other expenses	42	6, 956,813
OPERATING PROFIT		61, 357,671
Other income	43	7, 288,864
		68, 646,535
Less: Other charges	44	462,747
NET PROFIT FOR THE YEAR		**68,183,788**

Source: Consolidated Financial Statements 2006 – State Bank of Pakistan & Its Subsidiary – Consolidated SBP Accounts "The Notes refer to the source.

3.3 Intermediate Consumption

In order to calculate "Intermediate consumption" for the State Bank of Pakistan, it must be checked whether the corresponding items of the profit & loss account presented above are in line with the SNA 2008 rule for the calculation of intermediate consumption (see SNA 2008 par.6.218).

(a) Note printing charges: Note printing charges are payable to Pakistan Security Printing Corporation (Private) Limited at agreed rates under specific arrangements. This item should be included in intermediate consumption.

(b) Agency commission: Agency commission is payable to National Bank of Pakistan (NBP) under an agreement at the rate of 0.15 % (2005: 0.15 %) of the total amount of collection and remittances handled by NBP. This is a service charge paid to the NBP which is a private bank of sector S122. Therefore this item should be included in intermediate consumption.

(c) Establishment costs: Establishment costs cover a wide range of Intermediate expenses which have to be classified according to various national accounts aggregates.

(d) Other charges: Other charges amount to 462,747 Rupees`000. The most important individual item is charges on allocation of SDR.

Note printing charges, agency commission, parts of the establishment costs and other charges add up to the sum of intermediate consumption, given below in table 2.

Table 2 Intermediate consumption

Position	**Rupees' 000'**
Note printing charges	2,431,476
Agency commission	2,190,528
Part of "Establishment costs"/ I.C	1,151,485
Other charges	462,747
Total intermediate consumption	6, 236,236

3.4 Compensation of employees

The various elements of "Compensation of employees" are given as part of the establishment costs. As seen in table 3 below, the sum of compensation of employees is **5,332,248** Rupees`000.

Table 3 Separation and aggregation of establishment costs in to different categories (Rs. '000')			
Position	**Intermediate consumption**	**Compensation of employees**	**Consumption of fixed capital**
Salaries and other benefits		3,191,267	
Retirement benefits and employees' compensated absences		2,140,981	
Daily wages staff		0	
Medical allowances		0	
Overtime allowance		0	
Rent and taxes	15,116		
Insurance *	6,163		
Electricity, gas and water charges	140,500		
Depreciation			403,093
Repairs to Bank property			
Repairs to Bank's vehicles			
Repairs to mechanical/ electrical equipment	138,305		
Directors' fee		0	
Auditors' remuneration	4,326		
Legal and professional charges	305,482		
Travelling expenses	103,170		
Daily expenses	41,381		
Passages	0		
Fuel charges	10,789		
Conveyance charges	8,906		
Postages	88,547		
Telegram/ telex	0		
Telephone	0		
Training	24,309		
Examination/ testing services	2,993		
Remittance of treasure	37,445		
Stationery	14,934		
Books and newspapers	12,265		
Advertisement	16,357		
Bank guards	0		
Uniforms	15,010		
Others	165,487		
Total	**1,151,485**	**5,332,248**	**403,093**

**: In a more sophisticated version these insurance premiums should be replaced by the "insurance service charge" as defined in SNA 2008 par. 6.185.*

3.5 Consumption of fixed capital

The value of "depreciation" shown under establishment costs is 403,093 Rupees`000. In a final version these depreciation at "historic costs" (see remark 3 "Accounting convention" of the Consolidated Financial Statements 2006 – State Bank of Pakistan & Its Subsidiary – Consolidated SBP Accounts) should in a more sophisticated approach be replaced by consumption of fixed capital at replacement costs in line with SNA 2008 par. 249.

3.6 Total output

According to the administrative cost principle now the value of total (market and non market) output can be calculated:

Table 4 Total output	
Position	**Rupees' 000**
Intermediate consumption	6236236
Compensation of employees	5332248
Consumption of fixed capital	403093
Total output	**11971577**
Market output	**441033**
Non-market output	**11530544**

3.7 Market output

Market output of the State Bank of Pakistan is directly remunerated. It comprises all fees, charges etc. the SBP receives.

a) Commission

Commission income of the SBP adds up to 441,033 Rupees`000 (See footnote 37 of SBP, profit & loss account). It comprises commissions for Market Treasury Bills, Draft / payment orders, Prize Bonds and National Saving Certificates, Management of public debts and ''others''. The consumers of these services are considered to be the domestic financial institutions other than State Bank.

b) Other operating income

The main part of this "Other operating income" accounts for penalties levied on banks and financial institutions. Fines and penalties have to be classified as "Current transfers" (see SNA 2008 par. 8.135). Therefore they are not included here as market output (see footnote 39 of SBP profit & loss account).

c) Other income

Other income includes various receipts of the SBP. None of them should be included. All but one of these represents a holding gain/loss. The "Amortisation of deferred income" is recording revenues which have already been en-cashed in previous year (s). It is a position of bookkeeping ensuring application of the accrual basis in the profit and loss account and in the balance sheet of the bank, see footnote 43 in context with 29 and 43.1 and 4.9 of SBP profit & loss account.

So, market output of the SBP for 2005-06 is 441,033 Rupees`000.

3.8 Results for State Bank 2005-06 shown in selected institutional sector accounts

In Pakistan, institutional sector accounts are not yet calculated. But for better understanding of the recording of its actual interest payments and receipts the institutional sector accounts for the State Bank are presented here as if they would have been compiled. The sequence of accounts is not complete. It covers its first three accounts, only: production, generation of income and allocation of primary income. Under "items" the accounts show the transaction codes of the SNA.

It can easily be seen here that interests and dividends are recorded in the allocation of primary income only. These revenues do not constitute output. They form property income, instead.

Table 5 Sequence of accounts for SBP

I: Production account					
Item	**Uses**	**Rs. ´000**	**Rs. ´000**	**Resources**	**Item**
P.2	Intermediate consumption	6, 236,236	11,971,577 441,033 11,530,544	Output of which • Market • Non market	P.1 P.11 P.13
B.1g	***Value added, gross***	*5,735,341*			
K.1	Consumption of fixed capital	403,093			
B.1n	*Value added, net*	*5,332,248*			

II.1.1: Generation of income account					
Item	**Uses**	**Rs. ´000**	**Rs. ´000**	**Resources**	**Item**
D.1	Compensation of employees	5,332,248	*5,735,341*	*Value added, gross*	*B.1g*
B.2	***Operating surplus, gross***	***403,093***			

II.1.2 Allocation of primary income account					
Item	**Uses**	**Rs. ´000**	**Rs. ´000**	**Resources**	**Item**
D.4	Property income		*403,093*	*Operating surplus, gross*	*B.2g*
D.41	Interest	4, 047,802	71, 915,130 69, 940,502 1, 974,628	Property income Interest Dividends	D.4 D.41 D.421
D.421	Dividends	Not recorded here			
B.5g	***Balance of primary income, gross***	***68,270,421***			

3.9 Control calculation

The control calculation in the scheme below explains the difference between the net balance of primary income (excluding dividends paid) in row 3 and the net profit for the year of the SBP (row 14). The first group of differences (rows 4 to 7) refers to gains (or losses) which are part of the gain and loss account of the SBP but not result of a production activity within the boundaries of the SNA.

The second point (row 9) refers to the imputation of a non-market production of the SBP. In SNA 2008 the consumer of this non- market output is general government. It is to be recorded as collective consumption which by definition is expenditure by the sector general government. Thus, according to the recording of National Accounts general government virtually purchases this output from the central bank (recorded as a current transfer). In order to counter balance this virtual payment we also record in the secondary distribution of income account a current transfer in same amount (also a virtual one) in opposite direction, viz from central bank to general government. As a result, saving and net lending both of general government as well as of central bank remain unaffected. For more detail, see SNA 2008 par.6.152.

The above mentioned virtual current transfer must not be confused with the transaction D.4 which distributes all or part of the profits of the Central Bank to its owner which in most countries is central government. In the above given abbreviated institutional sector accounts this distribution from State Bank to Government of Pakistan has not been included.

Table 6 National accounts and SBP calculations highlights		Rs. ´000'
1	B.5g Balance of primary income, gross (excluding dividends paid)	*68,270,421*
2	Consumption of fixed capital	403,093
3	B.5n Balance of primary income, net (excluding dividends paid)	67,867,328
4	Exchange gain / (loss)	4,376,273
5	Other operating income	799,545
6	Provision for loans and advances	547,691
7	Other income	7,288,864
8	Balance of items row 4 to 7 (4+5-6+7)	11,916,991
9	Non market output	11,530,544
10	Balance (Row 8 -9)	386,447
11	Add rows 3 & 10	68, 253,775
12	Amortisation	69,987
13	Result of control calculation (Row 11- 10)	68, 183,788
14	Net profit for the year according to profit & loss account of SBP	68, 183,788
15	Difference between rows 10 and 11	0

3.10 The results

The table 7 below shows the summary results at current and constant prices. The table 8 shows the detailed results of the above given method for the figures of the State Bank of Pakistan. The rows are in order of the positions given in the annual reports of the State Bank. Column 2 gives the respective transaction of National Accounts these positions of the State Bank are to be allocated to. For comparison with the results prior to this rebasing – the effect of rebasing – see section 6.

Table 7 Summary results for the State Bank (Rs. Million)					
Item/Year	2005-06	2006-07	2007-08	2008-09	2009-10
At current prices					
Output	11972	15585	15319	18634	22247
Non market output	11531	14929	14599	16967	20794
Market output	441	656	720	1667	1453
IC	6236	7722	8065	9635	9235
GVA	5736	7863	7254	8999	13012
Deflator	100.00	107.77	120.70	141.25	155.53
At constant prices					
Output	11972	14461	12692	13192	14304
IC	6236	7165	6682	6821	5938
GVA	5736	7296	6010	6371	8366

3.11 Preliminary results for the State Bank

As by far the most important component of output is of non-market type we extrapolate the last "final" output with compensation of employees. For intermediate consumption we apply the ratio of the last "final" year. The preliminary results are the way out for the year(s) not yet covered by a report of SBP. These figures are to be replaced by the revised calculations based on the data of the report.

Table 8 Output, intermediate consumption and gross value added of the State Bank (Rs. '000')						
Text of Report of the SBP	Category of Nat. Acc.	Financial year ending on June 30 of …				
		2006	2007	2008	2009	2010
"Establishment cost" (relevant for production)						
Salaries and other benefits	Compensation of employees	3,191,267	3,608,196	4,017,153	4,795,037	6,291,947
Retirement benefits & employees' compensated absences		2,140,981	3,437,388	2,419,201	3,323,878	5,863,572
Daily wages staff						
Medical allowances						
Overtime allowance						
Rent and taxes	Intermediate consumption	15,116	36,687	39,740	42,755	84,782
Insurance		6,163	10,687	13,588	15,381	23,904
Electricity, gas & water charges		140,500	156,365	167,652	224,622	249,507
Depreciation	Cons. Fixed cap	403,093	817,261	817,834	880,143	856,645
Repairs to Bank property	Intermediate consumption					
Repairs to Bank's vehicles						
Repairs to mechanical/ electrical equipment		138,305	154,842	259,602	349,117	376,302
Directors' fee	Comp. employ.					
Auditors' remuneration	Intermediate consumption	4,326	4,984	5,611	8,134	8,123
Legal and professional charges		305,482	313,933	362,513	458,120	366,609
Travelling expenses		103,170	129,764	162,105	162716	178,256
Daily expenses		41,381	34,794	57,413	51110	
Passages						
Fuel charges		10,789	10,498	10,906	10,671	38,121
Conveyance charges		8,906	7,589	9,461	8,583	9,516
Postages		88,547	98,164	122,935	133,559	173,661
Telegram/ telex						
Telephone						
Training		24,309	42,085	40,509	78,691	67,827
Examination/ testing services		2,993	1,014	1,144	4,998	6,513
Remittance of treasure		37,445	31,276		33,059	33,917
Stationery	Intermediate consumption	14,934	18,613	18,153	23,852	26,148
Books and newspapers		12,265	15,048	18,969	20,730	26,721
Advertisement		16,357	26,031	9,090	3,802	10,073
Bank guards		0	0	0	0	0
Uniforms		15,010	17,418	60,562	84,614	112,170
Others		165,487	145,728	160,568	112,747	202,655
Other intermediate consumption						
Note printing charges		2,431,476	3,087,214	3,097,868	4,193,032	3,258,920
Agency commission		2,190,528	2,576,382	2,710,017	3,614,261	3,981,054
Other charges		462,747	803,069	736,368	0	0
Total intermediate consumption		**6,236,236**	**7,722,185**	**8,064,774**	**9,634,554**	**9,234,779**
Non-market output (establishment cost as above plus other intermediate consumption)		11530544	14928762	14598673	16966237	20794191
Market output (commissions as per Report)		441,033	656,268	720,289	1,667,375	1,452,752
Total output (market plus non-market output)		**11971577**	**15585030**	**15318962**	**18633612**	**22246943**
Gross value added		**5735341**	**7862845**	**7254188**	**8999058**	**13012164**
of which:						
compensation of employees		5,332,248	7,045,584	6,436,354	8,118,915	12,155,519
consumption of fixed capital		403,093	817,261	817,834	880,143	856,645

4 Output and value added of the scheduled banks

4.1 Figures for FISIM 2005-06 step by step

This section gives the cooking recipe for the most relevant component of the output of the financial institutions which is the FISIM of the scheduled ("commercial") banks[2]. We make use of the banking statistics of the State Bank of Pakistan which are published on its website.

We already apply the solution offered in SNA 2008. For short: We calculate FISIM according to a reference rate, confined on the asset side of the banks to loans (in SNA-code AF.4) and on the liability side to transferable deposits (AF.22) and other deposits (AF.29). We deal with the figures for year 2005-06 and go through the procedure in 8 subsequent steps.

1. We take "KIBOR"(Karachi Inter-bank Offered Rate) as the reference rate. It is published by SBP on its website under "publications/ banking statistics". It should be the annual average, preferably of 3-months KIBOR:

Table 9 a 3 months KIBOR FY 2005-06

	Bid	Offer	Average
29-Sep-05	8.08	8.58	8.33
31-Dec-05	8.26	8.76	8.51
31-Mar-06	8.63	9.13	8.88
30-Jun-06	8.70	9.20	8.95
Annual average	8.42	8.92	**8.668**

Source: Website SBP, Economic Data, Kibor

2. We take the stocks of the relevant assets at the beginning and at the end of the period from "publications/ Statistics on Scheduled Banks in Pakistan, table 3.2, Advances by borrowers, All Banks" and calculate the average of the loans:

Table 9 b Total assets of "all banks" (Rs. Million)

31-12-05	1935149
30-06-06	2071191
Annual average	2003170

Source: Website SBP, Publications, Statistics on Scheduled Banks in Pakistan, Table 3.2

3. We get "SNA-interest" on loans (here called "assets" or "advances") by multiplying average KIBOR (see 1) with the average stocks of loans:

2003170 * 8.668 / 100 = 173635 million Rs.

4. We take the stocks of the relevant liabilities at the beginning and at the end of the period from "publications/ Statistics on Scheduled Banks in Pakistan", table 2.2, and calculate the average of the deposits

[2] State Bank of Pakistan, Statistics of Scheduled Banks, June 2010, page v (website): "In terms of Section 37(2) of the State Bank of Pakistan Act - 1956, banks operating in Pakistan with capital and reserve of an aggregate value not less than Rs 6 billion by December 31, 2009 and conducting their affairs in a manner not detrimental to the interest of their depositors have been declared as scheduled banks." In the banking statistics they are further bifurcated in public sector banks, domestic private banks, and foreign banks. Public sector banks are further divided into public sector commercial banks and specialized banks.

Table 9 c Total deposits of "all banks" (Rs. Million)	
31-12-05	2613465
30-06-06	2817351
Annual average	2715408
Source: Website SBP, Publications, Statistics on Scheduled Banks in Pakistan, Table 2.2, Total Deposits Distributed by Type of Deposit Holders and Kind of Accounts	

5. We get "SNA-interest" on deposits by multiplying average KIBOR with the average stocks of deposits:

2715408 * 8.668/ 100 = 235372 million Rs.

6. Now we need the actual interest on loans and deposits. However, these figures are not separately available as in the profit & loss accounts of the banks all interest payments are merged. Thus, we apply a model and get "actual interest" by multiplying the average stocks of loans and deposits with weighted averages of the respective interest rates. For the loans the "return on advances" (as the respective interest is named there) can be taken from table 5.11 of "banking statistics" (column "all banks").

Table 9 d Weighted average rate of return (%) on Advances, "All Banks"	
Dec. 2005	10.17
Jun-2006	10.61
Annual average	10.39
Source: Website SBP, publications, banking statistics, table 5.11, Classification of Scheduled Banks' Advances, Weighted Average Rate of Return on Advances	

Thus, actual interest on loans is 2003170 million Rs. (see 3 above) multiplied with 10.39 %. It is 208129 million Rs.

7. For the deposits the source is table 4.7 of "banking statistics"

Table 9 e Weighted average rate of return (%) of depositors ("over all"), "All Banks"	
Dec. 2005	1.860
Jun-2006	1.960
Annual average	1.910

Thus, actual interest on deposits is 2715408 million Rs. (see 5 above) multiplied with 1.910 %. This is 51864.3 million Rs.

8. Now we are able to get FISIM on loans by subtracting SNA-interest on loans from actual interest on loans. Accordingly, we get FISIM on deposits by subtracting actual interest on deposits from SNA-interest on deposits:

Table 9 f Calculation FISIM for 2005-06 (million Rs)	
SNA-interest on loans	173,635
SNA-interest on deposits	235,372
Actual-interest on loans	208,129
Actual-interest on deposits	51,864
FISIM on loans	34,495
FISIM on deposits	183,507
Total of FISIM	218,002

We finally have to distribute FISIM on loans as well as FISIM on deposits to intermediate and to final users as per classification of loans and of deposits, respectively, in the above given tables (see step 2 and 4 above) of the publications of the State Bank. Final users include the rest of the world.

We have in mind that for the institutional sector accounts of allocation of primary incomes (which is not yet calculated in Pakistan) we consequently have to apply SNA-interest instead of actual interest.

The results of FISIM for the scheduled banks are shown as under.

Table 9 g Output of FISIM of the scheduled banks in Million Rs according to rebasing 2005-06					
Kind of FISIM	2005-06	2006-07	2007-08	2008-09	2009-10
FISIM on loans	34,495	35,894	37,079	21,755	36,129
FISIM on deposits	183,507	227,873	266,978	369,535	360,927
Total FISIM	218,002	263,767	304,057	391,290	397,056

4.2 Other components of output

The figures for financial services in return for explicit charges we directly depict from the profit & loss accounts of the banks (position “fees, commissions and brokerage”).

The figures for financial services linked to dealing in securities and in foreign exchange we also find in the profit & loss accounts of the banks (positions “income from dealing in foreign securities” and “income from dealing in foreign currencies”). We assume that these two positions really are meant for dealing in foreign assets. Margins for dealing in own assets would have to be excluded as for logical reasons the banks cannot provide a service to themselves. We further assume that capital gains or losses included in these figures are negligible.

4.3 Intermediate consumption

For the base year we calculate in deep detail according to the “Performa” developed for the rebasing of financial institutions in PBS (see annexure I). For short: we take “administrative expenses” of the banks as per profit & loss account for each bank, subtract the components of compensation of employees and some other positions like “donations” which do not fall under intermediate consumption. For the non-base years we simplify the calculation by multiplying the total of “administrative expenses” with the ratio of those positions which in the base year really do fall under intermediate consumption.

For calculation of constant prices of intermediate consumption we apply the consumer price index.

4.4 Extrapolation of results for the scheduled banks for unfinished years

We follow the recommendation given in sub-section 2.3. For short: we extrapolate the figures of overall output of the last “final” year with the increase of deposits plus loans at current prices and at constant prices, respectively. For intermediate consumption we apply the ratio of the last “final” year at current and at constant prices (deflation with CPI), respectively.

4.5 Summary of results for the scheduled banks

The results for the scheduled banks at current and constant basic prices for the years 2005-06 and onward are given in table 10 and 11 below respectively. Detail is given in table 12.

Table 10 Scheduled banks- Output, IC and GVA at Current basic prices (Rs. Million)					
Item / Year	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Liabilities (Deposits)					
Average deposits current	2715408	3149598	3673328	3964547	4522889
KIBOR	8.668	9.800	10.663	13.731	12.270
SNA-interest paid	235372	308661	391687	544372	554958
Actual rate of return	1.910	2.565	3.395	4.410	4.290
Actual interest paid	51864	80787	124709	174837	194032
FISIM	**183507**	**227873**	**266977**	**369535**	**360927**
Assets (Loans)					
Average loans current	2003170	2338358	2714422	3068370	3183177
KIBOR	8.668	9.800	10.663	13.731	12.270
SNA-interest received	173635	229159	289439	421318	390576
Actual rate of return	10.390	11.335	12.029	14.440	13.405
Actual interest received	208129	265053	326518	443073	426705
FISIM	**34495**	**35894**	**37079**	**21755**	**36129**
Total FISIM	**218002**	**263767**	**304056**	**391290**	**397056**
OP other than FISIM	39021	68948	86866	90222	85021
Total Output	257023	332715	390922	481512	482077
IC	24249	43042	51270	60409	73594
GVA	232774	289673	339652	421103	408483

Table 11 Scheduled banks- Output, IC and GVA at constant basic prices (Rs. Million)						
#	**Item/Year**	2005-06	2006-07	2007-08	2008-09	2009-10
	Deflator (CPI)	100.00	107.77	120.70	141.25	155.53
1	***Average deposits constant***	2715408	2922518	3043354	2806759	2908049
2	SNA-interest paid (KIBOR=8.668)	235372	253324	263798	243290	252070
3	Actual interest paid (rate of return=1.910)	51864	55820	58128	53609	55544
4	**Constant FISIM (Row 2 - 3)**	**183507**	**197504**	**205670**	**189681**	**196526**
5	***Average loans - constant***	2003170	2169767	2248900	2172297	2046664
6	SNA-interest received (KIBOR=8.668)	173635	188075	194935	188295	177405
7	Actual interest received (rate of return =10.390)	208129	225439	233661	225702	212648
8	**Const. FISIM (Row 7 - 6)**	**34495**	**37363**	**38726**	**37407**	**35244**
9	**Total FISIM –constant (Row 4+8)**	**218002**	**234867**	**244396**	**227088**	**231770**
10	OP other than FISIM - constant	39021	63977	71969	63874	54665
11	IC - constant	24249	39939	42477	42767	47318
	Totals, Constant prices					
12	Total OP	257023	298844	316364	290962	286435
13	**FISIM**	**218002**	**234867**	**244396**	**227088**	**231770**
14	Other	39021	63977	71969	63874	54665
15	IC	24249	39939	42477	42767	47318
16	**GVA**	**232774**	**258905**	**273887**	**248194**	**239117**

Table 12 Output, IC and GVA of the scheduled banks base 2005-06 at current prices (Rs. Million)					
Item	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Output of FISIM					
Annual average of total loans	2,003,170	2,338,358	2,714,422	3,068,370	3,183,177
FISIM on loans of scheduled banks	34,495	35,894	37,079	21,755	36,129
Annual average of total deposits	2,715,408	3,149,598	3,673,328	3,964,547	4,522,889
FISIM on deposits of scheduled banks	183,507	227,873	266,978	369,535	360,927
A Total output of FISIM	**218,002**	**263,767**	**304,056**	**391,290**	**397,056**
Output other than FISIM					
Income from fee, commission & brokerage	21,783	34,083	40,803	42,932	42,899
Income from dealing in foreign currencies	6,845	10,847	19,210	22,282	20,462
Income from dealing in foreign securities	2,214	10,787	9,998	6,645	5,371
Rent on property/locker	302	455	639	746	831
Charges recovered from customers	59	114	2,577	5,699	4,088
Exchange income on import/export bills purchased/ negotiated	99	71			
Rental income	8	17	19	14	30
Miscellaneous earnings	7,710	12,574	13,621	11,904	**11,339**
B Total output other than FISIM	**39,021**	**68,948**	**86,866**	**90,222**	**85,021**
C Total output (A+B)	**257,023**	**332,715**	**390,922**	**481,512**	**482,077**
Intermediate Consumption					
Rent and taxes	5,989	9,758	13,979	17,982	20,655
Insurance services	130	168	146	182	196
Electricity, gas and water charges		2	4	18	227
Repair and maintenance	2,018	3,830	5,789	6,632	7,203
Auditors' remuneration	186	288	347	553	776
Legal and professional charges	2,031	4,184	5,487	5,489	4,694
Travelling/Daily expenses (TA/DA)	2,306	3,459	4,043	4,699	5,375
Postages		3	7	9	4
Telephone	2,163	3,938	5,658	6,804	6,707
Training	181	305	373	362	345
Remittance of treasure	44	17	4	66	119
Stationery	1,570	2,482	3,156	3,694	3,656
Books and newspapers	18	25	54	76	84
Advertisement	2,132	3,846	4,324	3,539	3,349
Bank guards (on contract)	1,491	1,738	1,632	2,349	3,254
Others	3,990	9,000	6,267	7,955	16,949
D Total intermediate consumption	**24,249**	**43,042**	**51,270**	**60,409**	**73,594**
Gross value added (GVA)					
GVA (C-D)	**232,774**	**289,673**	**339,652**	**421,103**	**408,483**

5 Output and value added of the non-scheduled banks and auxiliaries

5.1 Introductory remark

This section characterizes the specialized or “non-scheduled” banks and describes how to obtain the relevant figures and how to calculate output, intermediate consumption and GVA as far as there are deviations from the methods outlined for the scheduled banks. The term "non-scheduled banks" is chosen here as a self-explanatory generic term. The State Bank does not use it. All types of institutions discussed in this chapter are classified by the State Bank as Non-Banking Financial Corporations (NBFC). NBFCs also cover pension funds and insurance corporations which are not tackled in this paper. NBFCs are either "other deposit accepting institutions" (sub-section 5.2 of this chapter) or non-depository institutions. The non-depository institutions either are financial intermediaries (mainly mutual funds and asset management companies, see sub-section 5.3) or financial auxiliaries like stock exchange companies, stock exchange brokers or money change companies (sub-section 5.6).

It will be the outcome of this section that the rules for FISIM only are to be applied for the “other deposit accepting units“. FISIM of the non-scheduled bank as compared to their direct remuneration of the intermediation services as well as compared to FISIM of the scheduled banks has evidenced to be very low. Therefore and for reasons of empirical problems a simplified calculation is applied (see sub-section 5.4). For the results of these calculations see sub-section 5.5 and section 6.

5.2 Other deposit accepting institutions

5.2.1 Investment Banks and Development Financing Institutions (DFIs)

Presently there are seven DFIs in Pakistan, all of them having “Investment Company Limited” as part of their name. They are exclusively engaged either in long term investment or in introducing shares, bonds and other equity into the capital market (called “initial public offer”) or in both. When they finance development by “initial public offer” then we do not calculate FISIM because remuneration of the service is made by fees which in the profit & loss accounts are covered by positions like operating profit (Escorts Investment Bank) or “Non mark-up / interest income” (Pak Kuwait DFI). In the profit & loss account of Pak Kuwait DFI, for example, we can calculate Non-FISIM output as follows (figures CY 2007 taken from annual report, website, in million Rs):

Table 13 Non FISIM output (Rs. Million)	
Fee, commission and brokerage income	10
Dividend income	219
Gain on sales of security	1263
Income in dealing in foreign currency	-
Revaluation (unrealized)	23
Other income	59
Total non mark-up / interest income	1573

Out of these figures we skip dividend income and revaluation as these positions do not constitute output at all and we arrive at non-FISIM output of 1331 Mill. Rs. It should be noted that gains on sales of securities are interpreted as fully accruing from service activities. The empirical figures do not enable to split among gains from arbitrage (service) and capital gains.

As far as the DFIs are engaged in long term investment by granting loans we have to calculate FISIM for that. According to State Bank the DFIs mainly finance themselves by (long) term deposits. However, neither the banking statistics of the State Bank nor the reports of the companies provide figures where we can accurately deduct average rates of interest as well as the appropriate positions of loans and deposits from. Therefore, as already mentioned, we apply a simplified calculation (see sub-section 5.4).

For intermediate consumption we proceed as for the scheduled banks (“administrative expenses”). If we have identified “operating profit” or so we should then incorporate “operating expenses” or so in intermediate consumption, also.

5.2.2 Microfinance institutes

Presently there are seven microfinance institutes in Pakistan. For calculation of directly remunerated financial intermediation services and for calculation of intermediate consumption see sub-section 5.2.1. For calculation of FISIM see sub-section 5.4.

5.2.3 Housing finance companies (under other deposit accepting)

Presently there is just one housing finance company operating in Pakistan which falls under "other deposit accepting" (Asian Housing Finance Corporation). They are engaged in providing mortgage loans while on their liability side they are refunded by issuing equity certificates.

The mortgage loans the company is granting should be subject to FISIM calculation while the equity certificates are not (as the SNA 2008 confines FISIM on liabilities to deposits, only).

For calculation of directly remunerated financial intermediation services and for calculation of intermediate consumption see sub-section 5.2.1. For calculation of FISIM see sub-section 5.4.

5.2.4 Leasing corporations (under other deposit accepting)

Under "other deposit accepting" the SBP presently lists about 20 leasing corporations. Some of them obviously practice operating lease as well as financial lease. The difference between the two lies in the ownership: in operating lease the asset (mostly fixed assets) is in the balance sheet of the lessor while in financial lease the ownership is with the lessee even in case that he still has to pay down the outstanding loan. In CPC-classification operating lease falls under Division 73 (Leasing or rental services without operator) and not under 7114 financial leasing. But in PSIC-classification we have to include this output as a secondary one under financial institutions, of course.

For calculation of directly remunerated financial intermediation services and for calculation of intermediate consumption see sub-section 5.2.1. For calculation of FISIM see sub-section 5.4.

5.3 Non-Depository Institutions: financial intermediaries

5.3.1 Mutual funds

During the base year 48 mutual funds were operating in Pakistan. Almost all of them have the term "fund" in their name. The term "fund" is exclusively utilized for names of mutual funds or pension funds. Mutual funds often also are referred to as "money market funds" (if mainly investing in short-term assets) or "investment funds" or "investment companies". In Pakistan the supervision of the mutual funds is with SECP and not with SBP.

Mutual funds issue shares or certificates to the public. The proceeds are primarily invested in financial assets. The shareholder of investment certificates has the advantage of risk pooling by participating in a portfolio which is selected and administered by experts in that field.

Investment funds often utilize investment or asset management companies which form a separate institutional unit and which sell the management service to the investment fund. The fund itself then has zero GVA as intermediate consumption (which is the payment for the service rendered by the managing company) widely equals output. That means we have to look for positions in the profit & loss accounts which indicate that such a service has been provided. This can also take the form of "Remuneration to Management Co/Advisors" as in the case of Al-Meezan Mutual Fund. This service then is the only output to be recorded. According to par. 4.110 g of SNA 2008 the management of mutual funds falls under financial auxiliaries and not under mutual funds. In Pakistan they usually are called asset management companies. Intermediate consumption may be taken from "administrative and General Expenses" (as in case of Al-Meezan Mutual Fund) or similar positions.

Figures for the mutual funds are available with Financial Section in PBS. We can identify those which are pure funds. For them the output is assumed to be equal to the intermediate consumption which consists of

the remuneration of the asset management companies they are related to. GVA therefore is zero, ditto is their operating surplus. Net interest and dividends of the funds themselves fall under their property income which has to be dealt with in the allocation of primary incomes. Output of FISIM is nil. For the services the funds consume and pass on to their clients see sub-section 5.6.4 below.

5.3.2 Housing finance companies

Presently there is just one housing finance company operating in Pakistan which falls under "non-depository institutions" (House Building Finance Corporation). The State Bank classifies it as financial intermediary. For calculation of directly remunerated financial intermediation services and for calculation of intermediate consumption see sub-section 5.3.1. Output of FISIM is already included in the non-schedules banks.

5.3.3 Leasing companies and Modarabas

Presently there are 23 leasing companies and 35 Modarabas operating in Pakistan under SBP's classification of non-depository institutions / financial intermediaries. It is recommended to treat them in the same way as the leasing companies tackled under sub-section 5.2.4 above. It is assumed here that all intermediation services are directly remunerated, viz there is no FISIM to be considered.

5.4 Simplified calculation of FISIM for non-scheduled banks

The underlying idea is that among the financial intermediaries there is enough competition which allows assuming that the ratio of FISIM to loans and the ratio of FISIM to deposits do not differ between scheduled and non-scheduled banks. We take the ratios resulting from our calculations with the scheduled banks and apply them to the loans and deposits of the non-scheduled banks. FISIM on loans of non-scheduled banks then is

(FISIM on loans of scheduled banks / Loans of scheduled banks) * (Loans of non-scheduled banks)

FISIM on deposits of the non-scheduled banks is calculated analogously, loans and deposits to be taken as annual average each. Thus, we focus on identifying the respective loans and deposits and refrain from elaborating the reference rate of interest and the respective average rates for the loans and the deposits. It should be noted that for some of the non-scheduled banks there might be FISIM on deposits, only, while for others there might be FISIM on loans, only, depending on the structure of the financial assets and liabilities of these corporations.

5.5 Results for the non-scheduled banks

The summary results for the non-scheduled banks are given in table 14 below, detail is given in table 15. The results at constant prices are given in table 16. The table widely follows the proforma for the calculation of output and value added of the banks as given in annexure I:

Table 14 Summary results of non-scheduled banks at current prices (Rs. Million)

Item/Year	2005-06	2006-07	2007-08	2008-09	2009-10
Output	7244	7303	9953	10391	8448
FISIM	3802	3150	2898	3834	4997
Other	3442	4153	7055	6557	3451
IC	926	1280	1666	1835	2117
GVA	6318	6023	8287	8556	6330

Table 15 Output, intermediate consumption and GVA of the non-scheduled banks at current prices base 2005-06 (Rs. Millions)					
Item	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Output of FISIM					
Annual average of total loans	49,734	42166	61398	84493	91259
Ratio FISIM on loans as per scheduled banks in %	0.017	0.015	0.014	0.007	0.011
FISIM on loans non-scheduled banks	856	647	839	599	1036
Annual average of total deposits	43,593	34587	28331	34710	49638
Ratio FISIM on deposits as per sched. Banks in %	0.068	0.072	0.073	0.093	0.080
FISIM on deposits non-scheduled banks	2,946	2502	2059	3235	3961
A Total output of FISIM	**3,802**	**3150**	**2898**	**3834**	**4997**
Output other than FISIM					
Income from fee, commission & brokerage	1,146	1,534	1,633	1,517	1,570
Income from dealing in foreign currencies			283	253	-179
Income from dealing in foreign securities	2,026	2,279	4,841	4,300	1,296
Rent on property/locker	6	7	8	12	7
Charges recovered from customers	4	-	-	-	-
Exchange income on import/export bills purchased/ negotiated	12	-19	-22	-	-
Rental income	47	91	112	70	148
Miscellaneous earnings	201	261	199	404	608
B Total output other than FISIM	**3,441**	**4,153**	**7,055**	**6,557**	**3,451**
C Total output	**7244**	**7303**	**9953**	**10391**	**8448**
Intermediate Consumption					
Rent and taxes	165	209	243	285	328
Insurance services	26	39	55	75	107
Electricity, gas and water charges	41	62	88	103	138
Repair and maintenance	80	110	134	152	212
Auditors' remuneration	9	13	16	29	41
Legal and professional charges	171	229	294	300	302
Traveling / Daily expenses (TA/DA)	131	179	279	308	313
Postages		2	5	4	1
Telephone	66	92	111	135	157
Training	16	22	28	30	35
Remittance of treasure					
Stationery	41	59	86	100	107
Books and newspapers	1	2	2	2	4
Advertisement	54	73	101	91	65
Bank guards (on contract)	15	16	12	24	64
Others	109	174	211	197	242
D Total intermediate consumption	**926**	**1,280**	**1,666**	**1,835**	**2,117**
Gross value added (GVA)					
GVA (C-D)	**6318**	**6023**	**8287**	**8556**	**6330**

Table 16 Non-Scheduled banks – Output, IC and GVA at Constant basic prices					
Item/Year	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Deflator	100.00	107.77	120.70	141.25	155.53
Liabilities (Deposits)					
Average current	43593	34587	28331	34710	49638
Average constant	43593	32093	23472	24573	31915
Ratio of FISIM on deposits	0.068				
FISIM	2946	2169	1586	1661	2157
Assets (Loans)					
Average current	49734	42166	61398	84493	91259
Average constant	49734	39126	50868	59818	58676
Ratio of FISIM on loans	0.017				
FISIM	856	674	876	1030	1010
Total FISIM	**3802**	**2843**	**2462**	**2691**	**3167**
OP other than FISIM - constant	3441	3854	5845	4642	2219
IC - constant	926	1188	1380	1299	1361
Constant					
Total OP	7244	6697	8307	7333	5386
FISIM	**3802**	**2843**	**2462**	**2691**	**3167**
Other	3441	3854	5845	4642	2219
IC	926	1188	1380	1299	1361
GVA	**6318**	**5509**	**6927**	**6033**	**4025**

For the current, not yet finalized year we get the preliminary results for value added of the non-scheduled banks (deposit taking as well as non-deposit taking) by applying the same growth rate as for the scheduled banks.

5.6 Non-depository institutions: financial auxiliaries

5.6.1 Exchange companies

In principle, the same procedure as outlined in sub-section 1.4 (Financial services linked to dealing in securities and in foreign exchange) should be applied.

PBS has carried out a study for 2005-06. The results have been implemented accordingly. For years succeeding and following the base year and for the not yet finalized year we extrapolate the figures of the base year with the value of remittances. It is assumed that money changing is closely related to this value.[3] The results are shown below in table 17.

5.6.2 Stock Exchanges

PBS has carried out a study for 2005-06 for the three stock exchange companies in Karachi, Lahore and Islamabad. The results have been applied accordingly. For succeeding years, data from three stock exchanges companies are being collected for estimates at current prices. The results are shown below in table 17.

5.6.3 Brokerage Houses

In principle, the same procedure as outlined in sub-section 1.4 (Financial services linked to dealing in securities and in foreign exchange) should be applied.

[3] For category A of these companies SBP has EXCEL files generated by data entry out of the published data of the companies. We may ask SBP to get digitalized data from them.

PBS has carried out a study for 2005-06 for the stock exchange brokers. The results have been implemented accordingly. For years succeeding and following the base year and for the not yet finalized year we extrapolate with the trade volume of the shares as reported by these companies. Deflation should be done by applying the respective stock exchange indices with the all share index of the three stock exchanges. The results are shown below in table 17.

5.6.4 Asset management companies

Presently there are 25 asset management companies operating in Pakistan. They are providing a service to the mutual funds (see also sub-section 5.3.1 above). Output and intermediate consumption are taken from the questionnaires and reports available with PBS. Output of FISIM is nil. The results are shown below in table 17. Summary results at constant prices are also given.

5.6.5 Results for the financial auxiliaries (PSIC 671)

Table 17 Output, intermediate consumption and GVA of Financial auxiliaries (PSIC 671) FY 2005-06 to 2009-10 at current prices (Rs. Million)

Item	Rs. Million					Change over previous year in %			
	2005-06	2006-07	2007-08	2008-09	2009-10	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6	7	8	9	10
Exchange Companies									
Output	1,337	1,579	1,917	2,909	3,567	18.10	21.38	51.78	22.62
IC	693	815	989	1,501	1,840	17.60	21.32	51.81	22.58
GVA	644	764	928	1,408	1,727	18.63	21.45	51.74	22.66
Stock Exchange Brokers									
Output	14,401	17,323	18795	7142	10668	20.29	8.50		
IC	4,370	6,315	6852	2604	3889	44.51	8.50		
GVA	10,031	11,008	11944	4539	6779	9.74	8.50	-62.00	49.36
Stock Exchanges									
Output	975	906	1,082	623	694	-7.08	19.43	-42.42	11.40
IC	166	212	235	174	201	27.71	10.85	-25.96	15.52
GVA	809	694	847	449	493	-14.22	22.05	-46.99	9.80
Asset Management Companies									
Output	4,213	4,972	7,251	5,258	5,197	18.02	45.84	-27.49	-1.16
IC	883	1,810	2,215	1,953	1,663	104.98	22.38	-11.83	-14.85
GVA	3,330	3,162	5,036	3,305	3,534	-5.05	59.27	-34.37	6.93
Total PSIC 671: Financial auxiliaires									
Output	20,926	24,780	29045	15932	20126	18.42	17.21	-45.15	26.32
IC	6,112	9,152	10291	6232	7593	49.74	12.44	-39.34	21.84
GVA	14,814	15,628	18755	9701	12533	5.49	20.01	-48.28	29.20

Total PSIC 671: Financial auxiliaires *at constant prices*					
	2005-06	2006-07	2007-08	2008-09	2009-10
Output	20926	23919	29171	19765	20775
IC	6112	8830	10388	7505	7738
GVA	14814	15090	18784	12260	13037

Note: CPI deflator is applied exchange companies, stock exchanges and asset management companies, all shares indexes has been applied to stock exchange brokers for making the constant series.

The results show that during the base year the auxiliaries in total contributed 15 Billion Rs. to the gross value added of financial intermediation. Table 18 below shows the effect of rebasing from 1999-2000 to the new base of FY 2005-06.

For stock brokers and stock exchange companies there are no comparable results as with the rebasing of 2005-06 they have been included in National Accounts for the first time.

Table 18 Output, intermediate consumption and gross value added of Financial auxiliaries PSIC 671) at current prices in Million Rs

Item	Base 1999-2000		Base 2005-06	% Increase	
	Results 1999-2000	Results 2005-06 at current prices		col. 4 over 2	col. 4 over 3
1	2	3	4	5	6
Exchange Companies					
Output	253	566	1,337	428.5	136.2
Intermediate consumption	85	190	693	715.3	264.7
Gross value added	168	376	644	283.3	71.3
Stock Brokers					
Output			14,401	0	0
Intermediate consumption			4,370	0	0
Gross value added	0	0	10,031	0	0
Stock Exchanges					
Output			975	0	0
Intermediate consumption			166	0	0
Gross value added	0	0	809	0	0
Asset Management Companies					
Output	346	16,356	4,213	1,117.6	-74.2
Intermediate consumption	75	3,746	883	1,077.3	-76.4
Gross value added	271	12,610	3,330	1,128.8	-73.6
Total financial auxiliaries (671)					
Output	599	16,922	20,926	3,393.5	23.7
Intermediate consumption	160	3,936	6,112	3,720.0	55.3
Gross value added	439	12,986	14,814	3,274.5	14.1

6 Results and impact of rebasing

Table 19 below summarizes the calculation for total financial intermediation structured by division, groups and classes of PSIC.

Table 19 Output, intermediate consumption and gross value added of financial intermediaries and their auxiliaries for the years 2005-06 to 2009-10 at current prices

Item	Million Rupees					Change over previous year in %			
	2005-06	2006-07	2007-08	2008-09	2009-10	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6	7	8	9	10
PSIC 6511: State Bank of Pakistan									
Output	11972	15585	15319	18634	22247	30.2	-1.7	21.6	19.4
from FISIM	0	0	0	0	0	0.0	0.0	0.0	0.0
other	11972	15585	15319	18634	22247	30.2	-1.7	21.6	19.4
Other output	0	0	0	0	0	0.0	0.0	0.0	0.0
Total output	11972	15585	15319	18634	22247	30.2	-1.7	21.6	19.4
IC	6,236	7,722	8,065	9,635	9,235	23.8	4.4	19.5	-4.2
GVA	5736	7863	7254	8999	13012	37.1	-7.7	24.1	44.6
PSIC 6519, scheduled banks									
Output	248,853	319,501	374,086	463,163	465,818	28.4	17.1	23.8	0.6
from FISIM	218,002	263,767	304,057	391,290	397,056	21.0	15.3	28.7	1.5
other	30,851	55,734	70,029	71,873	68,762	80.7	25.6	2.6	-4.3
Other output	8,170	13,214	16,837	18,350	16,259	61.7	27.4	9.0	-11.4
Total output	257,023	332,715	390,923	481,513	482,077	29.4	17.5	23.2	0.1
IC	24,249	43,042	51,270	60,409	73,594	77.5	19.1	17.8	21.8
GVA	232,774	289,673	339,653	421,104	408,483	24.4	17.3	24.0	-3.0
PSIC 6519, non-scheduled banks (including others*)									
Output	17727	17993	20632	23001	17623	1.5	14.7	11.5	-23.4
from FISIM	3802	3150	2898	5479	5977	-17.1	-8.0	89.1	9.1
other	13,925	14,843	17,734	17,522	11,646	6.6	19.5	-1.2	-33.5
Other output	223	249	185	417	616	11.7	-25.7	125.4	47.7
Total output	17950	18242	20817	23418	18239	1.6	14.1	12.5	-22.1
IC	2,595	2,993	3,302	3,864	3,406	15.3	10.3	17.0	-11.9
GVA	15355	15249	17515	19554	14833	-0.7	14.9	11.6	-24.1
Total PSIC 65: Financial Intermediation, except insurance and pension funds									
Output	278,552	353,079	410,037	504,798	505,688	26.8	16.1	23.1	0.2
from FISIM	221,804	266,917	306,955	396,769	403,033	20.3	15.0	29.3	1.6
other	56748	86,162	103,082	108,029	102,655	51.8	19.6	4.8	-5.0
Other output	8,393	13,463	17,022	18,767	16,875	60.4	26.4	10.3	-10.1
Total output	286,945	366,542	427,059	523,565	522,563	27.7	16.5	22.6	-0.2
IC	33,080	53,757	62,637	73,908	86,235	62.5	16.5	18.0	16.7
GVA	253,865	312,785	364,422	449,657	436,329	23.2	16.5	23.4	-3.0

Continue

* includes the other categories as well

Table 19 Output, intermediate consumption and gross value added of financial intermediaries and Their auxiliaries for the years 2005-06 to 2009-10 at current prices									
Item	Rs. Million					Change over previous year in %			
	2005-06	2006-07	2007-08	2008-09	2009-10	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6	7	8	9	10
PSIC 671: Financial Auxiliaries									
Output	20,926	24,780	29045	15932	20126	18.4	17.2	-45.1	26.3
from FISIM	0	0	0	0	0	0.0	0.0	0.0	0.0
other	20,926	24,780	29045	15932	20126	18.4	17.2	-45.1	26.3
Other output	0	0	0	0	0	0.0	0.0	0.0	0.0
Total output	20,926	24,780	29045	15932	20126	18.4	17.2	-45.1	26.3
IC	6,112	9,152	10291	6232	7593	49.7	12.4	-39.4	21.8
GVA	14,814	15,628	18755	9701	12533	5.5	20.0	-48.3	29.2
PSIC 65 + PSIC 671 : Banks and their auxiliaries									
Output	299,478	377,859	439082	520731	525814	26.2	16.2	18.6	1.0
from FISIM	221,804	266,917	306955	396769	403033	20.3	15.0	29.3	1.6
other	77674	110942	132127	123961	122781	42.8	19.1	-6.2	-1.0
Other output	8,393	13,463	17,022	18,767	16,875	60.4	26.4	10.3	-10.1
Total output	307,871	391,322	456104	539498	542689	27.1	16.6	18.3	0.6
IC	39,192	62,909	72928	80140	93828	60.5	15.9	9.9	17.1
GVA	**268,679**	**328,413**	**383177**	**459358**	**448861**	**22.2**	**16.7**	**19.9**	**-2.3**
PSIC 66: Insurance and pension funding except compulsory social insurance									
Output	18585	19263	25522	31292	33840	3.6	32.5	22.6	8.1
from FISIM	0	0	0	0	0	0.0	0.0	0.0	0.0
other	18585	19263	25522	31292	33840	3.6	32.5	22.6	8.1
Other output	1081	1298	1550	1789	1948	20.1	19.4	15.4	8.9
Total output	19666	20561	27072	33081	35788	4.6	31.7	22.2	8.2
IC	9283	11089	15792	19894	21348	19.5	42.4	26.0	7.3
GVA	10383	9472	11280	13187	14440	-8.8	19.1	16.9	9.5
PSIC 672: Financial auxiliaries (Output of Insurance Agent)									
Output	4,285	5,414	7,337	9,738	12,703	26.4	35.5	32.7	30.4
from FISIM	0	0	0	0	0	0.0	0.0	0.0	1.0
other	4,285	5,414	7,337	9,738	12,703	26.4	35.5	32.7	30.4
Other output	0	0	0	0	0	0.0	0.0	0.0	1.0
Total output	4,285	5,414	7,337	9,738	12,703	26.4	35.5	32.7	30.4
IC	428	541	734	974	1,270	26.4	35.5	32.7	30.4
GVA	3,856	4,873	6,603	8,764	11,433	26.4	35.5	32.7	30.4
PSIC 66 + PSIC 672: Insurance and their auxiliaries									
Output	22870	24677	32859	41030	46,543	7.9	33.2	24.9	13.4
from FISIM	0	0	0	0	0	0.0	0.0	0.0	0.0
other	22870	24677	32859	41030	46,543	7.9	33.2	24.9	13.4
Other output	1,081	1,298	1,550	1,789	1,948	20.1	19.4	15.4	8.9
Total output	23951	25975	34409	42819	48491	8.5	32.5	24.4	13.2
IC	9711	11630	16526	20868	22618	19.8	42.1	26.3	8.4
GVA	14239	14345	17883	21951	25873	0.7	24.7	22.7	17.9

Continue

Table 19 Output, intermediate consumption and gross value added of financial intermediaries and Their auxiliaries for the years 2005-06 to 2009-10 at current prices									
Item	2005-06	2006-07	2007-08	2008-09	2009-10	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6	7	8	9	10
Total PSIC J (Financial Intermédiation)									
Output	322348	402536	471941	561761	572357	24.9	17.2	19.0	1.9
from FISIM	221804	266917	306955	396769	403033	20.3	15.0	29.3	1.6
other	100544	135619	164986	164991	169324	34.9	21.7	0.0	2.6
Other output	9474	14761	18572	20556	18823	55.8	25.8	10.7	-8.4
Total output	331822	417297	490513	582317	591180	25.8	17.5	18.7	1.5
IC	48904	74539	89453	101007	116446	52.4	20.0	12.9	15.3
GVA	282918	342758	401060	481309	474734	21.2	17.0	20.0	-1.4

Concluded

It is clear from the adoption of the rules of the SNA that the figures of rebasing 2005-06 are by far lower than those of the old time series related to base year 1999-2000. Main reasons are that now capital gains are excluded from output and property incomes of the financial corporations have been replaced with their service component, only (FISIM). In case of the State Bank it is the transition to its treatment as a non-market producer which makes the difference. In case of insurance companies which are tackled in a separate paper the exclusion of life insurance premiums from output (deducted by a service charge) is the main reason. The impact of the rebasing is summarized in table 20.

Table 20 Rebasing effect, Output, IC and GVA of financial corporations and their auxiliaries Base 1999-2000 and 2005-06 at current prices in mill. Rs					
Item	Base 1999-2000		Base 2005-06	% Increase	
	Results 1999-2000	Results 2005-06 at current prices		col. 4 over 2	col. 4 over 3
1	2	3	4	5	6
PSIC 6511: State Bank of Pakistan					
Output	52,186	84,820	11972	-77.1	-85.9
from FISIM					
other	52,186	84,820	11972	-77.1	-85.9
Other output					
Total output	52,186	84,820	11972	-77.1	-85.9
IC	12,985	10,294	6,236	-52.0	-39.4
GVA	39,201	74,526	5736	-85.4	-92.3
PSIC 6519, Scheduled banks					
Output	181,334	328,662	248,853	37.2	-24.3
from FISIM			218,002	0.0	0.0
other	181,334	328662	30,851	-83.0	-90.6
Other output			8,170	0.0	0.0
Total output	181,334	328,662	257,023	41.7	-21.8
IC	124,820	139993	24,249	-80.6	-82.7
GVA	56,514	188,669	232,774	311.9	23.4
PSIC 6519, Non-scheduled banks					
Output	42,827	80,012	17,727	-58.6	-77.8
from FISIM			3,802	0.0	0.0
other	42,827	80,012	13,925	-67.5	-82.6
Other output			223	0.0	0.0
Total output	42,827	80,012	17,950	-58.1	-77.6
IC	25,097	29,577	2,595	-89.7	-91.2
GVA	17,731	50,435	15,355	-13.4	-69.6
Total PSIC 65: Financial Intermediation, except insurance and pension funds					
Output	276,347	493,494	278,552	0.8	-43.6
from FISIM	0	0	221,804		
other	276,347	493,494	56,748	-79.5	-88.5
Other output	0	0	8,393		
Total output	276,347	493,494	286,945	3.8	-41.9
IC	162,902	179,864	33,080	-79.7	-81.6
GVA	113,446	313,630	253,865	123.8	-19.1

continued

Table 20 Rebasing effect, Output, IC and GVA of financial corporations and their auxiliaries Base 1999-2000 and 2005-06 at current prices in mill. Rs					
Item	Base 1999-2000		Base 2005-06	% Increase	
	Results 1999-2000	Results 2005-06 at current prices		col. 4 over 2	col. 4 over 3
1	2	3	4	5	6
PSIC 671: Financial auxiliaries					
Output	599	16,922	20,926	3393.5	23.7
from FISIM					
other	599	16,922	20,926	3393.5	23.7
Other output					
Total output	599	16,922	20,926	3393.5	23.7
IC	160	3,936	6,112	3726.0	55.3
GVA	439	12,986	14,814	3274.5	14.1
PSIC 65 + PSIC 671 : Banks and their auxiliaries					
Output	276,946	510,416	299,478	8.1	-41.3
from FISIM	0	0	221,804	0.0	0.0
other	276,946	510,416	77,674	-72.0	-84.8
Other output	0	0	8,393	0.0	0.0
Total output	276,946	510,416	307,871	11.2	-39.7
IC	163,061	183,800	39,192	0.0	0.0
GVA	113,885	326,616	268,679	135.9	-17.7
PSIC 66 (Insurance and pension funds, except compulsory social security)					
Output	7,653	20,353	18,585	142.8	-8.7
from FISIM					
other	7,653	20,353	18,585	142.8	-8.7
Other output	14,102	22,268	1,081	-92.3	-95.1
Total output	21,755	42,621	19,666	-9.6	-53.9
IC	3,186	4,918	9,283	191.4	88.8
GVA	18,569	37,703	10,383	-44.1	-72.5
PSIC 672: Financial auxiliaries (Output of Insurance Agent)					
Output	0	0	4,285	0.0	0.0
from FISIM					
other			4,285	0.0	0.0
Other output					
Total output	0	0	4,285	0.0	0.0
IC	0	0	428	0.0	0.0
GVA	0	0	3,856	0.0	0.0
PSIC 66 + PSIC 672 : Insurance and their auxiliaries					
Output	7,653	20,353	22,870	198.8	12.4
from FISIM					
other	7,653	20,353	22,870	198.8	12.4
Other output	14,102	22,268	1,081	-92.3	-95.1
Total output	21,755	42,621	23,951	10.1	-43.8
IC	3,186	4,918	9,711	204.8	97.5
GVA	18,569	37,703	14,239	-23.3	-62.2

Continued

Table 20 Rebasing effect, Output, IC and GVA of financial corporations and their auxiliaries Base 1999-2000 and 2005-06 at current prices in mill. Rs					
Item	Base 1999-2000		Base 2005-06	% Increase	
	Results 1999-2000	Results 2005-06 at current prices		col. 4 over 2	col. 4 over 3
1	2	3	4	5	6
Total PSIC J: Financial intermediation					
Output	284,599	530,769	322348	13.3	-39.3
from FISIM	0	0	221804	0.0	0.0
other	284,599	530,769	100544	-64.7	-81.1
Other output	14,102	22,268	9474	-32.8	-57.5
Total output	298,701	553,037	331822	11.1	-40.0
IC	166,247	188,718	48904	-70.6	-74.1
GVA	132,454	364,320	282918	113.6	-22.3

concluded

Table 21 Output, Intermediate consumption and GVA of Financial sector at base 2005-06 at constant basic prices (Rs. Millions)					
Item / Year	2005-06	2006-07	2007-08	2008-09	2009-10
Total Banks & Aux. (671) - Constant					
FISIM	221804	237710	246858	231183	235695
Output of Insurance services	0	0	0	0	0
Others	86067	116363	128680	109533	97628
Total OP	307871	354073	375538	340716	333323
IC	39192	58711	62283	59829	63184
GVA	268679	295362	313255	280887	270139
Growth rates of GVA		9.93	6.06	-10.63	-3.83
Insurance (66) and auxiliaries (672) - constant					
FISIM	0	0	0	0	0
Output of Insurance services	22870	22898	27224	29048	29925
Other Output	1081	1204	1284	1267	1252
Total OP	23951	24102	28508	30314	31178
IC	9711	10792	13692	14774	14543
GVA	14239	13311	14816	15541	16635
Growth rates of GVA		-6.52	11.32	4.88	7.04
Total Financial Corporations - constant					
FISIM	221804	237710	246858	231183	235695
Output of Insurance services	22870	22898	27224	29048	29925
Other than fisim	87148	117568	129964	110799	98881
Total OP	331822	378176	404046	371031	364500
IC	48904	69503	75974	74603	77726
GVA	282918	308673	328071	296428	286773
Growth rates of GVA		9.10	6.28	-9.65	-3.26

7 Allocation of FISIM to users

One of the outstanding points of transition from the System of National Accounts (SNA) 1993 towards its revision 2008 with regard to FISIM was that the SNA 2008 abandoned the option of the SNA 1993 to record the use of FISIM under just one lump sum position. The SNA 2008 is more challenging as it requires distribution of FISIM among the users of this service. It should be remembered that intermediate as well as final consumption aggregates have to include the service charge indirectly measured in the production account while the "SNA-interest" is looked after in the allocation of primary income accounts (which for the time being are not compiled).

The allocation of FISIM to users is to be done for FISIM on deposits and for FISIM on loans separately, though with some simplifying assumptions in order to keep the compilation less sophisticated. Simplifications are deemed to be appropriate as in a lot of industries we do not have very accurate information on the input side, unless it is the base year 2005-06. The table 22 recapitulates the figures for FISIM compiled as outlined in the preceding sections.

Table 22 Output of FISIM of the scheduled/ non-scheduled banks base 2005-06 (Rs. Mill.)

Kind of FISIM	2005-06	2006-07	2007-08	2008-09	2009-10
Scheduled banks					
FISIM on loans	34,495	35,894	37,079	21,755	36,129
FISIM on deposits	183,507	227,873	266,978	369,535	360,927
Total FISIM	**218,002**	**263,767**	**304,057**	**391,290**	**397,056**
Non-scheduled banks					
FISIM on loans	856	647	839	1064	1558
FISIM on deposits	2946	2502	2059	4415	4419
Total FISIM	**3802**	**3150**	**2898**	**5479**	**5977**
Scheduled plus non-scheduled banks - Current					
FISIM on loans	35,351	36,541	37,918	22,819	37,687
FISIM on deposits	186,453	230,376	269,037	373,951	365,345
Total FISIM	**221,804**	**266,917**	**306,954**	**396,770**	**403032**
Scheduled plus non-scheduled banks - Constant					
FISIM on loans	35,351	38037	39602	39237	36763
FISIM on deposits	186,453	199673	207256	191947	198932
Total FISIM	**221,804**	237710	246858	231184	235695

The scheduled banks generated 98.3 % of these services. Therefore we make use of statistics of the State Bank showing loans and deposits of the clients of the scheduled banks by category as indicated below in table 23. We assume that the use of FISIM of the non-scheduled banks follows the same pattern.

Table 23 Annual average FY 2005-06 of loans and deposits of scheduled banks in Million Rs				
Category of deposit holder / borrower	Deposits		Loans	
	Mill Rs	%	Mill Rs	%
A. FOREIGN CONSTITUENTS:	74,752	2.8		
B. DOMESTIC CONSTITUENTS :	2,640,656	97.2		
I. Government	250,517	9.2	89,131	4.4
II. Non-Financial Public Sector Enterprises :	248,485	9.2	90,725	4.5
A. Agriculture, Forestry, Hunting & Fishing	5952	0.2	0	0
B. Mining & Quarrying	34500	1.3	88	0.0
C. Manufacturing	59850	2.2	47478	2.4
D. Construction	79	0.0	0	0.0
E. Utilities	64046	2.4	4856	0.2
F. Commerce	4074	0.2	8391	0.4
G. Transport, Storage & Communication	67396	2.5	28498	1.4
H. Services	12431	0.5	252	0.0
I. Others	158	0.0	1162	0.1
III. Non-Banking Financial Institutions :	42,742	1.6	48,201	2.4
Of which insurance companies	19984	0.7	934	0.0
DFI's	11104	0.4	4886	0.2
IV. Private Sector Enterprises :	834,278	30.7	1,424,777	71.1
A. Agriculture, Hunting and Forestry	110,362	4.1	134,701	6.7
B. Fishing and fish farming etc.	456	0.0	1,484	0.1
C. Mining and Quarrying	21,046	0.8	9,948	0.5
D. Manufacturing	180,126	6.6	856,576	42.8
E. Ship breaking and waste / scrape (junk) etc.	2,409	0.1	2,143	0.1
F. Electricity, gas and water supply	22,932	0.8	18,892	0.9
G. Construction	38,256	1.4	36,651	1.8
H. Commerce and Trade	170,662	6.3	172,003	8.6
I. Hotels, restaurants and clubs etc	8,511	0.3	8,135	0.4
J. Transport, storage and communications	41,204	1.5	60,218	3.0
K. Real estate, renting and business activities	70,763	2.6	69,743	3.5
i. Real estate activities	14319	0.5	0	0.0
ii. Others	56444	2.1	69743	3.5
L. Education	14,398	0.5	3,257	0.2
M. Health and social work	8,327	0.3	3,454	0.2
N. Other community, social & per. service activit.	25,418	0.9	9,895	0.5
O. Other private business n.e.c	119,409	4.4	37,678	1.9
V. TRUST FUNDS AND NON PROFIT	63,998	2.4	14,373	0.7
VI. PERSONAL	1,151,501	42.4	323,255	16.1
VII. OTHERS	49,134	1.8	12,709	0.6
TOTAL	2,715,408	100.0	2,003,171	100.0

Source: State Bank Pakistan, http://www.sbp.gov.pk/publications/anu_stats/2009/Chapter-04.pdf for deposits and http://www.sbp.gov.pk/publications/anu_stats/2009/Chapter-05.pdf for loans

The average deposits of the non-bank financial institutions are mainly made up by the insurance companies (0.7 percentage points) and the DFIs (0.4 percentage points).

We can now address the use of FISIM for the base year 2005-06 as follows:

- The bank service to foreign constituents is relevant for the expenditure side of GDP as it forms export of services (unless cross border inter-bank transactions). We assume that the export figures which National Accounts takes from the balance of payments include the services rendered to foreign constituents.
- The bank services rendered to the government are to be allocated to intermediate consumption of PSIC of public administration. It should be noted that there is an effect on government consumption on the expenditure side of GDP.
- The bank services rendered to "personal" clients is proposed to be fully recorded as private consumption though the State Bank's figures include some loans on "house building" which, in principle, should be allocated to the production of owner-occupied dwellings. However, the low amount justifies to refrain from this. It should be noted that in the National Accounts of Pakistan private consumption is calculated as a residual of the expenditure side of GDP. Therefore, no further recording of private households' use of the bank services is required.
- We assume that the figures for trust funds and non-profit as well as "other private business not elsewhere classified" can be treated in the same way as the loans and deposits with "personal' clients, viz we refrain from dealing with them further.
- For the private sector enterprises as well as the public sector enterprises we distribute the respective shares among the relevant categories for the above mentioned reasons of simplification.

We arrive at a distribution of FISIM which is limited to the intermediate users, only, and which shows the percentage of loans and deposits by categories of clients:

Table 24 Distribution of FISIM on loans and deposits among domestic intermediate users during FY 2005-06 in % of total

Category of deposit holder / borrower	Deposits	Loans
I. Government	**9.2**	**4.4**
II. Non-Financial Public Sector Enterprises :	**9.2**	**4.5**
A. Agriculture, Forestry, Hunting & Fishing	0.2	0.0
B. Mining & Quarrying	1.3	0.0
C. Manufacturing	2.2	2.4
D. Construction	0.0	0.0
E. Utilities	2.4	0.2
F. Commerce	0.2	0.4
G. Transport, Storage & Communication	2.5	1.4
H. Services	0.5	0.0
III. Non-Bank Financial Institutions :	**1.6**	**2.4**
Of which insurance companies	0.7	0.0
IV. Private Sector Enterprises:	**30.7**	**71.1**
A. Agriculture, Hunting and Forestry	4.1	6.8
B. Mining and Quarrying	0.8	0.5
C. Manufacturing	6.6	42.8
E. Electricity, gas and water supply	0.8	0.9
G. Construction	1.4	1.8
H. Commerce and Trade	6.3	8.6
J. Transport, storage and communications	1.5	3.0
K. Real estate, renting and business activities of which	2.6	3.5
Real estate	0.5	0.0
Remaining	2.1	3.5
other	6.6	2.2
TOTAL	**50.7**	**82.5**

We take this table as a basis for a proposal for simplified distribution of FISIM among intermediate users and rearrange it according to Divisions of PSIC by merging the public and the private sector enterprises and by allocating government to PSIC 75. Moreover, the proposal enhances the shares of the outstanding user categories in favour of omitting the less relevant categories. Table 25 shows the amount of FISIM allocated by applying this token. The section code is that of the PSIC. The statistics of State Bank deviated from that slightly. It is assumed that "utilities" in the State Bank's tables comes under PSIC E and that FISIM for non-banking financial corporations is also nil.

Table 25 Distribution of FISIM on loans and deposits among domestic intermediate users during FY 2005-06 in % of total and in Million Rs

Section of PSIC of deposit holder / borrower	FISIM on …				
	… deposits		… loans		total
	%	Mill. Rs	%	Mill. Rs	
A. Agriculture, Forestry and Hunting	4.30	8017	6.80	2404	10421
C. Mining & Quarrying	2.00	3729	0.50	177	3906
D. Manufacturing	8.80	16408	45.10	15943	32351
E. Electricity, gas and water supply	3.20	5967	1.20	424	6391
F. Construction	1.40	2610	1.80	636	3247
G. Wholesale & retail trade	6.80	12679	9.40	3323	16002
I. Transport, storage and communications	4.00	7458	4.50	1591	9049
K. Real estate, renting and business activity	7.50	13984	5.40	1909	15893
i. Real estate activities	0.5	932	0.0	0	932
ii. Others	7.0	13052	5.4	1909	14961
L. Public Administration and defense	11.00	20510	5.30	1874	22383
TOTAL	**49.00**	**91362**	**80.00**	**28281**	**119643**

The total amount of FISIM is to be included in the intermediate consumption of the respective section of PSIC. Once this is done then in most industries (PSICs) the calculations for the years following the base year will automatically include the service charge due to application of constant input-output ratios over time. For parts of mining and quarrying, for public administration and for electricity and gas distribution we calculate intermediate consumption for each year independently. We may apply there the ratio of FISIM used to actual expenditures for intermediate consumption of the base year as a yardstick for inclusion of FISIM. Table 26 and 27 show the distribution of FISIM and insurance services to the users as intermediate consumption.

Table 26 Distribution of FISIM to users, as intermediate consumption, base 2005-06, from 2005-06 to 2009-10, at current and constant prices (Rs. Million)											
FISIM distribution to users - current	Shares 2005-06 %		2005-06			2006-07			2007-08	2008-09	2009-10
											Rs. Millions
	Deposits	Loans	Deposits	Loans	Distri.	Deposits	Loans	Distri.	Distri.	Distri.	Distri.
A. Agriculture, Forestry and Hunting	4.3	6.8	8017	2404	10421	9906	2485	12391	14147	17632	18273
C. Mining & Quarrying	2.0	0.5	3729	177	3906	4608	183	4790	5570	7593	7495
D. Manufacturing	8.8	45.1	16408	15943	32351	20273	16480	36753	40776	43199	49147
E. Electricity, gas and water supply	3.2	1.2	5967	424	6391	7372	438	7811	9064	12240	12143
F. Construction	1.4	1.8	2610	636	3247	3225	658	3883	4449	5646	5793
G. Wholesale & retail trade	6.8	9.4	12679	3323	16002	15666	3435	19100	21859	27574	28386
I. Transport, storage and communications	4.0	4.5	7458	1591	9049	9215	1644	10859	12468	15985	16310
K. Real estate, renting and business activity	7.5	5.4	13984	1909	15893	17278	1973	19251	22225	29279	29436
i. Real estate activities	0.5	0.0	932	0	932	1152	0	1152	1345	1870	1827
ii. Business activity	7.0	5.4	13052	1909	14961	16126	1973	18100	20880	27409	27609
L. Public Administration and defense	11.0	5.3	20510	1874	22383	25341	1937	27278	31604	42344	42185
For distribution	49.0	80.0	91362	28281	119643	112884	29233	142117	162162	201491	209169
Total			186453	35351	221804	230376	36541	266917	306954	396770	403032
FISIM distribution to users - constant											
	Shares 2005-06 %		2005-06			2006-07			2007-08	2008-09	2009-10
	Deposits	Loans	Deposits	Loans	Distri.	Deposits	Loans	Distri.	Distri.	Distri.	Distri.
A. Agriculture, Forestry and Hunting	4.3	6.8	8017	2404	10421	8586	2587	11172	11605	10922	11054
C. Mining & Quarrying	2.0	0.5	3729	177	3906	3993	190	4184	4343	4035	4162
D. Manufacturing	8.8	45.1	16408	15943	32351	17571	17155	34726	36099	34587	34086
E. Electricity, gas and water supply	3.2	1.2	5967	424	6391	6390	456	6846	7107	6613	6807
F. Construction	1.4	1.8	2610	636	3247	2795	685	3480	3614	3394	3447
G. Wholesale & retail trade	6.8	9.4	12679	3323	16002	13578	3575	17153	17816	16741	16983
I. Transport, storage and communications	4.0	4.5	7458	1591	9049	7987	1712	9699	10072	9444	9612
K. Real estate, renting and business activity	7.5	5.4	13984	1909	15893	14975	2054	17029	17683	16515	16905
iii. Real estate activities	0.5	0.0	932	0	932	998	0	998	1036	960	995
iv. Business activities	7.0	5.4	13052	1909	14961	13977	2054	16031	16646	15555	15910
L. Public Administration and defense	11.0	5.3	20510	1874	22383	21964	2016	23980	24897	23194	23831
For distribution	49.0	80.0	91362	28281	119643	97840	30430	128269	133237	125444	126887
Total			186,453	35351	221804	199673	38037	237710	246858	231184	235695

Table 27 Distribution of non-life insurance services to users, base 2005-06 from 2005-06 to 2009-10 At current and constant prices (Rs. Million)						
Items / Years	Shares %	2005-06	2006-07	2007-08	2008-09	2009-10
Non life insurance services - current		8845	9300	10244	11392	11206
C. Mining & Quarrying	2.6	377	396	437	486	478
D. Manufacturing	18.8	2726	2866	3157	3511	3454
E. Electricity and gas	2.2	319	335	369	411	404
F. Construction	2.2	319	335	369	411	404
G. Wholesale & retail trade	17.2	2494	2622	2888	3212	3160
I. Transport, St. & Communication	10.2	1479	1555	1713	1905	1874
K. Real estate, renting & business activity	7.8	1131	1189	1310	1457	1433
i. Real estate activities	2.8	406	427	470	523	514
ii. Other business activities	5.0	725	762	840	934	919
Non life insurance services - constant		8845	8629	8487	8065	7205
C. Mining & Quarrying	2.6	377	368	362	344	307
D. Manufacturing	18.8	2726	2660	2616	2486	2221
E. Electricity and gas	2.2	319	311	306	291	260
F. Construction	2.2	319	311	306	291	260
G. Wholesale & retail trade	17.2	2494	2433	2393	2274	2032
I. Transport, St. & Communication	10.2	1479	1443	1419	1349	1205
K. Real estate, renting & business activity	7.8	1131	1103	1085	1031	921
i. Real estate activities	2.8	406	396	390	370	331
ii. Other business activities	5.0	725	707	696	661	591

Table 28 Distribution of FISIM & Insurance services to users as Intermediate Consumption - Constant					
	2005-06	2006-07	2007-08	2008-09	2009-10
A. Agriculture, Forestry and Hunting	10421	11172	11605	10922	11054
C. Mining & Quarrying	4283	4551	4705	4379	4470
D. Manufacturing	35077	37386	38715	37073	36307
E. Electricity, gas and water supply	6710	7157	7414	6904	7067
F. Construction	3566	3791	3921	3684	3707
G. Wholesale & retail trade	18496	19586	20209	19015	19015
I. Transport, storage and communications	10528	11142	11491	10792	10816
K. Real estate, renting and business activity	17024	18133	18768	17546	17826
i. Real estate activities	1338	1394	1426	1330	1325
ii. Other business activities	15686	16738	17342	16216	16501
L. Public Administration and defense	22383	23980	24897	23194	23831
For distribution	128488	136899	141724	133509	134092
Total	244163	260208	273690	258450	264452
Distribution of FISIM & Insurance services to users as Intermediate Consumption – Current					
A. Agriculture, Forestry and Hunting	10421	12391	14147	17632	18273
C. Mining & Quarrying	4283	5187	6007	8079	7973
D. Manufacturing	35077	39619	43933	46710	52601
E. Electricity, gas and water supply	6710	8146	9434	12651	12547
F. Construction	3566	4218	4818	6057	6197
G. Wholesale & retail trade	18496	21723	24747	30786	31546
I. Transport, storage and communications	10528	12414	14181	17890	18184
K. Real estate, renting and business activity	17024	20441	23535	30735	30869
i. Real estate activities	1338	1579	1815	2393	2341
ii. Other business activities	15686	18862	21720	28343	28528
L. Public Administration and defense	22383	27278	31604	42344	42185
For distribution	128488	151417	172406	212883	220375
Total	128488	151417	172406	212883	220375

Annexure I

Performa for Banks (PBS)

000 Rs

	Items	2005-06	2006-07	2007-08	2008-09
A	**Compensation of employees**				
1	Wages & salaries				
2	Retirement benefits and employees' compensated absences				
3	Daily wages staff				
4	Medical allowances				
5	Overtime allowance				
6	Directors' fee				
7	Any other benefit in cash / kind paid by employer to employee				
B	**Depreciation** (consumption of fixed capital)				
C	**Output of FISIM**				
1	Annual average rate of 3 months KIBOR				
2	Annual average of loans				
3	Weighted annual avg rate of return on loans				
4	Annual average of deposits				
5	Weighted ann. avg rate of return on deposits				
D	**Output other than FISIM**				
1	Income from fee,commision & brokerage				
2	Income from dealing in foreign currencies				
3	Income from dealing in foreign securities				
4	Rental income				
5	**Other income**				
i	Rent on property/locker				
ii	Charges recovered from customers				
iii	Exchange income on import/export bills purchased/negotiated				
iv	Income dealing in derivatives				
v	Miscellaneous earnings				
vi	Gain on sale of fixed assets/equipment				
E	**Administrative Expenses other than compensation of employees** (intermediate consumption)				
1	Rent and taxes				
2	Insurance services				
3	Electricity, gas and water charges				
4	Repairs to Bank property				
5	Repairs to Bank's vehicles				
6	Repairs to mechanical/ electrical equipment				
7	Auditors' remuneration				
8	Legal and professional charges				
9	Travelling expenses				
10	Daily expenses				
11	Passages				
12	Fuel charges				
13	Conveyance charges				
14	Postages				
15	Telegram/ telex				
16	Telephone				
17	Training				
18	Examination/ testing services				
19	Remittance of treasure				
20	Stationery				
21	Books and newspapers				
22	Advertisement				
23	Bank guards				
24	Uniforms				
25	Others				

NOTE: Item 5 iv and vi of the "other income" will not b treated as Output in estimation.

C II Financial services of insurance and pension funds

1 General outline of the relevant methods

The insurance companies and the pension funds gather all institutional units aiming at insuring i.e. to transform individual risks into collective risks, by guaranteeing the payment of a sum (allowance or service) in case a risk is realizing. To guarantee such payments, the units of this sub-sector have to constitute reserves and they are responsible for their investment. The principal resources of these units are consisted contractual premiums or voluntary contributions.

Insurance companies are free to organize the type of services they wish to provide, while the pension funds have to limit their intervention to the collective coverage of risks and social needs of the insured parties.

Sub-section 1.1 tackles relevant characteristics of insurance services and definitions of terms, sub-section1.2 the output of insurance and related transactions. Sub-section1.3 deals with social insurance and social security.

Social security stands for social insurance organized by general government. Nevertheless, because of its proximity in terms and performance to social insurance provided by financial corporations it is briefly covered in sub-section1.3, also.

The subsequent sections present the application of the methods to calculations of output, intermediate consumption and value added of insurance companies.

1.1 Relevant characteristics of insurance

Under the agreement of an insurance policy, the policy holder makes a payment (a premium) to the insurance corporation[4] and, if or when a specified event occurs, the insurance corporation makes a payment (claim) to the policy holder. In this way, the policy holder protects himself or herself, respectively, against certain forms of risk. The insurance corporation is remunerated for its services by charging premiums that cover the claims as well as their cost.

However, simply recording the actual premiums and claims paid in the accounts would not reflect the links between premiums and claims. Instead, some actual transactions are decomposed and others are imputed in order to bring out the underlying economic processes actually taking place.

First, some important terms are to be explained which are used in this regard:

- The “actual” premium is the amount actually paid by the policy holder, often for a year or even a longer period in advance.
- The premium “earned” is the part of the actual premium which covers for the accounting period. For example, if an annual policy with a premium of 120 units comes into force on April 1 and accounts are being prepared for a calendar year, the premium earned in the calendar year is 90.
- A “claim” (benefit) is the amount payable to the policy holder in respect of an event covered by the policy occurring in the period for which the policy is valid. Claims become due when the event occurs, even if the payment is made some time later. Claims that become due are described as “claims incurred”. “Claims outstanding” cover claims that have not been reported, have been reported but are not yet settled or have been both reported and settled but not yet paid.

[4].From the view point of Pakistan’s insurance business the term “insurer” would be more appropriate as it has been used in the Insurance Ordinance 2000 as well and encompasses all insurance companies, cooperative societies and corporations (which are set up by the Federal Government under some law and are not registered under the Companies Ordinance or a prevailing law regarding registration of Co-operative Societies).However, the term “insurance corporation” has been used throughout the document - sometimes paraphrased as “insurance company” – as it is the one chosen in the System of National Accounts

In the SNA insurances are sub-classified in two different ways. First we differ between direct insurance and reinsurance. Direct insurance is the common case: contract between an insurance corporation and its clients. In reinsurance protection is provided by one insurance corporation to another.

The second way of sub-classifying insurances is between life and non-life insurance. From the view point of an accounting system like the SNA there is a significant difference between them that leads to different types of entries. Non-life insurance consists of redistribution in the current period between all policy holders and a few claimants. It is assumed that all premiums fully cover the claims reported in that very year. There is no or almost no inter-temporal provision. In contrast to that, life insurance mainly redistributes premiums paid over a period of time as benefits paid later to the same policy holder or to his nominees or assignees. Essentially life insurance premiums and benefits are financial transactions while non-life insurance premiums and claims are current transactions.

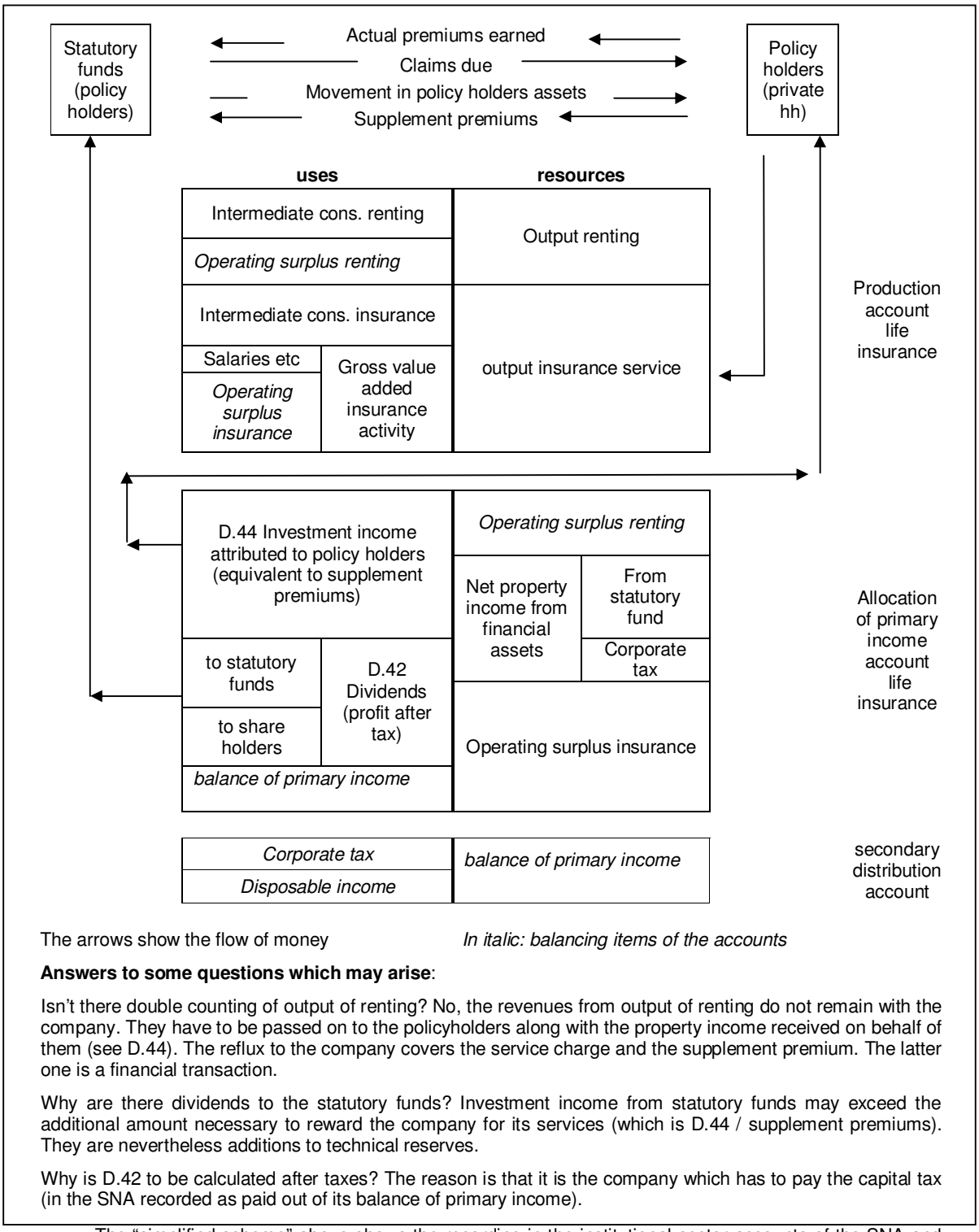
A special case and possibly a puzzling one is term insurance. Term insurance provides a benefit in the case of death within a given period but in no other circumstances. It is regarded as non-life insurance because, as with other non-life insurance, a claim is payable only in case of death. In practice, because of the way in which insurance corporations keep their accounts, it may not always be possible to separate term insurance from other life insurance. In these circumstances, term insurance may have to be treated in the same way as life insurance for purely practical reasons.

To understand the treating of insurances in National Accounts it is also important to know the main aspects of dealing with the different types of reserves, the insurance companies are holding for the purpose of distributing risks and related premiums and claims over time:

- Premiums are usually paid at the start of an insurance period, whereas claims fall due later, in the case of life insurance often many years later. Thus, part of the premium is at the disposal of the insurance corporation to invest and earn income from it. These amounts are called reserves or “statutory funds”. The income earned on the reserves allows the insurance corporations to charge lower premiums than would be the case otherwise. An adequate measure of the service provided must take account of this income. But the income concerned stems from premiums of the policy holders. This is a form of credit extended by them to the insurance corporation described as unearned premiums.
- Similarly, although claims become due the payment may be delayed, often because of negotiation about the amounts due. This is another similar form of credit, described as reserves against claims outstanding.
- There are two other elements of insurance reserves, actuarial reserves for life insurance and reserves for with-profit insurance. They represent amounts set aside for payments of benefits in future.

Usually the reserves are invested in financial assets and the income is in the form of investment income (interest and dividends). Sometimes, however, they may be used to generate net operating surplus either in a separate establishment or as a secondary activity. The most common example is from real estate.

Diagram V: Life insurance cum renting activity in a simplified scheme



The arrows show the flow of money *In italic: balancing items of the accounts*

Answers to some questions which may arise:

Isn't there double counting of output of renting? No, the revenues from output of renting do not remain with the company. They have to be passed on to the policyholders along with the property income received on behalf of them (see D.44). The reflux to the company covers the service charge and the supplement premium. The latter one is a financial transaction.

Why are there dividends to the statutory funds? Investment income from statutory funds may exceed the additional amount necessary to reward the company for its services (which is D.44 / supplement premiums). They are nevertheless additions to technical reserves.

Why is D.42 to be calculated after taxes? The reason is that it is the company which has to pay the capital tax (in the SNA recorded as paid out of its balance of primary income).

The "simplified scheme" above shows the recording in the institutional sector accounts of the SNA and shortly addresses possible misunderstandings.[5]

[5]. The view of "insurance technical reserves" (terminology of National Accounts) may differ in some details from the insurance business definition of reserves. Moreover, the units may be different. The subjects of business accounting are legal entities whereas in National Accounts it is the institutional unit. Legal entities and institutional

It is common with life insurance policies that incomes from the reserves are attributed to the policy holders in each year. These sums are often described as bonuses. They are not actually paid to the policy holders but the liabilities of the insurance corporation towards the policy holders increase by this amount. This amount is shown in the SNA as property income (virtually) attributed to the policy holders. In addition, all the income from the investment of non-life reserves and any excess of income from the investment of life reserves over any amounts explicitly attributed to the policy holders, is shown in the SNA as "property income attributed to policy holders". It is shown as payable to the policy holders in the allocation of primary income account.

For non-life insurance, the same amount is then virtually repaid to the insurance corporation as premium supplements in the secondary distribution of income account. For life insurance, premiums and premium supplements as well as benefits are shown in the financial account.

In practice, the usual method is to distribute the property income in proportion to the actual premiums payable. For direct life insurance, all policy holders are individuals and so the property income is attributed to households (possibly including some non-resident households).

1.2 The output of insurance

The output of the insurance corporation represents the service provided to the policy holders. The output of direct non-life insurance is

premiums earned
plus premium supplements
less adjusted claims incurred.

This is very straight forward but needs some explanation of the term "adjusted" claims: The level of claims varies from year to year and there may be exceptional events such as earthquakes that cause a particularly high level of claims. However, insurance service are produced continuously and not simply when the risk occurs. Neither the volume nor the price of insurance services is directly affected by the volatility of claims. For this reason, the formula uses a figure for adjusted claims based on past experience and future expectations. It may be derived statistically in an expectations approach based on previous experience of the level of claims.

The output of life insurance is derived as

premiums earned
plus premium supplements
less benefits due
less increases (plus decreases) in life insurance reserves.

The output of reinsurance is calculated in exactly the same way as for non-life insurance, regardless whether it is life or non-life insurance policies that are reinsured. However, for the insurers being the clients of the reinsurers there are different ways to calculate their output and their intermediate consumption. This is demonstrated for a fictious non-life insurer making use of reinsurance with variables as under:

1	Earned premiums	580
2	Premiums paid to reinsurer	160
3	Gross premiums (1 + 2)	740
4	Claims incurred gross	480
5	Of which covered by reinsurance	140
6	Net claims (4 - 5)	340
7	Output (service charge, row 3 – row 4)	260

units may be identical but this is not necessary. It is obvious that the rough simplifications of National Accounts can not meet the necessities of an insurance business accounting system. On the other side, an insurance business accounting system has not to be directly comparable with the accounting systems of all other industries as it is the case in National Accounts.

8	Net premium to reinsurer (part of interm. Consumption, 2 - 5)	20
9	Other Intermediate consumption	80
10	Total intermediate consumption	100
11	Gross value added (output minus intermediate consumption)	160

The above given calculation is the one recommended by the SNA 2008. The SNA 1993 suggested a slightly different recording leading, however, to the same value added:

1	Earned premiums	580
2	Premiums paid to reinsurer	160
3		
4	Claims incurred gross	480
5	Of which covered by reinsurance	140
6	Net claims (4 - 5)	340
7	Output (service charge, row 1 – row 6)	240
8		
9	Intermediate consumption	80
10		
11	Gross value added (output minus intermediate consumption)	160

It should be noted that the output of insurance company is a service which has a counterpart entry under either intermediate or under final consumption. And the premiums of non-life insurance recorded in the current accounts have to be recorded net of this service charge.

1.3 Social insurance schemes, social security and pension funds

A social insurance scheme is a form of contractual insurance scheme where the policyholder is obliged or encouraged to insure against certain contingencies by the intervention of a third party. For example,

- government may oblige all employees to participate in a social security scheme;
- employers may make it a condition of employment that employees participate in an insurance scheme specified by the employer;
- an employer may encourage employees to join a scheme by making contributions on behalf of the employee;
- or a trade union may arrange advantageous insurance cover available only to the members of the trade union.

Contributions to social insurance schemes are usually paid by, or on behalf of employees, though under certain conditions non-employed or self-employed persons may also be covered.

According to SNA 2008 (par. 17.84) a social insurance scheme is an insurance scheme where the following two conditions are satisfied:

a) the benefits received are conditional on participation in the scheme and constitute social benefits as this term is used in the SNA; and

b) at least one of the three conditions following is met:
   - Participation in the scheme is obligatory either by law or under the terms and conditions of employment of an employee, or group of employees;
   - The scheme is a collective one operated for the benefit of a designated group of workers, whether employed or non-employed, participation being restricted to members of that group;
   - An employer makes a contribution (actual or imputed) to the scheme on behalf of an employee, whether or not the employee also makes a contribution.

Those participating in social insurance schemes make social contributions to the schemes and receive social benefits. Contributions and benefits are defined in similar ways to insurance premiums and claims.

The two classes of social insurance schemes are:

a) social security,
b) employment-related social insurance schemes other than social security.

Social security schemes are run as part of the operation of general government. If separate units are distinguished, their output is determined in the same way as all non-market output at the sum of costs. If separate units are not distinguished, the output of social security is included with the output of the level of government at which it operates.

The importance of social security varies considerably from one country to another depending on institutional arrangements. In some countries, social security may be restricted to basic pension provision of the social safety net variety. In such cases even the pension provision of general government employees may be dealt with other than via social security.

When an employer operates his own social insurance scheme, the value of the output is also determined as the sum of costs including an estimate for a return to any fixed capital used in the operation of the scheme. Even if the employer establishes a segregated pension fund to manage the scheme, the value of output is still measured in the same way.

When an employer uses an insurance corporation to manage the scheme on his behalf, the value of the output is the fee charged by the insurance corporation.

The schemes other than social security may be arranged with an insurance corporation as a group policy or series of policies or they may be managed by an insurance corporation in return for a fee. Alternatively, the schemes may be managed by an employer directly on his own behalf.

Finally pension funds are to be tackled. Pension liabilities arise when an employer or government obliges or encourages members of households to participate in a social insurance scheme that will provide income in retirement. The social insurance schemes may be organised by employers or by government, they may be organised by insurance corporations on behalf of employees or separate institutional units may be established to hold and manage the assets to be used to meet the pensions and to distribute the pensions. Pension funds make up a separate sub-sector of financial corporations consisting of those social insurance pension funds that are institutional units separate from the units that create them.

2 Non-Life insurance

In Pakistan there are more than 50 companies offering non-life insurance. The data have been collected regularly by National Accounts Wing of PBS. The calculation is straightforward (see sub-section 1.2). Table 29 below shows the results for the old base year 1999-2000 according to the method prevailing for that calculation ("base 1999-2000") and for the new base year 2005-06 in either method ("Base 1999-2000" as well as "base 2005-06") at current prices. Column 5 shows the increase over these 6 years including the impact of rebasing while column 6 shows the impact of the change of methods and data sources for 2005-06 related to the change of base year.

Table 29 Gross premiums earned, output, intermediate consumption and gross value added of non-life insurance companies in Pakistan 1999-2000 and 2005-06 in Mill. Rs

Item	Base 1999-2000		Base 2005-06	% Increase	
	Results 1999-2000	Results 2005-06 at current prices of 2005-06		Col. 4 over 2	Col. 4 over 3
1	2	3	4	5	6
Gross premiums earned	8,945	18,734	28,134**	214.5	50.2
Output of insurance services	3,245	9,271	8,845	172.6	-4.6
Other output	10,960	6,105	572	-94.8	-90.6
Intermediate consumption	1,240	3,451	3362	171.1	-2.6
Gross value added	**12,965**	**11,925**	**6,055**	**-53.3**	**-49.2**
Of which: compensation of employees	1,555*	2,323	2,694	73.2	16.0

** estimated by applying growth of 2002-03 over 2001-02 for growth 2001-02 over 1999-2000*

*** Figures in Col. 2 & 3 are net premiums but the figure in Col. 4 is gross premium.*

The decrease in gross value added of -53% shown in column 5 includes effects of inflation. If deflated with the Consumer Price Index the decrease will even go up to -66%. Column 6 shows that the effect of rebasing on the figures is significant (-49% for value added) though the data sources have widely been the same as prior to rebasing. The main reason is that the methods have been changed. This is best illustrated by the fact that during 1999-2000 and 2005-06 the compensation of employees has considerably risen, regardless whether according to the old or to the new method.

The results at base year 2005-06 for the years 2005-06 to 2009-10 are given in Table 30 below.

Table 30 Gross premiums earned, output, intermediate consumption and GVA of non-life insurance companies from 2005-06 to 2009-10 according to base year 2005-06 at current prices

Item	Million Rs.					Change over previous year in %			
	2005-06	2006-07	2007-08	2008-09	2009-10	2006-07	2007-08	2008-09	2009-10
Gross premiums earned	28,134	37,842	41,902	45,075	48,988	34.5	10.7	7.6	8.7
Output of insurance services	8,845	9,300	10,244	11,392	11,206	5.1	10.2	11.2	-1.6
Other output	572	718	876	1,071	1227	25.5	22.0	22.3	14.6
IC	3,362	3,971	6,533	7,766	6134	18.1	64.5	18.9	-21.0
GVA	**6,055**	**6,047**	**4,587**	**4,697**	**6,299**	**-0.1**	**-24.1**	**2.4**	**34.1**
Of which: comp. of employees	2,694	3,187	3,860	4,562	5055	18.3	21.1	18.2	10.8

The figures show that the increase of gross premiums has come down during the period of base year plus the two subsequent years while intermediate consumption has increased especially in 2007-08 but decreased in 2009-10. Therefore, non-life insurance business in Pakistan has witnessed decreases in the value added but showed an increase in 2009-10.

3. Life insurance in Pakistan calculated for State Life Insurance 2008

Table 31 a State Life Insurance: Calculation of output & GVA as per National Accounts				
S. no	Page Annual Report	Transaction Code SNA	Item	000' Rs.
1	24		**Actual premiums earned** *(in report of State Life called "total gross premiums")* **Premium supplements** *The output of life insurance services is premiums minus claims (benefits due) and minus changes in insurance reserves. The premiums are the earned ones as well as the supplements. In life insurance incomes from the reserves are attributed to the policy holders each year who virtually pay back this amount as "supplement premiums".* *Please note that gains on sale of investment (realized capital gains), page 23 of report, have not been included.*	22,826,114
2	27	D.41	Interest received *(in report as "investment income" minus "Dividend income")*	15,918,248
3	27	D.421	Dividends received	2,521,941
4	27	D.41	minus interest paid *(in report called "Investment related expenses")*	23,537
5	23 / 51	B.2n	Net operating surplus generated by renting *Calculation see paragraph 16 on page 51 of report. It is called "Net rental income from investment property" there.*	341,924
6		D.44	Total premium supplements (2) + (3) – (4) + (5) *Total premium supplement stands for the sum of all income which belongs to the policy holders as it accrues from their assets*	18,758,576
7			**Total resources arising from insurance activities (1) + (6)**	**41,584,690**
	23		**Technical charges** *The technical charges have to exclude holding gains or losses as they are not result of economic activity.* *Surplus after taxes (1,771,159) has to be excluded from output, also, as it does not represent a service equivalent. But this surplus has to be confined to the surplus attributed to the statutory funds, i.e. we subtract the "surplus appropriated to shareholders' fund" (352,393). The result (1,418,766) can also be termed as "retained earnings attributable to the policy holders"*	
8	25		Claims due *(in report "Total gross claims")*	12,818,838
9	23		Surplus after taxes attributed to statutory funds	1,418,766
10	23		Movement in policy holder liabilities	19,303,062
11			Changes in technical reserves (9) + (10)	20,721,828
12	27		of which balance of capital gains and losses	307,090
13			**Total technical charges excl. holding gains/losses, (8+9+11–12)**	**33,233,576**
14		P.11	**Output of insurance activities,** (7) minus (13)	8,351,114
			Output arising from renting	
15	51	P.11	Rent received	689,532
16	51	P.11	Increase in accrued rental income	23,556
17			Total output arising from renting	713,088
18		P.1	**Output** (14) + (17)	**9,064,202**
19		P.2	**Intermediate consumption (see separate table)**	**6,538,442**
20		B.1g	**Gross Value added** , (18) minus (19)	**2,525,760**

Source of data: 36th Annual Report 2008

Table 30 a above exemplifies the delineation of output and GVA through reference to the figures of State Life Insurance Corporation CY 2008. Output of life insurance is the difference between the total investment income earned on the life insurance reserves less the part of this investment income actually allocated to the

policy holders and added to the reserves (SNA 2008, 6.195). It should be noted that the "investment income not attributable to statutory funds" (page 20 of the State Life Report) does not affect output or GVA at all as it is totally made up of property income which is recorded in the allocation of primary income account (see the institutional sector accounts below). For explanation: "statutory funds" are the funds belonging to the policy holders.

It should also be noted that in National Accounts (net) payments for reinsurance are treated as intermediate consumption while State Life does not include them in the administrative expenses.

It should also be noted that income from renting has to be recorded twice. First, it constitutes output. Second, the operating surplus accruing from it is an income which belongs to the policy holders. Thus, it has to be included in the calculation of the supplement premiums.

For further decomposition of GVA into compensation of employees, consumption of fixed capital and operating surplus see the institutional sector accounts below.

The table 31 b below delineates intermediate consumption of State Life by taking the gross management expenses as a starting point. Compensation of employees as well as depreciation has to be subtracted as they form part of GVA. The expenses related to property (renting activity) have to be added; ditto reinsurance related expenses (net). Reinsurance is confined to passive reinsurance. ''The corporation maintains risk premium re-insurance arrangements with Swiss Re and Munich Re-insurance" (note 4.9 on page 33 of the report). Bad and doubtful debts are to be subtracted as per rules of National Accounts.

Table 31 b State Life Insurance: Calculation of intermediate consumption as per National Accounts						
Trans-action Code SNA	Item	Statutory funds without branch overheads	Branch over-heads	Expend. Not attributed to SF	Total	Page … Annual Report
P.2…	**Gross management expenses**	7,370,686	679,220	1,951	8,051,857	20, 26 / 53
	minus					
D.1	Salaries and other benefits	1,395,034	254,528	567	1,650,129	26 / 53
D.1	Gratuity and pension expenses	75,160	5,952		81,112	26 / 53
D.1	Prize and awards		5,394		5,394	26 / 53
D.1	Incentive bonuses		140,104		140,104	26 / 53
D.1	Persistency bonuses		9,272		9,272	26 / 53
D.1	Medical allowances		15,550		15,550	53
D.1	**Total compensation of employees**	1,470,194	430,800	567	1,901,561	
K.1	Depreciation	23,980			23,980	26 / 53
K.10	Bad and doubtful debts	331			331	26 / 53
	Subtotal	5,876,181	248,420	1,384	6,125,985	
	plus					
P.2…	Investment property related expenses	371,164			371,164	51
P.2…	Balance of active re-insurance transactions	0			0	
P.2…	Balance of passive re-insurance transactions	41,293			41,293	
	Reinsurance premiums ceded	130,834			130,834	24
	Reinsurance recoveries	-40,073			-40,073	25
	Commission from Reinsurers	-49,468			-49,468	26
P.2	**Total intermediate consumption (all P.2 minus K.1 minus K.10 minus D.1)**	6,288,638	248,420	1,384	**6,538,442**	

Source of data: 36th Annual Report 2008

For illustration of the rationale of National Accounts with regard to life insurance the sequence of the relevant institutional sector accounts are shown below in table 33 (though not yet compiled in Pakistan). While the sequence up to “net operating surplus” is quite straightforward, special attention should be given to the allocation of primary income account. In this account we see the data entries for the property income paid and received. Transaction D.44 stands for the imputed distribution of the supplement premiums which the policy holders (private households) will imputably pay back to the insurance company as supplement premium. Supplement premiums plus actual life insurance premiums (net of the service charge) is recorded as financial transaction between private households and financial corporations in the SNA and thus not shown in this shortened sequence of accounts.

Table 32 State Life Insurance: Institutional sector accounts as per National Accounts

Code SNA	Uses		Resources		Code SNA
	Item	*000' Rs*	*000' Rs*	*Item*	
			I. Production account		
P.2	Intermediate consumption	6,538,442	9,064,202	Output	P.1
B.1g	*Gross value added*	*2,525,760*			
K.1	Consumption of fixed capital	23,980			
B.1n	*Value added, net*	*2,501,780*			
			II.1.1 Generation of income account		
			2,501,780	*Value added, net*	*B.1n*
D.1	Compensation of employees	1,901,561			
B.2n	*Net operating surplus*	*600,219*			
			II.1.2 Allocation of primary income account		
			600,219	*Net operating surplus*	*B.2n*
	Interest	23,537	18,535,963	Property income	D.4
D.44	Property income attributed to policy holders	18,758,576	*of which 18,440,189 is income of policy holders and 95,774 is income of owners*		
B.5n	*Balance of primary income, net*	*354,069*			

Source of data: 36th Annual Report 2008

The insurance service charge calculated for State Life 2008 (which is 9,064 million Rs. recorded as output here) forms part of private households' (policy holders') consumption. As presently private consumption is calculated residually as GDP minus all other components of expenditure on GDP there is no need to urge other sections of National Accounts Wing than input-output section to internalize the results of output of life insurance. This is in contrast to non-life insurance where in case of commercial or business clients the insurance service charge has to be distributed among the industries of these intermediate users, having an impact on their intermediate consumption (or theoretically even on exports, respectively).

For understanding the complicated treatment of life insurance it may be worth-wile to compare both calculations, viz National Accounts and State Life Report. The report calculates similar to National Accounts. It also differs between income accruing from assets belonging to the policy holders ("statutory funds") and income belonging to the shareholders. For better understanding the figures of page 23 of the report are presented in a condensed and slightly rearranged algorithm:

Table 33 Highlights of procedures		
1	Premium less reinsurance	22,695,280
2	Rental income from investment property	341,924
3	Net investment income	18,696,912
4	Total net income (1)+(2)+(3)	41,734,116
5	Claims incl. bonuses, net of reinsurance recovery	12,778
6	Management expenses less recoveries	7,998,487
7	**Excess of income over claims and expenses (4)-(5)-(6)**	**20,956,864**
8	Increase of policy holders liabilities	19,303,062
9	Surplus before tax (7)-(8)	1,653,802
10	Tax current year (which is a refund)	- 117,357
11	**Surplus after tax (9)-(10)**	**1,771,159**
	Distribution of this surplus:	
12	**Surplus appropriated to shareholders' fund**	**352,393**
13	**Retained earnings attributable to policyholders (11)-(12)**	**1,418,766**

In the report the figures of the statutory funds at the beginning and at the end of the year 2008 are scattered around a bit. They can then be summarized as follows ('000' Rs):

Table 34 Summary			
	Liabilities against policy holders	Retained earnings attributable to policy holders	Total statutory funds of State Life 2008
Beginning of year	155,416,834	1,320,468	156,737,302
End of year	174,719,896	2,739,234	177,459,130
Change	19,303,062	1,418,766	20,721,828

The "surplus appropriated to shareholders' fund" is meant as a reward to the company for its service. Presumably it is calculated according to a formula prescribed by the supervisory body (SECP) or even by law for this purpose. In the sequence of calculation in the report this "surplus …" is conceptually quite close to net operating surplus of the National Accounts calculation. However, both figures differ with regard to capital gains, writing off of bad debts, reinsurance and provisions for impairment in value of investment. If we take the profit of State Life (see page 20 of the report) then net investment income of the company's own assets is included and serves as a good starting point for comparison of National Accounts figures and State Life Report:

Table 35 State Life Insurance: check / compare National Accounts with report figures		
	Mill Rs	Page of Report
State Life's "profit before tax"	446,216	20
Tax refund	- 117,357	
Bad and doubtful debts	+ 331	26
Provision for impairment in value of investment	+ 26,830	27
Expenses not attributable to statutory funds	-1951	20
Balance of primary income national accounts	**354,069**	

Source of data: 36th Annual Report 2008

4. From State Life Insurance 2008 to full time series of total life insurance

The calculations for State Life Insurance for calendar year 2008 in the preceding sections have been applied for the calendar years 2005 onward and backward, also. The figures for the financial years are calculated as average of the respective two calendar years. State Life Corporation is the paramount company. In the base year it earned two third of the gross premiums of all 10 companies offering life insurances in Pakistan. Table 37 below shows the figure for State Life for CY 2008 as delineated in the previous section plus the results for total life insurance for base year 2005-06 and the following financial years.

Table 36 Output, intermediate consumption and gross value added of life insurance companies according to rebasing 2005-06 (in '000' Rs)							
Item		State Life CY 2008	2005-06 FY	2006-07 FY	2007-08 FY	2008-09 FY	2009-10 FY
A	**Output**						
1	Total output arising from renting (I + ii)	713,088	508,675	579,765	674,460	717,896	720,957
	(i) Rent received	689,532	482,190	562,364	659,552	692,462	700,105
	(ii) Increase in accrued rental income	23,556	26,485	17,401	14,909	25,435	20,852
2	Investment property related expenses	371,164	350,550	339,681	345,280	409,858	414,544
3	Net operating surplus arising from renting (1 - 2)	341,924	158,125	240,084	329,180	308,038	306,413
4	Premiums supplements (3 + i + ii - iii)	18,758,576	12,936,079	15,640,858	18,165,508	21,509,672	25,832,008
	(i) Interest received	15,918,248	10,269,107	12,653,985	15,225,620	18,516,024	22,461,353
	(ii) Dividends received	2,521,941	2,533,875	2,774,438	2,638,859	2,713,487	3,094,840
	(iii) interest paid ("Investment related expenses")	23,537	25,028	27,649	28,151	27,877	30,598
5	Actual premiums earned ("total gross premiums")	22,826,114	21,859,781	26,312,231	32,733,913	40,340,521	50,414,682
6	Total resources arising from insurance activities (4 +5)	41,584,690	34,795,860	41,953,089	50,899,421	61,850,193	76,246,690
7	Claims due ("Total gross claims")	12,818,838	10,303,255	12,874,199	15,481,133	18,727,256	21,658,292
8	Changes in technical reserves (i + ii)	20,721,828	17,262,869	21,521,984	22,374,829	24,808,162	34,367,992
	(i) Surplus after taxes attributed to statutory funds	1,418,766	388,093	420,167	868,795	594,732	(247,379)
	(ii) Movement in policy holder liabilities	19,303,062	16,874,776	21,101,817	21,506,035	24,213,430	34,615,371
9	Balance of capital gains and losses	307,090	1,999,140	1,975,625	1,761,642	1,053,192	1,775,618
10	Total technical charges excl. holding gains / losses (7+8-9)	33,233,576	25,566,985	32,420,557	36,094,320	42,482,226	54,250,667
11	**Output of insurance activities (6 - 10)**	**8,351,114**	**9,228,875**	**9,532,532**	**14,805,101**	**19,367,967**	**21,996,024**
12	**Total output (1 + 11)**	**9,064,202**	**9,737,549**	**10,112,296**	**15,479,561**	**20,085,863**	**22,716,980**

Output, intermediate consumption and gross value added of life insurance companies according to rebasing 2005-06 (in '000' Rs)							
Item		State Life CY 2008	2005-06 FY	2006-07 FY	2007-08 FY	2008-09 FY	2009-10 FY
B	**Administrative Expenses other than compensation of employees (intermediate consumption)**						
1	Rent and taxes	137,619	151,353	180,401	204,174	249,365	309,942
2	Insurance services	1,408	569	2,363	19,262	23,302	16,976
3	Electricity, gas and water charges	149,079	146,169	172,456	195,957	242,588	300,420
4	Repairs and maintenance	1,628	15,164	22,285	33,598	42,326	56,734
5	Auditors' remuneration	2,828	4,539	5,161	6,645	8,891	10,664
6	Legal and professional charges	32,878	34,655	58,354	82,090	136,952	178,426
7	Traveling/Daily expenses	279,448	225,222	237,038	309,158	440,779	546,780
8	Passages	0	0	0	0	0	0
9	Fuel charges	0	3,381	2,663	2,277	7,426	29,720
10	Postages	0	21,318	27,834	30,289	39,813	46,719
11	Telegram/ telex	0	0	0	0	0	0
12	Telephone	71,486	70,263	64,782	69,327	45,430	79,165
13	Training	12,029	9,309	9,197	17,802	25,347	45,624
14	Examination/ testing services	0	0	0	0	3,238	7,052
15	Remittance of treasure	0	0	0	0	0	0
16	Stationery	57,385	65,697	76,771	99,774	136,812	155,061
17	Books and newspapers	0	205	55	45	20	268
18	Advertisement	46,175	54,641	61,348	85,171	115,180	128,255
19	Security charges	0	413	687	286	0	0
20	Uniforms	0	0	0	0	0	0
21	***Commission Paid to agents***	***5,230,038***	***4,284,526***	***5,414,268***	***7,337,171***	***9,737,847***	***12,703,220***
22	Others	103,984	261,389	211,830	159,720	192,966	3,180
23	Investment property related expenses	371,164	350,550	339,681	345,280	409,858	414,544
24	Balance of active re-insurance transactions	0	0	0	0	0	0
25	Balance of passive re-insurance transactions	41,293	221,727	231,318	261,183	269,598	181,333
	Total intermediate consumption (1+2+3+…+25)	**6,538,442**	**5,921,086**	**7,118,487**	**9,259,210**	**12,127,739**	**15,214,080**
C	**Gross value added (A-B)**	**2,525,760**	**3,816,464**	**2,993,810**	**6,220,351**	**7,958,124**	**7,502,900**

Table 38 below shows the results according to the new base year 2005-06 for all years 2005-06 and later in a more condensed format and with some additional figures.

Table 37 Actual premiums earned, output, intermediate consumption and GVA of life insurance companies 2005-06 until 2009-10 according to base year 2005-06 at current prices									
Item	**Million Rs**					**Change over previous year in %**			
	2005-06	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Actual premiums earned	21860	26312	32734	40340	50415	20.4	24.4	23.2	25.0
Output of insurance services	9229	9532	14805	19368	21996	3.3	55.3	30.8	13.4
Other output	509	580	674	718	721	13.9	16.2	6.5	0.4
Intermediate consumption	5921	7118	9259	12128	15214	20.2	30.1	31.0	26.0
Gross value added	3817	2994	6220	7958	7503	-21.6	107.7	27.9	-6.8
Of which: compensation of employees	2403	2541	2408	3248	4110	5.7	-5.2	34.9	26.5

The changes over years clearly indicate that the value added is very volatile over time as compared to the actual premiums earned. The reason is that the service charge heavily depends on the amount of the supplement premiums. In the time series FY 2006-07 is an outlier in this regard which is due to extraordinary increases of output of insurance services of “EFU LIFE” in 2007-08 over 2006-07.

Table 38 below shows the results for the old base year 1999-2000 according to the method prevailing for that calculation (“base 1999-2000”) and for the new base year 2005-06 in either method (“Base 1999-2000” as well as “base 2005-06”) at current prices. Column 5 shows the increase over these 6 years including the impact of rebasing while column 6 shows the impact of the change of methods and data sources for 2005-06 related to the change of base year.

Table 38 Rebasing effect, Actual premiums earned, output, intermediate consumption and GVA of life insurance companies 1999-2000 and 2005-06 in Mill. Rs					
Item	**Base 1999-2000**		**Base 2005-06**	**% Increase**	
	results 1999-2000	**results 2005-06 at current prices of 2005-06**		**col. 4 over 2**	**col. 4 over 3**
1	2	3	4	5	6
Actual premiums earned	11008	20578	21860	98.6	6.2
Output of insurance services	4161	10707	9229	121.8	-13.8
Other output	3142	16,163	509	-83.8	-96.9
Intermediate consumption	1946	1467	5921	204.3	303.6
Gross value added	5357	25403	3817	-28.7	-85.0
Of which: compensation of employees	994*	1682	2403	141.8	42.9

* estimated by applying growth of 2002-03 over 2001-02 for growth 2001-02 over 1999-200

The decrease of value added of -29% shown in column 5 includes effects of inflation. If deflated with the Consumer Price Index the decrease will even go upto -48%. Column 6 shows that the effect of rebasing the figures is considerable (-85%). This is due to the fact that the methods for life insurance have significantly changed as compared to calculations prior to the rebasing.

5. Insurance Agents

While in Pakistan's Standard Industrial Classification (PSIC 2007) the insurance corporations are classified under Division 66 the insurance agents are under Division 67, Group 672 "Activities auxiliary to insurance and pension funding". In Pakistan there is no survey or secondary data covering this activity but the idea is to take the output of the agents being equivalent to the value covered under commissions in the intermediate consumption of the insurance companies and to assume that the intermediate consumption of the agents themselves, e.g. for cell phone, car, stationery and the like, is considered to be 10 % of their output. Further it is assumed that in Pakistan there are no other auxiliaries than the insurance agents. Given these assumptions table 40 below shows the results for auxiliary services are rendered to life insurance. During compilation of output and intermediate consumption of non-life insurance companies it was found that non-life insurance companies do not show commissions to auxiliaries as an expense. It is assumed that they do the auxiliary services with their own staff and thus the reward for it is covered under compensation of employees.

Table 39 Output, intermediate consumption and value added of insurance agents 2005-06 in million Rs	
Output of insurance agents (commissions to agents in life insurance)	4,285
Intermediate consumption (10% of commission)	428
Gross value added	3,857

When after rebasing 2005-06 the PBS will start to compile the institutional sector accounts then it will be shown that the insurance corporations will be recorded under "financial corporations" while the auxiliaries are under "private households" assuming that all insurance agents are self-employed persons and do not adopt the legal status of a corporation for their activities.

6. Summary results

Summary results at 2005-06 base at current and constant prices for the years 2005-06 to 2009-10 have been prepared and shown below in table 40. Constant results have been calculated by deflating the current results by consumer price index.

Table 40 a Summary results: Output, Intermediate consumption and gross value added For the base 2005-06 at current basic prices (Rs. Million)					
Item / Year	2005-06	2006-07	2007-08	2008-09	2009-10
Insurance - current					
Gross premium earned	49994	64154	74636	85415	99403
Output of Insurance services	18585	19263	25522	31292	33840
Other Output	1081	1298	1550	1789	1948
Total OP	19666	20561	27072	33081	35788
IC	9283	11089	15792	19894	21348
GVA	10383	9472	11280	13187	14440
Insurance (66) and auxiliaries (672) - current					
Gross premium earned	49994	64154	74636	85415	99403
Output of Insurance services	22870	24677	32860	41030	46543
Other Output	1081	1298	1550	1789	1948
Total OP	23951	25975	34410	42819	48491
IC	9711	11630	16526	20868	22618
GVA	14240	14345	17884	21951	25873

Table 40 b Summary results: Output, Intermediate consumption and gross value added For the base 2005-06 at constant basic prices (Rs. Million)					
Item / Year	2005-06	2006-07	2007-08	2008-09	2009-10
Insurance - constant					
Gross premium earned	49994	59529	61836	60471	63912
Output of Insurance services	18585	17874	21145	22154	21758
Other Output	1081	1204	1284	1267	1252
Total OP	19666	19079	22429	23420	23010
IC	9283	10290	13084	14084	13726
GVA	10383	8789	9345	9336	9284
Insurance (66) and auxiliaries (672) - constant					
Gross premium earned	49994	59529	61836	60471	63912
Output of Insurance services	22870	22898	27224	29048	29925
Other Output	1081	1204	1284	1267	1252
Total OP	23951	24102	28508	30314	31178
IC	9711	10792	13692	14774	14543
GVA	14240	13310	14816	15541	16635

7. Allocation of insurance output to users

Table 42 below summarizes the insurance output of the insurance companies and their auxiliaries during financial years 2005-06 to 2009-10 at current and constant prices.

Table 41 Output of insurance services according to rebasing of 2005-06 at current and constant basic prices (Rs. Million)					
	2005-06	2006-07	2007-08	2008-09	2009-10
Output of Insurance Services - current					
Non-life insurance	8845	9300	10244	11392	11206
Life insurance	9229	9532	14805	19368	21996
Auxiliaries	4285	5414	7337	9738	12703
Total	22359	24246	32386	40498	45905
Output of Insurance Services - constant					
Non-life insurance	8845	8629	8487	8065	7205
Life insurance	9229	8845	12266	13712	14143
Auxiliaries	4285	5024	6079	6894	8168
Total	22359	22498	26832	28671	29515

Once the output of insurance activity has been calculated it has to be allocated to the consumers of these services. For simplicity it is assumed that all domestically produced services are consumed domestically and that there is no import of insurance services other than those of reinsurance.

By definition the clients of life insurances are private households. However, there is no need for further calculations as in Pakistan's National Accounts individual consumption of private households is calculated as a residual. The output of the auxiliaries has fully been recorded as intermediate consumption of the insurance companies. As for the time being we do not calculate institutional sector accounts the only component of insurance

output to be dealt with in the distribution among users is the insurance services, output of the non-life insurers which for the base year 2005-06 is about 8.8 Rs. billion.

The clients on non-life insurances can in principle be all sectors of the economy. However, it is assumed that among the clients of non-life insurance there are no public sector agencies, no producers of agriculture and no private households. The private sector clients are assumed to share the intermediate consumption of non-life insurance services according to their share in gross value added.

Given these assumptions the output of non-life insurance is distributed among the clients of the companies (by PSIC as) follows:

Table 42 a Distribution to users

Selected section of PSIC	% of GDP current prices 2005-06 old basis	Intermediate consumption of non-life insurance services in Mill. Rs
C. Mining & Quarrying	2.6	377
D. Manufacturing	18.8	2726
E. Electricity, gas and water supply	2.2	319
F. Construction	2.2	319
G. Wholesale & retail trade	17.2	2494
I. Transport, storage and communications	10.2	1479
K. Real estate, renting and business activity	7.8	1131
i. Real estate activities	2.8	406
ii. Other business activities	5.0	725
TOTAL	**61.0**	**8,845**

Table 42 b Distribution to users for the years 2005-06 to 2009-10 at current and constant prices

Items / Years	Shares %	2005-06	2006-07	2007-08	2008-09	2009-10
Total non life insurance services - current	61.0	8845	9300	10244	11392	11206
Mining & Quarrying	2.6	377	396	437	486	478
Manufacturing	18.8	2726	2866	3157	3511	3454
Electricity & gas	2.2	319	335	369	411	404
Construction	2.2	319	335	369	411	404
WRT	17.2	2494	2622	2888	3212	3160
Transport, St. & Communication	10.2	1479	1555	1713	1905	1874
K. Real estate, renting and business activity	7.8	1131	1189	1310	1457	1433
i. Real estate activities	2.8	406	427	470	523	514
ii. Other business activities	5.0	725	762	840	934	919
Total non life insurance services - constant	61.0	8845	8629	8487	8065	7205
Mining & Quarrying	2.6	377	368	362	344	307
Manufacturing	18.8	2726	2660	2616	2486	2221
Electricity & gas	2.2	319	311	306	291	260
Construction	2.2	319	311	306	291	260
WRT	17.2	2494	2433	2393	2274	2032
Transport, St. & Communication	10.2	1479	1443	1419	1349	1205
K. Real estate, renting & business activity	7.8	1131	1103	1085	1031	921
i. Real estate activities	2.8	406	396	390	370	331
ii. Other business activities	5.0	725	707	696	661	591

D Housing services (including ownership of dwellings)

Introduction

The services related to dwellings or residential housing properties play an important role in the economy of a country. This includes services provided to tenants as well as (imputed) services provided to the owner of the dwelling or the house to himself. Like the services provided to tenants on the markets the imputed output, intermediate consumption and value added of Ownership of Dwellings is recorded as part of PSIC 2007 section K division 70 Real Estate activities. For Pakistan there is a change in classifications for these activities at section level in PSIC 2007 (section K) and PSIC 2010 (section L). In the base 1999-2000, only housing services (Division 70 of section K) in the name of "Ownership of Dwellings" were covered and the remaining activities were covered under other parts of "services". In PSIC 2010 (equivalent to ISIC Rev. 4), real estate services have been classified separately under section L, Division 68. Housing services is the major activity of the section and needed to be taken up separately and then summed up with other minor activities. Real Estate activities contributed 2.8% in GDP of Pakistan (at constant prices) of 1999-2000 base for the year 2005-06. The activity has been covered in the Survey of "Social, Recreational, Community and Personal services, Real Estate activities and renting of machinery/ equipment 2007-08". The value added of "Ownership of Dwellings" is the provision of housing services by the owner of a dwelling to its occupants irrespective whether the owner is also occupier.

For conceptual clarification some relevant ideas / definitions of SNA 2008 are needed to be incorporated. By definition all goods and services supplied to the economy by means of production, imports or the disposal of produced assets must be used for exports, consumption (intermediate or final) or as part of capital formation. The boundary line between those goods and services which are incorporated in GDP and those which are not, is known as the asset boundary. Another asset boundary refers to products that are retained in the economy and are used for consumption and those products that are used for capital formation.

***"The asset boundary for fixed assets consists of goods and services that are used in production for more than one* year."**

The consumer durables are not treated as fixed assets. The services these durables produce are household services outside the production boundary of the SNA. However, owner-occupied dwellings are not treated as consumer durables but are included within the asset boundary. The owner-occupiers are treated as owners of unincorporated enterprises producing housing services for their own consumption. The following paras of SNA 2008 define the universe of coverage in this respect.

"10.68 ***Dwellings are buildings, or designated parts of buildings, that are used entirely or primarily as residences, including any associated structures, such as garages, and all permanent fixtures customarily installed in residences***. Houseboats, barges, mobile homes and caravans used as principal residences of households are also included, as are public monuments identified primarily as dwellings.

10.69 Examples include products included in *CPC* 2 class 5311, residential buildings and part of *CPC 2*.group 387. The former class includes single and multiple dwelling buildings as well as residential buildings for communities, retirement homes, hostels, orphans etc. The latter class includes prefabricated buildings, including those intended for housing or for buildings associated with housing such as garages.

10.71 Incomplete dwellings are included to the extent that the ultimate user is deemed to have taken ownership, either because the construction is on own-account or as evidenced by the existence of a contract of sale or purchase.

10.72 Dwellings acquired for military personnel are included because they are used for the production of housing services, in the same way as dwellings acquired by civilian units."

Households that own the dwellings they occupy are formally treated as owners of unincorporated enterprises that produce housing services consumed by those same households. The output of the housing services produced by owner occupiers is valued at the estimated / imputed rental that a tenant would pay for the same accommodation, taking into account factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself. The same figure (output of the service) is recorded under household final consumption expenditures. In the sequence of the accounts this is consistent as the households of the owners generate an imputed value added out of the imputed renting which consequently leads to an imputed increase of the disposable income enabling the owners to purchase the service they are providing to themselves. Finally they actually pay only the amount which is to be recorded as intermediate consumption of the services of owner occupied dwellings (some repair and maintenance work plus some services of property dealers) and the property tax levied on the buildings.

Sources and Data

The data sources for implementing this part of SNA in Pakistan are:

i) Housing Census of 1981 & 1998.
ii) Survey of "Social, Recreational, Community and personal services, Real Estate activities and renting of machinery/ equipment 2007-08".
iii) Survey of co-operative societies 2007-08
iv) Rent Survey 2007-08
v) General Government budget data

Coverage

The real estate services dedicated to renting of dwellings cover all the dwelling units in the country rented in the market as well as self-occupied or rent free. Division 70 of section K of PSIC 2007, or whole Section L of the PSIC 2010 "Real estate activities" is the domain of coverage. It is divided into two parts. Housing services (activities relating to the use of housing stock) is the "Ownership of Dwelling" in the 1999-2000 base. The other part "Real estate, and Co-operative housing societies" are the new addition. The housing services comprise of the letting of all residential accommodations irrespective of ownership. For Pakistan a functional approach has been adopted. For empirical reasons it uses housing data as a starting point and does not differentiate between the kinds of institutional units (households, government units, corporations or non-profit institutions) owning the dwellings and houses. The functional approach for classification of housing services guarantees the comprehensive coverage in the light of data situation. Care must be taken to exclude housing services from all other activities to avoid double counting, which is the consequence of this functional approach.

The contribution of non-residential buildings has not been calculated separately due to the non-availability of data. The output of the services related to the non-residential buildings is included in their respective industry / sector of the owner while the consumption of these services is to be recorded as intermediate consumption of the industry of the tenant.

Output

The output (rental value) of housing services is determined on the basis of the housing stock and average rents. It is the gross rental value of the all dwelling units rented as well as self-occupied or rent free. The data is on the rental per unit. Units are broken down in to different categories and dimension. Three types of construction material used (pacca, semi-pacca and kachha), and four types of dwellings based on the number of rooms have been taken in to account which has been stratified into four strata for estimation purpose.

Number of occupied dwelling in urban & rural areas have been taken from the Housing Censuses 1981 and 1998. The information available is the number of dwellings, number of rooms in the dwelling and the material used for construction along with the average rent of different categories. Number of dwellings for the year 2005-06 has been estimated by extrapolation (applying the annual compound growth rate of dwellings between 1981 and 1998). The

estimated annual average rentals for urban area have been taken from the latest Rent Survey of urban towns conducted by the then Federal Bureau of Statistics in 2007-08. As no survey has been conducted in rural areas, the rentals for rural areas have been taken the half of the urban areas of the same Rent Survey. The output has been obtained by multiplying the number of dwelling units by their respective rentals both in urban and rural areas separately.

Special attention has been given to the treatment of property tax in this regard. The accruals of property tax are well known from the budgets of the recipients. From the viewpoint of National Accounts they are classified as taxes on the production as such (SNA transaction code D.29) and not as taxes on the product itself (here; service of providing dwellings) as the property tax on buildings has to be paid regardless whether the buildings are populated or empty. Thus, as there is no sales tax or other tax on the product the rented value is equivalent to what in National Accounts is called basic price. However, when the value added (output minus intermediate consumption) is further decomposed then the property tax is to be given to the government while the balancing item (gross operating surplus) remains with the owner for further distribution of it (possibly mortgages to the banks). The property tax part has been included here in the delineation of the value added of housing services, already, as in near future PBS will enter into institutional sector accounting and then will have to deal with distribution and redistribution of incomes including the flow of the taxes.

Another issue of clarification is the treatment of housing services provided to employees of the government free or at reduced rates as a kind of fringe benefits. In National Accounts these benefits are to be included in the compensation of employees. This imputation is balanced by an imputed sale of this imputed service from government to its employees. The imputations result in an increase of

- Government employees' compensation (SNA transaction code D.1)
- Government employees' balance of primary incomes
- Government employees' disposable income
- Government employees' individual consumption
- Government's gross value added, gross operating surplus,
- Non-market production of the government (P.13)
- Collective consumption of the government
- Non-Market production (P.13) of government's housing services

It should be noted that in the functional approach adopted for housing services in Pakistan there is no double counting of the housing services provided by the government. Neither saving of the households of the government employees nor saving of the government is affected. In the balance of the primary incomes of the government the operating surplus accruing from imputed output of housing services balances the imputed payment of the fringe benefits. However, GDP increases by the imputed house rents, justified in the fact that the valuation of the labour of the government employees has increased.

Intermediate consumption

The intermediate consumption of this sector is the cost of repairs and maintenance for the current year. In addition, the amount of commission paid to real estate agents has been taken from the survey of "Social, Recreational, Community and Personal Services, Real Estate activities, and renting of machinery/equipment 2007-08". The amount of Commission received by Real Estate Agents has been deflated by applying the CPI rent and by the annual compound growth of dwellings to derive the estimates of commission for 2005-06. It should be noted that according to the SNA 2008 we now include some imputed consumption of bank and insurance services in the intermediate consumption (see FISIM in chapter financial corporations).

Intermediate consumption = Repair & Maintenance + Commission paid to Real Estates Agents + FISIM & IS

Gross Value Added

The output, the intermediate consumption and thus the gross value added from urban and rural areas have been computed separately. The gross value added is equivalent to output less intermediate consumption.

The results have been tabulated below. Property tax and public rent (residential) has been shown separately for reasons explained above.

Table 1 Residential housing services for the year 2005-06 at the base 2005-06 (Rs. Million)				
S. No.	**Description**	**Urban**	**Rural**	**Total**
1	Number of Dwelling units	7834179	16170596	24004775
2	Gross Rentals/ Output (at basic prices)	268396	250046	518442
3	Intermediate Consumption (4+5)			16342
4	Repair & Maintenance			15500
5	Commission paid to Real Estate Agents			842
6	**GVA** - I			502100
7	**Real estate GVA**			3568
8	**Co-operative housing societies GVA**			412
9	**GVA - total**			506080
10	**FISIM and Insurance services**			1338
11	**Gross Value Added**			504742
12	**Out of which:**			
13	Property Tax Paid			4595
14	Public rent (residential)			2606

a) Public Rent (residential)

Housing censuses take into account all dwellings. On the other hand the governments include in their budgets the rental components for the employees which are treated as final consumption expenditures. It is further discussed in the general government sector. The estimates of base year 2005-06 have been derived from the results of the budget data of 2009-10 and 2010-11 which were extrapolated backward by applying the growth of CPI general and general government. The base year estimates stand at Rs.2606 million. The extrapolation of base year estimates, at current prices, are being made by applying the growth of CPI general and growth of general government.

b) Real Estate agents activities related to residential housing

The GVA estimates of base year 2005-06 have been derived from the results of the survey of "Social, Recreational, Community and personal services, Real Estate activities and renting of machinery/ equipment 2007-08" which were extrapolated backward by applying the growth of CPI rent and dwellings. Since the activities cannot be separated for residential and non-residential buildings, 50% has been taken for the housing services. The remaining 50% has been assumed for the remaining part of real estate activities which have not been separated from their industries. The base year estimates of GVA stand at Rs. 3568 million. The extrapolation of base year estimate at constant prices is being made by applying the growth of dwellings only. However, the estimates at current prices are being developed by applying the growth of CPI rent.

c) Co-operative Housing Societies

It is a non-market production activity and has been estimated applying cost of production approach. Intermediate consumption is negligible, **t**herefore output is equivalent to value added (wages and salaries etc.) which

is totally absorbed by the household. The estimates of GVA for the base year 2005-06 have been derived from the results of the survey of "Co-operative Societies 2007-08" by separating the housing societies from it. The estimates have been extrapolated backward by applying the growth of CPI rent and dwellings. The base year GVA estimate stands at Rs. 412 million. The extrapolation of base year estimates at constant prices will be made by applying the growth of dwellings. However, the estimates at current prices will be developed by applying the growth of CPI rent.

The comparison of GVA for the year 2005-06 at 2005-06 base and the 1999-2000 base is given in ***table 2*** along with rebasing effect.

Table 2 Comparison of output and GVA of housing services for 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Million)

Description	Base 1999-2000 *		Base 2005-06	% Change	
	Results 1999-2000	Results 2005-06 at the prices of 2005-06		Col. 4 over 2	Col. 4 over 3
1	2	3	4	5	6
Output	130256		518422	298.0	
Intermediate consumption and other charges	19831		16342	-17.6	
GVA - I	110425	184812	502100	354.7	171.7
Real estate			3568		
Co-operative housing societies			412		
GVA - unadjusted	110425	184812	506080	358.2	173.8
FISIM			1338		
GVA-adjusted	110425	184812	504742	357.1	173.1

The output in the 1999-2000 is underestimated. The detailed results of census 1998 were not available at that time. The rent information was also taken from the previous surveys. Inputs were based on study results.

Extrapolation at current and constant prices

The share of one room dwelling has decreased from 51.5% to 38.1%, with a growth rate of 0.7%, from 1981 to 1998 housing censuses,. The share of two rooms dwellings remained almost same (29.6 to 30.5) with a growth rate of 2.7%, the share of 3-4 room dwellings has increased from 15.3% to 24.4%, with a growth rate of 5.4%, and similarly the share of five and more room dwellings increased from 3.6% to 6.9% with a growth rate of 6.5%,. Keeping in view the trend of growth, the growth rate of two and more room dwellings, which is 4%, has been applied.

To compute the GVA for the subsequent years the annual compound growth of dwellings is being applied to derive the estimates at constant prices. These estimates will be inflated by CPI (rent) to derive the estimates at current prices.

Table 3 Results for the years 2005-06 to 2009-10 according to 2005-06 base (Rs. Million)

Year	Gross Value Added – Constant			Gross Value Added – Current		
	Un-adjusted	FISIM	Adjusted	Un-adjusted	FISIM	Adjusted
2005-06	506081	1338	504743	506081	1338	504743
2006-07	526324	1394	524930	561535	1579	559956
2007-08	547377	1426	545951	638789	1815	636974
2008-09	569272	1327	567945	709654	2393	707261
2009-10	592043	1324	590719	79i561	2341	789220

E The General Government Sector

Introduction:

The activity was named as "Public administration and defence" in the previous rebasing and documentations. However it was covering all the activities of the general government. In this rebasing the activities have been taken into account in a more detailed manner, covering other aspects of the sector. First the conceptual background has been highlighted in the light of SNA 2008 keeping in view the future development. Then its application to the data available in the country and the national accounts of Pakistan has been recorded so that the further improvements may be based on it. Then the estimates have been presented along with the rebasing effects.

Sectorial versus industrial approach

Object of rebasing 2005-06 are the figures of production (mainly output, intermediate consumption and value added) of the industries making up GDP in its sub-classification by economic activity. An alternative sub-classification of GDP – by the five institutional sectors of the domestic economy – will be launched after the rebasing. The institutional sectors are non-financial corporations, financial corporations, general government, households and non-profit institutions serving households (NPISH). For general government the rebasing 2005-06 creates a special situation, as with the new classifications PSIC 2007 and PSIC 2010 the activities of general government are dispersed over various industries, including public administration and defence, education, health and many others. The idea is to show the activities of education, health etc. regardless of the fact whether they are carried out publicly or privately. However, it was decided to calculate figures of the variables of production in a way that both purposes are served: figures by PSIC as well as figures for the government sector (as it was shown before the rebasing).

The general government sector is a fully documented sector though a lot of borderline cases with regard to public sector enterprises have to be decided. At the end of the consideration some of the so-called autonomous bodies will have to be classified as if they were corporations (SNA: "quasi-corporations") and thus belong to the public sector but not to the sector general government. Data availability supports to develop institutional sector accounts for this part of the economy as it is the case for the sector financial corporation. These two institutional sectors are the prime candidates for starting the work on institutional sector accounts in Pakistan. Therefore the conceptual issues have been taken in to consideration keeping in view this situation. Detailed conceptual background is given in the financial corporations sector, however brief introduction of institutional units and sectors is given below. The idea is to show the method for general government as a whole, to calculate the figures for the whole sector and to enable the comparison of the figures of rebasing with those of the pre-rebasing time. The distribution of output, value added and gross value added, according to PSIC have been added at the end of this chapter. Another reason is that collective consumption expenditure, one of the aggregates making up GDP from its expenditure side, has to be calculated, anyway. This means that even after the rebasing we still need a holistic approach to measure especially the non-market production of the general government as a whole.

The institutional sector approach

The fundamental units identified in the SNA are the economic units that can engage in the full range of transactions and are capable of owning assets and incurring liabilities on their own behalf. These units are called institutional units. There are two main types of units in the real world that may qualify as institutional units, namely persons or groups of persons in the form of households, and legal or social entities.

The total economy is defined as the entire set of resident institutional units. In the classification hierarchies of the SNA, its standard code is S1. The resident institutional units that make up the total economy are grouped into five mutually exclusive institutional sectors (code varies from S11 to S15).

The institutional units are grouped together to form institutional sectors, on the basis of their principal functions, behaviour and objectives. Institutional units are allocated to sector according to the nature of the economic activity they undertake. The three basic economic activities recorded in the SNA are production of goods and

services, consumption to satisfy human wants or needs and accumulation of various forms of capital. Corporations undertake either production or accumulation (or both) but do not undertake (final) consumption. Government undertakes production (but mainly of a different type from corporations), accumulation and final consumption on behalf of the population. All households undertake consumption on their own behalf and may also engage in production and accumulation. NPIs are diverse in nature. Some behave like corporations, some are effectively part of government and some undertake activities similar to government but independently of it.

The following are the institutional sectors:

a. *Non-financial corporations (S11)* are institutional units that are principally engaged in the production of market goods and non-financial services.

b. *Financial corporations (S12)* are institutional units that are principally engaged in financial services including financial intermediation.

c. *General government (S13)* consists of institutional units that, in addition to fulfilling their political responsibilities and their role of economic regulation, produce services (and possibly goods) for individual or collective consumption mainly on a non-market basis and redistribute income and wealth.

d. *Households (S14)* are institutional units consisting of one individual or a group of individuals. All physical persons in the economy must belong to one and only one household. The principal functions of households are to supply labour, to undertake final consumption and, as entrepreneurs, to produce market goods and non-financial (and possibly financial) services. The entrepreneurial activities of a household consist of unincorporated enterprises that remain within the household except under certain specific conditions.

e. *Non-profit institutions serving households (NPISHs) (S15)* are legal entities that are principally engaged in the production of non-market services for households or the community at large and whose main resources are voluntary contributions.

f. *Rest of the world (S2)* deals with the international engagements.

Each sector contains a number of subsectors distinguished according to a hierarchical classification. A subsector comprises entire institutional units, and each institutional unit belongs to only one subsector though alternative groupings are possible.

Government units as institutional units

The powers, motivation and functions of government are different from those of other sectors. Governments use their powers to pass laws affecting the behaviour of other economic units. They are able to redistribute income and wealth largely by means of taxes and social benefits. The accounts for the general government sector show how goods and services provided to the community as a whole or to individual households are financed mainly by revenue raised. The range of goods and services government provides and the prices charged are based on political and social considerations rather than on profit-maximization. Below is the main reference from the SNA for guidance.

> "4.117 Government units are unique kinds of legal entities established by political processes that have legislative, judicial or executive authority over other institutional units within a given area. Viewed as institutional units, the principal functions of government are to assume responsibility for the provision of goods and services to the community or to individual households and to finance their provision out of taxation or other incomes, to redistribute income and wealth by means of transfers, and to engage in non-market production. In general terms:

a. A government unit usually has the authority to raise funds by collecting taxes or compulsory transfers from other institutional units. In order to satisfy the basic requirements of an institutional unit in the SNA, a government unit, whether at the level of the total economy, a region or a locality, must have funds of its own either raised by taxing other units or received as transfers from other government units and the authority to disburse some, or all, of such funds in the pursuit of its policy objectives. It must also be able to borrow funds on its own account;

b. Government units typically make three different kinds of final outlays:

   i. The first group consists of actual or imputed expenditures on the free provision to the community of collective services such as public administration, defence, law enforcement, public health, etc. that are organized collectively by government and financed out of general taxation or other income;

   ii. The second group consists of expenditures on the provision of goods or services free, or at prices that are not economically significant, to individual households. These expenditures are deliberately incurred and financed out of taxation or other income by government in the pursuit of its social or political objectives, even though individuals could be charged according to their usage;

   iii. The third group consists of transfers paid to other institutional units, mostly households, in order to redistribute income or wealth."

It is not necessary for the governments to produce goods and services themselves, they only assume responsibility for organizing and financing their production. However they may engage themselves in a variety of production activities under the options:

a. it may create a public corporation whose corporate policy, including pricing and investment, it is able to control;

b. it may create a Non Profit Institution (NPI) that it controls;

c. it may produce the goods or services itself in an establishment that it owns but that does not exist as a separate legal entity from the government unit itself.

If the unit is producing as a market producer, charging economically significant prices, being managed and operated as a corporation and the unit is keeping complete set of accounts as an institutional unit, it will be treated as a public corporation included in respective industry. Governments often fulfil their public policy objectives through public corporations (for example, railways, airlines, public utilities and public financial corporations). A public corporation may be required to provide services to areas of the economy that would not be covered otherwise by means of subsidized prices. As a result, the public corporation may operate with a reduced profit or at a loss.

The other producer units of government that do not fulfil the above criteria remain in the government. They will be treated like all unincorporated enterprises that cannot be separated from their owners and remain in the same institutional unit as the owner. They are likely to consist largely, or entirely, of non-market producers: that is, producers most or all of whose output is supplied to other units free, or at prices that are not economically significant.

Social security schemes are social insurance schemes that cover the community as a whole or its large sections and are imposed and controlled by government units. When social security schemes are separately organized from the other activities of government units and hold their assets and liabilities separately from the latter and engage in financial transactions on their own account, they qualify as institutional units that are described as social security funds. Nevertheless, so long as they remain separately constituted funds, they must be treated as separate institutional units in the SNA.

In order to analyse the full impact of government on the economy, therefore, it is useful to form a sector consisting of all the units of general government and all public corporations. This composite sector is referred to as the **public sector**. General government units include some NPIs and public enterprises not treated as corporations. The public sector includes general government and public corporations.

Boundary and sub-sectoring

The boundary of general government sector as well as sub-sectoring as defined by the SNA is produced below.

"**4.127** The general government sector consists of the following groups of resident institutional units:

a. All units of central, state or local government (as described immediately below);
b. All non-market NPIs that are controlled by government units.

The sector also includes social security funds, either as separate institutional units or as part of any or all of central, state or local government. The sector does not include public corporations, even when all the equity of such corporations is owned by government units. Nor does it include quasi-corporations that are owned and controlled by government units. However, unincorporated enterprises owned by government units that are not quasi-corporations remain integral parts of those units and, therefore, must be included in the general government sector.

4.128 A full subsectoring of the general government would allow for both NPIs and social security funds to be distinguished for each of central, state and local government. In practice, though, it is usual to show all social security funds together as one subsector or to merge them all with their appropriate level of government and not show social security funds by level of government separately. Further, NPIs may be shown as an "of which" item for general government as a whole or for central, state and local government individually.

4.129 The first method of subsectoring general government is as follows:

a. Central government;
b. State government;
c. Local government;
d. Social security funds; where it is understood that each of the subsectors a, b and c include NPIs but exclude social security funds at that level of government.

4.130 The second method of subsectoring general government is as follows:

a. Central government;
b. State government;
c. Local government; where it is understood that each of the subsectors a, b and c include both NPIs and social security funds at that level of government.

4.131 Under either method of sub-sectoring, NPIs should be shown as an "of which" heading under the appropriate level of government.

4.132 The choice between the two methods of sub-sectoring depends mainly on the size, or importance, of social security funds within a country and on the way in which they are managed.

4.133 In some countries there may not exist a proper intermediate level of government between central and local government, in which case the subsector "state government" is not distinguished.

In others there may be more than two levels of government below the central government. In that case, the lower levels should be aggregated with state or local government as appropriate."

Non-market output

The other relevant concept is the valuation / treatment of non-market output. The following paras of the SNA define the subject along with its valuation procedures. However, their application to our data will be taken in the relevant part of this sector.

"**6.128** ***Non-market output consists of goods and individual or collective services produced by non-profit institutions serving households (NPISHs) or government that are supplied free, or at prices that are not economically significant, to other institutional units or the community as a whole.*** Although this output is shown as being acquired by government and NPISHs in the use of income account, it should not be confused with production for own use. The expenditure is made by government and by NPISHs but the use of individual goods and services is by households, and the use of collective services by households or other resident institutional units. Thus nonmarket output should never be confused with output for own use where the producer unit not only has imputed expenditure on the output but also actually uses the output. Chapter 9 discusses the difference between expenditure and use in more detail.

6.129 As explained above, government units or NPISHs may engage in non-market production because of market failure or as a matter of deliberate economic or social policy. Such output is recorded at the time it is produced, which is also the time of delivery in the case of non-market services. In general, however, it cannot be valued in the same way as goods or services produced for own final consumption or own capital formation that are also produced in large quantities for sale on the market. There are no markets for collective services such as public administration and defence, but even in the case of non-market education, health or other services provided to individual households, suitable prices may not be available. It is not uncommon for similar kinds of services to be produced on a market basis and sold alongside the non-market services but there are usually important differences between the types and quality of services provided. In most cases it is not possible to find enough market services that are sufficiently similar to the corresponding non-market services to enable their prices to be used to value the latter, especially when the non-market services are produced in very large quantities.

6.130 The value of the non-market output provided without charge to households is estimated as the sum of costs of production, as follows:

a. Intermediate consumption;
b. Compensation of employees;
c. Consumption of fixed capital;
d. Other taxes (less subsidies) on production.

6.131 If the output is made available at nominal cost, the prices are not economically significant prices and may reflect neither relative production costs nor relative consumer preferences. They therefore do not provide a suitable basis for valuing the outputs of the goods or services concerned. The non-market output of goods or services sold at these prices is valued in the same way as goods or services provided free, that is, by their costs of production. Part of this output is purchased by households, the remainder constituting final consumption expenditures by government units or NPISHs.

6.132 Government units and NPISHs may be engaged in both market and non-market production. Whenever possible, separate establishments should be distinguished for these two types of activities, but this may not always be feasible. Thus, a non-market establishment may have some receipts from sales of market output produced by a secondary activity: for example, sales of

reproductions by a nonmarket museum. However, even though a non-market establishment may have sales receipts, its total output covering both its market and its non-market output is still valued by the production costs. The value of its market output is given by its receipts from sales of market products, the value of its non-market output being obtained residually as the difference between the values of its total output and its market output. The value of receipts from the sale of non-market goods or services at prices that are not economically significant remains as part of the value of its non-market output."

Economically significant prices

The concept of economically significant prices is very important and needs to be referred as explained in the SNA. It is given below.

"**22.28** To be considered as a market producer, a unit must provide all or most of its output to others at prices that are economically significant. ***Economically significant prices are prices that have a significant effect on the amounts that producers are willing to supply and on the amounts purchasers wish to buy. These prices normally result when:***

a. The producer has an incentive to adjust supply either with the goal of making a profit in the long run or, at a minimum, covering capital and other costs; and

b. Consumers have the freedom to purchase or not purchase and make the choice on the basis of the prices charged.

22.29 These conditions usually mean that prices are economically significant if sales cover the majority of the producer's costs and consumers are free to choose whether to buy and how much to buy on the basis of the prices charged. Although there is no prescriptive numerical relationship between the value of output (excluding both taxes and subsidies on products) and the production costs, one would normally expect the value of goods and services sold (the sales) to average at least half of the production costs over a sustained multiyear period.

22.30 Because economic circumstances vary considerably, it may be desirable to accept different thresholds to achieve consistent economic measurement over time, between units and across countries. In principle, the distinction between market and non-market should be made on a case-by-case basis.

22.31 It can be presumed that prices are economically significant when the producers are private corporations. When there is public control, however, the unit's prices may be modified for public policy purposes. This may cause difficulties in determining whether the prices are economically significant. Public corporations are often established to provide goods that the market would not produce in the desired quantities or at the desired prices. Even when the sales of such corporations may cover a large portion of their costs, one can expect that they respond to market forces quite differently than would private corporations.

22.32 It is likely that corporations receiving substantial government financial support, or that enjoy other risk reducing factors such as government guarantees, will act differently from corporations without such advantages because their budget constraints are softer. A non-market producer is a producer that faces a very soft budget constraint so that the producer is not likely to respond to changes in the economic conditions in the same way as market producers."

To understand the sector fully, the concept of consumption expenditure by the general government also needs to be explained briefly. However it will be discussed in detail in expenditure (use of income) approach.

A consumption good or service is defined as a good or service that is used (without further transformation in production as defined in the SNA) by households, NPISHs or government units for the direct satisfaction of individual

needs (or wants) or for the collective needs of members of the community. An individual consumption good or service is one that is acquired by a household and used to satisfy the needs or wants of members of that household. A collective consumption service is a service provided simultaneously to all members of the community or to all members of a particular section of the community, such as all households living in a particular region. ***Final consumption expenditure*** is the amount of expenditure on consumption goods and services. Actual final consumption measures the amount of consumption goods and services acquired.

Expenditures on goods and services are defined as the values of the amounts that buyers pay, or agree to pay, to sellers in exchange for goods or services that sellers provide to them or to other institutional units designated by the buyers. Consumption of goods and services is the act of completely using up the goods and services in a process of production or for the direct satisfaction of human needs or wants. The activity of consumption consists of the use of goods and services for the satisfaction of individual or collective human needs or wants.

The final consumption expenditures of general government can be classified in several ways. In particular, they may be classified:

a. According to whether the goods or services have been produced by market or non-market producers;
b. According to whether the expenditures are on collective services or individual goods or services;
c. By function or purpose according to the classification of the functions of government (COFOG); or
d. By type of good or service according to the Central Product Classification (*CPC)*.

Expenditures on the outputs of non-market producers that are provided free, or at prices that are not economically significant, to individual households or the community account for most of the final consumption expenditure by general government. Government may produce output for own final use and some market output but most production by units of general government is non-market in nature. Non-market output is estimated by the sum of the costs involved in production.

The value of government final consumption expenditure on non-market goods and services is not necessarily exactly equal to the value of government output of these goods and services. The values of these expenditures are equal to the estimated values of all types of output less the value of production for own capital formation and less the values of any receipts from sales. These receipts may be derived from sales of some goods or services at prices that are not economically significant or from sales of a few goods or services at prices that are economically significant (sales of secondary market output).

According to SNA 2008, para 9.89, government units also purchase consumption goods and services produced by market producers that are supplied directly to households. The value of the goods or services, distributed in this way, form part of social transfers in kind. Expenditure by government on market goods and services on behalf of households is recorded as both final consumption expenditure of government and actual final consumption of households. The SNA is not easy to understand in this regard as it offers two different concepts to record governments' expenditure: in the traditional variant government's final consumption expenditures are shown without deducting social transfers in kind. Social transfers in kind are final consumption expenditures undertaken by the government on behalf of households, e.g. for health or education. The respective goods and services are individual in nature in contrast to public goods such as defence and street lightning. The concept of government's actual collective consumption shows the consumption of goods falling under social transfers as being consumed by the households instead of subsuming it under collective consumption. For Pakistan we apply the traditional variant and do not intend to show the social transfers separately.

According to SNA 2008, para 9.90 final consumption expenditure of government can be derived as follows:

> The value of all types of output of general government,
> *less* the value of output for own account capital formation,
> *less* the value of sales of goods and services at both economically insignificant prices and at economically significant prices,

plus the value of goods and services purchased from market producers for delivery to households free or at economically insignificant prices.

The classification of the functions of government (COFOG) is a classification of transactions designed to apply to general government and its subsectors. There are ten classes in the classification as follows:

01 General public services;
02 Defence;
03 Public order and safety;
04 Economic affairs;
05 Environmental protection;
06 Housing and community amenities;
07 Health;
08 Recreation, culture and religion;
09 Education;
10 Social protection.

Expenditures are also available according to the classification of object codes. In the light of the above concepts the valuation of the general government is given in the following paras. The data allow the implementation of these concepts. However the limitations will also be pointed out for further improvement.

The sources for the Federal Government estimates are the federal budgets, the divisions' details, funds details and the ministry of finance data. Expenditure and revenue data are available in detail. About 85 autonomous bodies details have been taken into account. Autonomous bodies which are non-market producers have been allocated to the government while the autonomous bodies which mainly are market producers have been allocated to their respective corporation sector (in most cases non-financial corporations) and to their respective industries by PSIC. The data of other tiers of the structure are also available in the form of budget documents. The figures for provincial/ district governments, local bodies, cantonment boards etc. have been taken from their budgetary documents. The figures for social security funds have been taken as components of the federal and provincial level structure. However, the figures for the employees' old age benefit institution (EOBI) has been included in the financial corporation sector, it deals with the pension fund. The statistical information is available on industry as well functional categorization. Further details are given in respective headings.

Coverage

General government sector (S13) in Pakistan includes Federal, Provincial and District governments, Local bodies, Cantonment boards and Social security funds. Autonomous bodies are included if they are considered integral part of their supervisory government body (even if as an establishment of the respective institutional unit of the government they are market producer) or if they are considered to be institutional units on their own and then classified as non-market producers (e.g. Capital Development Authority and the public universities). Autonomous bodies considered as institutional units of their own but being market producers (e.g. Pakistan Railways, Pakistan International Airlines, Shipping Corporation) are belonging to the non-financial corporations sector. The State Bank of Pakistan, by definition of the SNA for central banks, belongs to the financial corporations sector.

Data and sub-classification

The data from the budget documents and for the autonomous bodies are used for National Accounts purposes. The data situation in this sector is very good, though for a lot of autonomous bodies the expenditures and revenues had to be collected separately as in the budgets they are covered with one figure only (expenditures minus revenues as the net amount of funds the supervisory body has to cater for). Social security funds are included in the respective government levels. The budget documents of federal, provincial, 113 district government, 390 tehsil municipal administrations, 42 cantonment boards, about 100 autonomous bodies are the universe for the coverage, most of which have been taken in to account. The sub-classification applied is as under:

- S1311 Central government
- S1312 Provincial governments
- S1313 District / local governments, cantonment boards

Output 2005-06

In terms of the SNA output is the product of volume and price. Volume stands for quantity plus quality. This holds for commodity based sectors. For the market production, output is defined as sales plus changes in inventories of finished products and work in progress. There are a large number of activities for which "sales" is not appropriate and the market does not exist. Services provided by general government fall in this category. Output has three components, i.e., market output (P11), output for own final use (P12, here: own gross fixed capital formation) and non-market output (P13). Market output for the government is measured on the basis of receipts/ revenues from inspection fees, museum tickets etc.. The value of the non-market output provided without charge to household is estimated as the sum of costs of production as follows:

- Intermediate consumption,
- compensation of employees,
- consumption of fixed capital,
- other taxes (less subsidies) on production.

This is the output of the sector. From this the value of the market output is deducted to get the non-market output. For this purpose the actual expenditures of the respective government units are perused according to the 'object code', giving the kind of expenditure as classified by the Ministry of Finance at federal level, the Finance Departments of the provinces or the local authorities responsible for the performance of the budget. The value of its market output is given by its receipts from sales of market products, and output for own final use is equivalent to own gross fixed capital formation. It is valued at basic prices. The data have been examined to decide the activities of the government to be placed in which part, whether market or non-market. Public administration and defence, education and health categories are the major ones. Besides of that the activity of the government had to be classified according to PSIC. Thus, in principle each PSIC (unless public administration and defence) can be populated by market producers as well as non-market producers.

Non-market production

The major output of the sector general government consists of non-market production; therefore its valuation has been clarified in more detail. The output of non-market production of the government is measured by adding the employees' remuneration, disbursed taxes on production (less other subsidies received), depreciation and intermediate consumption and subtracting the market output which is small component. Output includes non-market production by these units for their own use.

Employees' remuneration
plus Other taxes (less subsidies) on production
plus Depreciation (consumption of fixed capital)
= Gross Value Added
plus Intermediate consumption
= Output

Employees remuneration covers wages and salaries of all employees (regular, contract, ad hoc etc.), It also includes in-kind payments, rations, entertainments, gifts, scholarships etc. to employees including residential accommodation facilities and allowances. Actual and imputed welfare contributions are also part of remuneration. The output of the autonomous bodies has been included for the first time. In the base year, data were collected through questionnaires and reports. The autonomous bodies which are non-market producers have been allocated to general government and their respective industries while the others have been allocated to the corporations sectors and their respective industries. Their data will not be collected every year and their estimates will be extrapolated with

the salaries and wages of the other employees. Other taxes on production less other subsidies are negligible in the government structure. Depreciation, as a convention, is taken as 5% of the gross fixed capital formation of the sector.

In Pakistan the governments provide residential facilities to their employees' which, according to the SNA, is a part of their compensation package. There are various ways for it. First: the government pays house rent allowances. This component is covered in the calculation of the compensation of government employees. The respective figures are known from the budget. Second: the governments provide hiring facility and deduct the house rent allowance. The expenditures in this category are not available separately in the budget document making it difficult to estimate. However these are taken from the project on improvement of financial reporting and auditing (PIFRA) and are included in the estimate. Third; the government may provide its own accommodation instead of giving house rent allowance. Due to the non-availability of data this component is missing in the calculation of the compensation of government employees and hence is under-estimation of the GVA, of consumption expenditure of the sector and of GDP. In GDP-compilation the housing services produced by the government are to be calculated twice: (i) as the service as such provided by the government (to be classified as market output) and sold to the private households of its employees and thus ingredient of individual consumption and GDP; (ii) as a cost component yardstick for assessing the value of the civil servants' labour and thus ingredient of GVA, collective consumption and GDP. However, at least the first ingredient to GDP, the provision of these housing services and their individual consumption, is covered. It is subsumed under owner-occupied dwellings (PSIC of real estate) which are estimated on the basis of housing data. Feasibility studies are considered as GFCF, previously these expenditures were taken as intermediate.

Intermediate consumption 2005-06

According to SNA intermediate consumption is to be valued at purchasers' prices (vulgo: at market prices). For this sector it includes the expenditures on utilities, stationary, repair and maintenance, fees, occupancy charges (excluding residential component), etc. The data are available from the budget documents including the aforementioned object codes. Subsidies are not a part of intermediate consumption. Intermediate consumption is Rs. 420717 million, detail of which is given in ***table 1*** below.

Gross value added 2005-06

Gross value added is output minus intermediate consumption. However, for this sector value added is measured directly through cost of production approach. Compensation of employees (Rs. 415313 Millions) and consumption of fixed capital (Rs. 9904 Millions) are added together to have the value added estimate. Gross value added for this sector for the new base year 2005-06 is given below in the ***table 1a*** which gives the details of the estimates developed. The table shows Financial Intermediation Services Indirectly measured (FISIM) in a separate row as it is one consequence of the rebasing that FISIM now is covered as a part of intermediate consumption. It represents the intermediation services provided by banks to the government. For more details about FISIM see chapter four (banking and insurance).

Table 1a GVA, its components, intermediate consumption & output of General government 2005-06 (Rs. Mil.)

Description	Compensation of employees	Consumption of fixed capital	GVA (basic prices)	Intermediate Consumption (purchasers' prices	Output
1	2	3	4	5	6
Total	415313	9904	425217	420717	845933
Federal	184961	1611	186572	264003	450574
Provincial	93588	6138	99726	111602	211329
District/TMA/CB	127101	1900	129001	19302	148303
Others	9663	255	9917	3427	10708
FISIM				22383	22383

Results by industrial classification (PSIC)

As mentioned at the beginning of this chapter the figures for output, intermediate consumption and value added are classified by PSIC, also. For this purpose it was made use of the function codes of the budget data (actual expenditures and receipts). PBS has developed a bridge table assigning each function code used by the government authorities for performing their budgets to one class of the industrial classification of PSIC. The results are given in ***table 1b*** below. It should be noted that education, health services and other classes of the PSIC are frequented by other sectors of the economy, also, e.g. corporations and households. However, class "Public Administration and Defence" of the PSIC (division 75 or 84, respectively, if PSIC 4) can only be assigned to institutional units of the sector general government, by definition of the SNA.

Table 1b GVA, intermediate consumption and output of General government 2005-06 by industrial classification (PSIC) (Rs. Million)

Description	Division of …		GVA	Intermediate consumption	Output
	PSIC 2007	PSIC 2010			
1	2	3	4	5	6
Total			425216	420717	845933
Public admn. & defence	75	84	338412	334101	672513
Education	80	85	50136	5701	55837
Health & Social work activities	85	86-88	10063	7901	17964
Others			26605	73014	99619
FISIM				22383	22383

Effect of rebasing

The effect of the rebasing 2005-06 can be shown by comparison of the results for the year 2005-06 according to the new base and the base 1999-2000. It is shown in ***Table 2*** below. The differences are negligible as the source data are same. The improvement in the base year 2005-06 is due to better coverage. The two improvements are worthy of mention. Residential component of compensation of employees has been made a part of remuneration as explained in detail above. Non-market producer autonomous bodies have been included. These two components are responsible for the improvement.

Table 2 Output, IC and GVA of General government 1999-2000 and 2005-06 as per base years 1999-2000 and 2005-06 (Rs. Million)

	Base 1999-2000		Base 2005-06	% Change	
Description	Results 1999-2000	Results 2005-06 at prices of 2005-06		Column 4 over 2	Column 4 over 3
1	2	3	4	5	6
A. Output at basic prices	333979	834604	845933	153.3	1.4
B. Intermediate consumption	113688	429976	420717	270.1	-2.2
C. Gross Value Added (A-B)	220291	404628	425216	93.0	5.1

Extrapolation and current and constant prices

Data are available at current prices. Extrapolation is not required however deflators are needed to reach at constant estimates. CPI will be used for this purpose.

The GVA for the years 2005-06 to 2009-10, at 2005-06 base have been tabulated below in ***table 3***. High growth in the last two years is the result of enhancement in the compensation of employees.

Table 3 GVA of general government at the base 2005-06 (Rs. Million)					
Description	2005-06	2006-07	2007-08	2008-09	2009-10
GVA-Current	425217	470688	529107	654144	778002
Growth rates		10.69	12.41	23.63	18.93
CPI		107.77	120.70	141.25	155.53
GVA-Constant	425217	436848	437742	462193	499038
Growth rates		2.74	0.20	5.59	7.97

Results of government's collective consumption expenditures

For simplicity, government's collective consumption expenditures is the part of its non-market production which finally has to be funded by it. There are some sales of non-market output as, for example, sales of Statistical Yearbooks or sales of tickets of a public museum and the like which make the (slight) difference between collective consumption and non-market output of general government. The rebasing effect on collective consumption is a minor one since the data base is the same. Non-market output of the state bank of Pakistan is consumed by the general government therefore it also has been included in the final collective consumption expenditure. It is according to the guide line of the SNA 2008. Detail is given in table 4 below.

Table 4 Final consumption expenditure of general government for the base year 2005-06			
Functions of Government (COFOG)	Final consumption expenditure	Collective consumption expenditure	Individual consumption expenditure
1	2	3	4
01. General public services	315733	315733	0
02. Defence	190931	190931	0
03. Public order and safety	65111	65111	0
04. Economic affairs	105926	105926	0
05. Environmental protection	5059	5059	0
06. Housing and community amenities	18111	18111	0
07. Health	20804	7067	13737
08. Recreation, culture and religion	14671	12897	1774
09. Education	112685	43	112642
10. Social protection	8430	2860	5570
Total	857461	723738	133723

Note: Non-market output of state bank (Rs. 11531 millions) has been included as collective consumption expenditure of the general government.

F Other Private Services

For the contents of this part and as an introduction to it, see the introduction of the services industries at the beginning of this chapter.

This part deals with diverse economic activities scattered over many industries (PSICs). The data sources vary accordingly. Activities have been picked up from components of different surveys, most of them covering various sections of the PSIC. Some information has been adopted from the 1999-2000 base as well. The services described in this chapter represent the remnants of the services as general government services, wholesale and retail trade services, transport services, financial services and services of owner-occupied dwellings are tackled in separate chapters (see introduction). Nevertheless, they represent a vibrant part of the economy of Pakistan contributing about 10 per cent of its GDP.

The GVA estimates of Social, Community and Personal Services based on 1999-2000 were compiled on the basis of study conducted for the change of base from 1980-81 to 1999-2000. Now different surveys conducted for the change of base year from 1999-2000 to 2005-06, are the sources, along with regular surveys, for the estimation.

The following activities have been covered in these surveys (as far as not included in by general government):-

1. Renting of Machinery and Equipment without operator and of personal and household goods.
2. Computer Related Activities
3. Other Business Activities
4. Education
5. Health & Social work
6. Membership Organizations
7. NGO's (Non Profit Institutions working in education, health and social work)
8. Recreational, Cultural and Sporting Activities
9. Other Services activities
10. Domestic Staff

Source of Data

I. Survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08".
II. Study on "Social, Recreational, Community & Personal Services" 1999-2000
III. Study on Computer Related Services 2005-06
IV. National Health Accounts 2009-10
V. Census of Autonomous Bodies 2005-06
VI. Survey on NGO's 2005-06
VII. PSLM survey 2005-06

Methodology

1) Renting of Machinery and Equipment

The base year GVA of Renting of Machinery and Equipment was obtained from the survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". It covered the renting of transport (land, air, water etc.) equipment, agriculture and other machinery and equipment (including computers etc.) without operators. The renting of personal and household goods was also covered. The coverage is according to the PSIC and given in ***table 4***. The total output of this industry in 2007-08 was Rs. 6018 million whereas the total intermediate consumption was Rs.1977 million. The Gross Value Added in 2007-08 was Rs. 4041 million which has been converted into constant prices of 2005-06 by applying the CPI General and stands at Rs.3348 million for 2007-08. The GVA for the year 2007-08 has been extrapolated backward by applying

the growth rate of QIM of Heavy Machinery to get the figure of Rs. 3728 million for the base year 2005-06. It is assumed here that the output of renting machines fully correlates with the output of heavy machines in the country though, to some extent, the growth of the import of such machines, if different, may also have an influence. The output and intermediate consumption stand at Rs. 5551 and 1823 million respectively for the base year. The estimates at constant prices are extrapolated forward by applying the QIM of Heavy Machinery which will be converted into current prices by using the CPI General. The method is single deflation as there is no price information for the output of this service and its intermediate consumption, separately.

2) Computer Related Activities

The estimation of this activity (PSIC 72) has been based on two components, one is the Pakistan Software Export Board (PSEB) and the other is the Pakistan Software and Hardware Association (PASHA). Both components have been discussed separately.

PBS conducted a survey on computer related activities for 2005-06. The frame for it was populated, beside others, by addresses given by Pakistan Software Export Board which is supposed to comprise of the bigger enterprises. Gross Value Added for Computer Related Activities pertaining to the members of the Software Export Board has been worked out as the difference between Output (Rs.19021.2 million) and Intermediate Consumption (Rs. 7191.9 million). The GVA for the years 2005-06 (base year) and 2006-07 stands at Rs.11829.3 million and Rs.12253 million respectively. The estimates at constant prices (output as well as intermediate consumption) have been extrapolated by applying the growth rate of registration of engineering firms with PSEB whereas the estimates at current prices have been developed by applying the CPI (Communication) for output as well as for intermediate consumption.

It is supposed that PASHA represents the smaller firms of computer related activities which are considered to be represented through the results of GVA at current prices 2005-06 of base year 1999-2000 (Rs.55798 million) minus those of component A (PSEB). The result of Rs. 43969 million has been used as the base year GVA for Computer Related Activities of smaller size (PASHA), to be extrapolated for constant prices results by applying the growth rate of registration of engineering firms of PASHA whereas the estimates at current prices will be developed by applying the CPI (Communication). As the input-output ratio is considered to be constant over time the deflation method pertains to output as well as for intermediate consumption. The output and intermediate consumption stand at Rs. 49947 and 5979 million respectively for the base year.

3) Other Business Activities

The coverage is according to the PSICs. In PSIC 2007 it is division 74, comprising of legal activities, accounting, auditing, market research, business consultancy, architectural and engineering services, advertising and similar business activities. In PSIC 2010 these activities have been regrouped and are scattered around different divisions (see table 4). For the compilation process the activities of this category have been divided into ten sub-groups for the purpose of data collection and estimation. The detail may be seen from the study on services for the base 1999-2000. The GVA at current prices on the base 1999-2000 has widely been left unrevised and has been taken as the base year value for 2005-06 which stood at Rs. 354235 million. The only adjustment is with regard to the intermediate consumption of Financial Intermediation Services Indirectly Measured (FISIM) in amount of Rs. 15686 million. 'Other business services' is the by far biggest part of other private services and presumably the business which is formalised most and makes most intensive use of bank services. Therefore, the amount of FISIM which according to the banking statistics of the State Bank is used by other private services has been allocated totally to the business services. As a result for the base year, intermediate consumption of the business services has increased by Rs. 15686 Million while GVA has decreased by the same amount.

Output and intermediate consumption stand at Rs. 406352 and 67803 million respectively for the base year, resulting in GVA of Rs. 338549 million. The extrapolation at constant prices will be made by applying the growth rate of registration of engineering firms. The estimates at constant prices will be converted into current prices by applying the CPI General. The method is single deflation as there is no price information for the output of this service and its intermediate consumption, separately.

4) Education

This part of education services is confined to those which are provided by market producers. These market producers may be private producers or autonomous bodies of the government identified as market producers of education (mainly universities). The base year GVA for the private sector education has been obtained from the survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". The total output of private education in 2007-08 was Rs. 36480 million whereas the total intermediate consumption was Rs. 10760 million. The gross value added in 2007-08 at current prices was Rs. 25720 million which has been converted into constant prices (Rs. 22825 million) by applying the CPI education. The GVA at constant prices for 2007-08 has been extrapolated backward by applying the growth of enrolment rate to get the figure of Rs.21898 million for the base year 2005-06.The method is single deflation as there is no price information for the output of this service and its intermediate consumption, separately. Output and intermediate consumption stand at Rs. 31059 and 9161 million respectively for the base year.

The overall contribution of autonomous bodies providing education services towards GVA was equal to Rs. 8516 million which has been further bifurcated into those having market production (Rs.748 million) and non-market production (Rs. 7768 million). The GVA of autonomous bodies providing market production has been added to the GVA of private education to get the total GVA for 2005-06 as Rs. 22646 million. The GVA of non-market producing autonomous bodies is part of the GVA of General Government. The GVA of education from market production in the base year 2005-06 is higher than the GVA at current prices of 1999-2000 base (Rs. 21934 million) by 3 per cent. Output and intermediate consumption stand at Rs. 1586 and 838 million respectively for the base year.

The GVA at constant prices of both private education and non-market producer autonomous bodies providing education, will be extrapolated by applying the enrolment rate which will be converted into current prices by applying the CPI Education. The method is single deflation as there is no price information for the output of this service and its intermediate consumption, separately.

5) NGO's

These are the non-profit institutions working in education, health and social work. Their separate estimates are available. These have been incorporated in respective PSICs. The GVA of NGO's for the base year 2005-06 is based on the results of the "NGO's Survey 2005-06" and is the sum of compensation of governing body members, consultants, regular /contract, temporary and part time employees (Rs. 22213 million) and depreciation (Rs. 1979 million) and stands at Rs. 24192. For the differences between NPIs and NGOs see also the introductory chapter to the services. Now the GVA of NGOs working in education, health and social work is Rs. 6831, 11075 and 6286 million respectively.

It should be noted that in the base 1999-2000 the activities of Membership Organizations and NGO's were covered under one title "NPISH". The gross value added has been computed taking this activity as non-market production. The GVA of membership organizations and NGO's in the base year 2005-06 stands at Rs.27283 million as compared to the total of NPISH at current prices of 1999-2000 of Rs.51290 million showing a decrease of 47 per cent due to change in methodology and regrouping.

6) Health & Social work

The data on the provision of health care widely are taken from National Health Accounts (NHA) of PBS, especially using the Health Care Provider Survey and the Census of large Hospitals 2009-10. The output of private Hospitals, clinics, laboratories, doctors etc. was Rs.122048 million and intermediate consumption was Rs. 45884 million. It also includes NGOs providing health care services. Hence the total GVA of the private health care providers at current prices was Rs. 76164 million which was converted into constant prices by applying the CPI for medicare for input as well as for output. The GVA of 2009-10 has been extrapolated backward by applying the growth rate of health personnel and thus GVA for the base year 2005-06 stands at Rs. 45311 million. The output and intermediate consumption stand at Rs. 72608 and 27297 million respectively for the base year.

The output (Rs. 2844 million) and intermediate consumption (Rs. 1311 million) of social work for the base year 1999-2000 has been extrapolated by applying the growth rate of population and then inflated by using the CPI General between 1999-2000 and 2005-06 to get the output and intermediate consumption for the new base year 2005-06 as Rs. 4417 million and Rs. 2036 million respectively. The GVA of social work for the base year 2005-06 stands at Rs. 2381 million. The source for the figures of 1999-2000 was the respective study for the base estimates.

The GVA of health, social work at constant prices has been extrapolated by applying the growth rate of health personnel which has been converted into current prices by using the CPI (Health).

7) Membership Organizations

The base year GVA for Membership Organizations has been obtained from the results of survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". The GVA of this sub-sector is the sum of compensation of employees (Rs.3674 million) and depreciation (Rs. 470 million) and stands at Rs. 4145 million for the year 2007-08 which have been converted into constant prices by applying the CPI (General). The GVA at constant prices for the new base year 2005-06 is Rs. 3091 million. The output and intermediate consumption stand at Rs. 2740 and 351 million respectively for the base year.

The estimates at constant prices will be extrapolated by applying the growth rate of housing services (dwellings) which will be converted into current prices by using the CPI (General).

8) Recreational, Cultural and Sporting Activities

The class of Recreational, Cultural and Sporting Activities (Division 92 in PSIC 2007) includes, among others, TV Channels and radio stations. Their GVA for the year 2005-06 has been estimated as Rs. 44380 million by multiplying the GVA of PTV with the number of big Channels (13), by multiplying the GVA of ATV with the number of small Channels (52) and by multiplying the GVA of Pakistan Broadcasting Corporation (PBC) by 2. The reason for this crude estimate is that for the channels other figures than those of PTV and ATV were not available. The doubling of the GVA of Pakistan Radio follows the assumption that it equals that of all FM Radio stations in the country together. Output and intermediate consumption stand at Rs. 73387 and 29007 million respectively for the base year.

The GVA of Recreation is based on the results of the survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". It was Rs. 2908 million which has been extrapolated backward by applying the growth rate of GVA of TV Channels to get the figure of Rs. 2532 million for the base year 2005-06. Output and intermediate consumption stand at Rs. 4232 and 1700 million respectively for the base year.

The GVA of Sports, i.e. Rs. 739 million has been adopted from the 2005-06 current estimate of the 1999-2000 base. Output and intermediate consumption stand at Rs. 2163 and 1425 million respectively for the base year.

The GVA at current prices for subsequent years will be based on the data of PTV, ATV and PBC which will also be used to extrapolate the GVA of recreation and sports activities. The estimates at constant prices will be developed by applying the CPI (Recreation). The output, intermediate consumption and GVA for the group combined stand at Rs. 79782, 32131 and 47651 million respectively for the base year. The total GVA of Recreational, Cultural and Sporting Activities is Rs.47651 million as compared to the GVA at current prices of 1999-2000 base of Rs. 20229 million showing an increase of 136 per cent.

9) Other Services

The other services are subsumed under division 93 in PSIC 2007 and 96 in PSIC 2010. The detail of the activities along with their estimation is given in the study on services for the base 1999-2000. The figures of base 1999-2000 at current prices for 2005-06 have been adopted without revision as the new base for the year 2005-06 which stands at Rs. 71921 million. The estimates at constant prices will be developed by applying the growth rate of

certain dwellings which will be converted into current prices by applying the CPI general. The number of households having dwellings of three or more rooms is assumed to be correlated with these services. The output and intermediate consumption stand at Rs. 81668 and 9747 million respectively for the base year.

10) Domestic Staff

The monthly expenditure (Rs.1130 million) incurred on wages and salaries paid to servants, gardeners, sweepers, chowkidars, aya's etc. reported in the Pakistan Social & Living Standards Measurement (PSLM) Survey 2005-06 has been used to calculate the GVA of domestic staff for the base year 2005-06 and stands at Rs. 13560 million. The GVA in the base year 2005-06 is higher than the GVA at current prices of 1999-2000 base by 135 per cent. The estimates at constant prices will be developed by applying the growth rate of housing services and same will be converted into current prices by using the CPI General.

Summary of results

Table 1 summarizes the results of other private services for the base year 2005-06 while ***table 2*** (constant prices) and ***table 3*** (current prices) provide figures for GVA for the time-series starting with the new base year.

Table 1 Output, intermediate consumption and GVA of Other Private Services for the year 2005-06 at 2005-06 Base according to PSICs (Rs. Million)

PSIC 2007	PSIC 2010	Name of Activity	Output	Inter. Cons.	GVA
71	77	Renting of Machinery	5551	1823	3728
72	62, 63, 95	Computer Related Activities (CRA)	68969	13171	55798
		CRA (Software Export Board)	19021	7192	11829
		CRA (Pasha)	49948	5979	43969
74	69, 70, 71, 72, 73, 74, 75	Other Business Activities (un-adjusted)	406352	52117	354235
		FISIM		15686	
		Adjusted	406352	67803	338549
80	85	Education	39476	9999	29477
		Education	31059	9161	21898
		Autonomous Bodies (Market)	1586	838	748
		NGO (Education)	6831	0	6831
85	86, 87, 88	Human Health & Social Work	94386	29333	65053
		Health	72608	27297	45311
		NGO (Health)	11075	0	11075
		Social Work	4417	2036	2381
		NGO (Social Work)	6286	0	6286
91	94	Membership Organization	3091	0	3091
92	59, 60, 93	Recreation, cultural & sport	79782	32131	47651
93	96	Other Services	81668	9747	71921
95	97	Domestic Staff	13560	0	13560
Total (un-adjusted)			792835	148321	644514
Total (adjusted)			792835	164007	628828

Effect of rebasing

The comparison of overall GVA in Other Private Services sector for the base year 2005-06 and 1999-2000 is given in ***table 2*** below:-

Table 2 Comparison of GVA of Other private services (Social, community and personal services), Base 1999-2000 and 2005-06 (Rs. Million)						
Name of Activity	Base 1999-2000 (current prices)		Base 2005-06	Change in		
				%		Mill. Rs
	1999-2000	2005-06	2005-06	Col. 4/2	Col. 4/3	Col. 4 - 3
1	2	3	4	5	6	7
1. Renting of Machinery			3728			3728
2. Computer Related Activities	12582	55798	55798	343.47	0.00	0
CRA (Software Export Board)			11829			
Computer Related Activities (Pasha)			43969			
3. Other Business Act. (un-adj.)	190143	354235	354235	86.30	0.00	0
FISIM			15686			
Adjusted			338549			
4. Education	13774	21934	29477	114.0	34.39	7543
Education			21898			
Autonomous Bodies (Market)			748			
NGOs (Education)			6831			
6. Health & Social Work	29451	52338	65052	120.89	24.29	12715
Health			45311			
NGO (Health)			11075			
Social Work			2381			
NGOs (Social work)			6286			
7. Membership Organization			**3091**			3091
8. Recreat., cult. & sport	7668	20229	47651	521.43	135.56	27422
9. Other Services	25987	71921	71921	176.76	0.00	0
10. Domestic Staff	3741	5763	13560	262.47	135.29	7797
Real estate*	6353	10632				-10632
Community, social & personal**	6456	9880				-9880
NPISH***	25396	51290				-51290
GVA (un-adjusted)	**321551**	654020	644514	100.44	-1.45	-9506
GVA (adjusted)	**321551**	654020	628828	95.56	-3.85	-25192

* Real Estate was a part of Social, Community and Personal Services in old methodology. However, following the PSIC (2007, 2010), this activity in now shifted to Housing services/ ownership of dwellings sector.
& * These have been covered and distributed according to PSIC

Table 3 (constant prices) and ***table 4*** (current prices) below provide figures for GVA for the time-series starting with the new base year

Table 3:- Gross Value Added of Other private services at Constant Prices (Rs. Million)						
Name of Activity	2005-06	2006-07	Change 06-07/05-06	2007-08	2008-09	2009-10
	Mill. Rs		%	Mill. Rs		
Renting of Machinery	3728	3943	5.78	3348	2952	3205
Computer Related Activities	55798	57895		61090	65325	70291
CRA (Software Board)	11829	12001	1.45	12663	13541	14571
CRA (PASHA)	43969	45894	4.38	48427	51784	55720
Other Business Activities (un-adjusted)	354235	369748	4.38	390153	417196	448910

FISIM	15686	16738		17342	16216	16393
Adjusted	338549	353010		372811	400980	432517
Education	29477	30463	3.34	31194	31929	32949
Education	21898	22495	2.72	22825	23140	23709
Autonomous Bodies (Market)	748	768	2.72	780	790	810
NGOs (Education)	6831	7200	5.40	7589	7999	8430
Health & Social Work	65052	69128	6.27	72841	76538	80375
Health	45311	48292	6.58	50881	53404	56007
NGO (Health)	11075	11673	5.40	12303	12968	13668
Social Work	2381	2538	6.58	2674	2806	2943
NGOs (Social work)	6286	6625	5.40	6983	7360	7757
Membership Organization	3091	3258	5.40	3434	3620	3815
Recreational, cultural& sporting activities	47651	49733	4.37	53601	57174	52550
Other Services	71921	75805	5.40	79898	84213	88760
Domestic Staff	13560	14292	5.40	15064	15877	16735
GVA (un-adjusted)	**644514**	**674267**	**4.62**	**710624**	**754824**	**797590**
Change over previous year in %		**4.62**		**5.39**	**6.22**	**5.67**
GVA (adjusted)	628828	657529		693282	738608	781089
Change over previous year in %		4.56		5.44	6.54	5.75

Table 4:- Gross Value Added of Other private services at Current Prices (Rs. Million)					
Name of Activity	2005-06	2006-07	2007-08	2008-09	2009-10
Renting of Machinery	3728	4250	4041	4170	4985
Computer Related Activities	55798	59111	65129	73752	82170
Computer Related Activities (Software Board)	11829	12253	13501	15288	17033
Computer Related Activities (PASHA)	43969	46858	51628	58464	65137
Other Business Activities (un-adjusted)	354235	398478	470915	589290	698189
FISIM	15686	18862	21720	28343	28528
Adjusted	338549	379616	449195	560947	669661
Education	29477	32658	35758	40565	46097
Education	21898	24076	25720	28300	31895
Autonomous Bodies (Market)	748	822	879	967	1089
NGO (Education)	6831	7759	9160	11298	13112
Health & Social Work	65052	75257	87255	101483	113489
Health	45311	52764	60782	69137	76164
NGO (Health)	11075	12580	14850	18317	21258
Social Work	2381	2773	3194	3633	4002
NGOs (Social work)	6286	7140	8428	10396	12065
Membership Organization	3091	3511	4145	5113	5934
Recreat., cult. & sport	47651	49783	54722	66699	68599
Other Services	71921	81695	96437	118951	138049
Domestic Staff	13560	15403	18182	22427	26028
GVA Current (un-adjusted)	**644514**	**720145**	**836583**	**1022448**	**1183539**
Change over previous year in %		11.73	16.17	22.22	15.76
GVA – current (adjusted)	628828	701283	814863	994105	1155011
Change over previous year in %		11.52	16.20	22.00	16.19

Below is the summary of results for services industries, adjusted for FISIM, for the years 2005-06 to 2009-10 on the base 2005-06.

Table 5 Summary table of GVA for services industries (Rs. Millions)					
Year / Industry / Sector	2005-06	2006-07	2007-08	2008-09	2009-10
Services industries total	4324274	4565759	4791238	4855033	5010697
A. Wholesale and Retail Trade	1523067	1612086	1703741	1652874	1682465
B. Transport, Storage and Communication	959499	1025694	1082450	1136989	1170612
C. Finance and Insurance	282919	308673	328071	296427	286775
D. Housing services (including ownership of dwellings)	504743	524929	545950	567941	590718
E. The General Government Sector	425218	436848	437742	462193	499038
F. Other Private Services	628828	657529	693282	738608	781089

CHAPTER 5

Expenditure on Gross Domestic Product

Overview and introduction

As already outlined in the introductory chapter the estimates of expenditure on gross domestic product (GDP) is the total of final uses of goods and services measured in purchasers value less the value of imports of goods and services.

GDP (exp) = P31 + P32 + P51 + P52 + P6 – P7

where P31 is individual consumption expenditure, P32 is collective consumption expenditure, P51 is gross fixed capital formation, P52 is changes in inventories, P6 is exports of goods and services, P7 is imports of goods and services. The codes are those of the respective transactions in the SNA 2008. If the net factor income from rest of the world (R) is added, it becomes the Gross National Income (GNI).

It should be noted that some of the terms of the new SNA might not be familiar with those commonly used in Pakistan prior to this change of base. The following terms can be regarded as synonyms:

SNA 2008	**Out dated terms**
Individual consumption	Private consumption
Collective consumption	Government consumption
Households	Private households
Gross National Income	Gross National Product
Inventories	Stocks
Taxes on production	Taxes
Taxes on products	Indirect taxes

Moreover, in the SNA the term “sector” is reserved for the five institutional sectors of the domestic economy: non-financial corporations (s11), financial corporations (S12), general government (S13), household sector (S14) and non-profit institutions serving households (NPISH) (S15):

The estimates of the above given aggregates are based on the concepts and classifications as outlined in the United Nations System of National Accounts, 2008. Chapters 9 and 10 of the SNA are referred for details. Before entering in to the estimation of expenditure, some key terms involved in the subject are discussed briefly for the clarity and record.

Changes in final uses of GDP determine the growth of real GDP in the short term. There are three target variables that governments try to influence with their fiscal and monetary policy instruments in order to maintain growth at a rate that keeps inflation and employment at the desired level:

i. Individual consumption expenditure
ii. Collective consumption expenditure and
iii. Gross fixed capital formation.

Exports are also a major component of final uses which in this case is based on external demand. It is conventional to show external demand as being equal to exports minus imports, the result being known as net exports.

At first glance it seems as if final uses equals to what in economic literature is called final "demand". For good reasons the SNA avoids the term "demand" as only the term final "use" is based on a simple tautology enabling mathematical operations and applying double-entry based accounting rules involving the production side of GDP, also. In case of a declining business cycle with decreasing demand the production may not promptly react and may go on for a while at the same pace. Thus, unsold products may pile up the stocks. In the SNA increases in inventories (stocks), however, are recorded as gross capital formation. Gross capital formation is the sum of gross fixed capital formation, changes in inventories and net acquisition of valuables. It is evident that analysts of the business cycle in their search for indicators for "demand" are much more interested in formation of fixed capital than in the formation of capital at large (including possibly undesired increases in the stocks).

The GDP viewed from the expenditure side captures uses only in case that they are "final". In the national accounts, the uses of resources are described as intermediate or final. Intermediate uses consists of goods and services that are consumed, used-up or transferred in production process within the economic territory and during the accounting period. Final uses comprise all other goods and services which are used for final consumption, for capital formation or for exports (net of imports). Most of the expenditure by general government or NPISH is conventionally regarded as "final", either as final consumption expenditure or as gross capital formation. Conversely, all spending by firms on goods and services is "intermediate" apart from capital formation. Exports are considered as "final" because they are final sales from the point of view of the exporting country.

The principal components of final uses of GDP are:

i. Individual consumption expenditure (P31-Sector Households, S14)
ii. Collective consumption expenditure (P32-Sector General Government, S13)
iii. NPISH's individual consumption expenditure (P31-Sector NPISH, S15)
iv. Gross fixed capital formation (P51)
v. Changes in inventories (P52)
vi. Acquisition less disposal of valuables (P53)
vii. Exports (P6)
viii. *Minus* Imports (P7)

The bracket indicates the SNA's transaction code ("P") and in some cases the institutional sector the transactions by definition are totally allocated to. In a lot of countries, including Pakistan, the individual consumption expenditure of households and of Non-profit Institutions Serving Households (NPISH) can only be calculated and shown aggregately. In most cases, Pakistan included, this aggregate also includes the acquisition of valuables (if not declared as being nil or negligible),

A consumption good or service is used (without further transformation in production as defined in the SNA) by households, NPISHs or government units for the direct satisfaction of individual needs (or wants) or for the collective needs of members of the community.

In the case of goods, the distinction between durable and non-durable goods is important. A durable good is one that may be used repeatedly or continuously over a period of more than a year, assuming a normal or average rate of physical usage. A consumer durable is a good that may be used for purposes of consumption repeatedly or continuously over a period of a year or more.

Methodological issues and data resources are explained in the subsequent paragraphs. The estimates of the expenditure on GDP for the base year 2005-06 are given in the table 32. In general, the methods as well as the results given in this chapter do not differ substantially from those of the National Accounts pertaining to the previous base.

A. Individual Consumption Expenditure of Households and NPISH

The final consumption of goods & services of households and non-profit institutions serving households (NPISHs) is made up of outlays on new durable and non-durable goods & services, reduced by net sales of second

hand goods, scraps and wastes and is estimated at purchasers' value. In principle, the aggregate can be measured in two ways:

- In a commodity flow approach we would look at the domestic supply and import of products and delineate thereof those which are absorbed for final consumption purpose of households and NPISHs.

- In special surveys we directly survey the consumption of households and NPISH by asking them. In Pakistan this is done in the Household Integrated Economic Survey (HIES).

In Pakistan as in some other countries we apply a third variant which is assessment of this aggregate as the residual of GDP. In other words it is calculated as GDP as determined from the production side minus the aggregates which can be calculated on empirical evidence (final consumption of the government, capital formation and exports minus imports). The reason for refraining from use of figures from HIES is that there are large gaps between HIES and the residual of GDP. A lot of countries face the problem that household surveys drastically understate the final consumption as defined in the SNA. However conceptual issues have been highlighted in the following paras that have been taken from SNA 2008.

Household individual consumption expenditure consists of expenditure incurred by resident households on consumption goods or services. As well as purchases of consumer goods and services, final consumption expenditure includes the estimated value of barter transactions, goods and services received in kind, and goods and services produced and consumed by the same household.

It includes estimates for the values of goods or services produced as outputs of unincorporated enterprises owned by households that are retained for consumption by members of the household. The production of services for own consumption within the same household falls outside the production boundary of the SNA, except for housing services produced by owner-occupiers and services produced by employing paid domestic staff. The main types of goods and services produced and consumed within the same household are as follows:

a. Food or other agricultural goods produced for own final consumption by farmers, including subsistence farmers, or others for whom agricultural production is only a secondary, or even a leisure, activity;

b. Other kinds of goods produced by unincorporated enterprises owned by households that are consumed by members of the same households;

c. Housing services produced for own final consumption by owner occupiers ; and

d. Domestic or other services produced for own final consumption by households that employ paid staff for this purpose (domestic staff, cooks, gardeners, chauffeurs, etc.).

Individual consumption expenditure excludes expenditure on fixed assets in the form of dwellings or on valuables. When a household includes one or more persons who own an unincorporated enterprise, all expenditure incurred for business purposes is excluded from household individual consumption expenditure. It is necessary to ensure that only expenditure for the direct satisfaction of human needs and wants is included in household individual consumption expenditure.

When appropriate, values must be estimated for the expenditures that households incur on services provided by financial institutions for which no explicit charges are made (see chapter 4, Part C on financial services). Expenditures on services for which financial institutions do make charges are recorded in the usual way. Persons who own the dwellings in which they live are treated as owning unincorporated enterprises that produce housing services that are consumed by the household to which the owner belongs. The housing services produced are deemed to be equal in value to the rentals that would be paid on the market for accommodation of the same size, quality and type. The imputed values of the housing services are recorded as final consumption expenditures of the owners. "Do-it-yourself" activities of decoration and undertaking minor repairs, often of a routine nature, of a kind that

would normally be seen as the responsibility of a tenant are treated as falling outside the production boundary. Purchases of materials used for such decoration or repairs should therefore be treated as individual consumption expenditure, as should fees and service charges paid to builders, carpenters, plumbers, etc. Maintenance that is the responsibility of tenants is also treated as individual consumption expenditure. Expenditures that owners, including owner-occupiers, incur on the decoration, minor repairs and maintenance of the dwelling that would normally be seen as the responsibility of a landlord should not be treated as household individual consumption expenditure but as intermediate expenditure incurred in the production of housing services. Expenditures on major improvements (that is, reconstructions, renovations or enlargements) to dwellings are excluded from household individual consumption expenditure and are treated as gross fixed capital formation on the part of the owners of those dwellings, including owner-occupiers.

Expenditures on all repair and maintenance of consumer durables, including vehicles, are treated in the same way as minor repairs to dwellings of the type carried out by tenants. Repairs and maintenance constitute final consumption expenditure whether they are carried out by specialist producers or by members of the household as "do-it-yourself" activities. In the latter case, only the values of the materials purchased should be included in household consumption expenditure.

Household expenditure is recorded at the purchasers' prices paid by households including any taxes on products that may be payable at the time of purchase. Expenditures by residents abroad constitute imports, while expenditures by non-residents are exports.

Non-Profit Institutions Serving Households (NPISH) is a small sector in the national accounts. NPISH are units formed by groups of households in order to supply services to themselves or to other households on a non-commercial basis. Included are political parties, trade unions, religious organizations, sports clubs, cultural associations, charities associations with philanthropic aims and certain charitable foundations. NPISH do not include all institutions with non-commercial aims. In order to be defined as NPISH, the funding source should be the household's donations or regular subscriptions. Those non-profit institutions that are not directly financed by households but are financed and controlled by the enterprise (Chambers of commerce, Professional associations, mutual insurance companies etc.) or government are classified as being in the respective sector. NPISH provide non-market services, hence their treatment is similar to that of government. By convention, NPISH consume the services they produce. Therefore final consumption expenditure of NPISHs are equal to their operating costs and all being individual consumption expenditure in nature.

Summary: In summary, the final consumption expenditure of the household generally includes;

1. Purchases of the goods and services used by households to meet their everyday needs,
2. Partial payments for goods and services provided by general government,
3. Payment to general government for various types of licenses and permits for services
4. Owner occupier's imputed rents
5. Own-account consumption, i.e., the imputed value of consumption goods produced and consumed by households themselves
6. Income in kind, valued at their cost to the employer
7. Financial intermediation services indirectly measured (FISIM)

B. Collective Consumption Expenditure (General government)

For short, the collective consumption is output of general government which has neither been utilized for own-account capital formation (e.g. in-house produced software) nor has been sold. Thus, the calculation of the collective consumption expenditure of the general government is just a few steps further than the calculation of its output, its intermediate consumption and its value added (see chapter 4, part E). Collective consumption expenditure is derived as follows:

The value of all types of output of general government,

less the value of output for own account capital formation,

less the value of sales of goods and services at both economically insignificant prices and at economically significant prices,

plus the value of goods and services purchased from market producers for delivery to households free or at economically insignificant prices.

The latter position is relevant for countries with a well-developed system of social security funds where these funds cater for health insurance by purchasing of health services and medical goods on behalf of their member households who in return pay social contributions. These countries, most of them industrialized ones, make use of an option of recording a "social transfer in kind" to shift these high amounts of expenditures from collective consumption to individual consumption of the households the medical goods and services are meant for. Similarly, some other services provided by the government (education) are also shifted this way. Especially for this option the SNA 1993 as well as the SNA 2008 foresee a special deviation in the sequence of accounts and in the balancing items ("adjusted disposable income"). This option has not been chosen for Pakistan.

Though the calculation of collective consumption is straightforward some conceptual discussion and clarification is given in the following paragraphs. Chapters 9 and 10 of the SNA 2008 are referred for details.

Expenditures on a wide range of consumption goods and services are incurred by general government, either on collective services or on selected individual goods or services. The collective consumption expenditures can be classified in several ways. In particular, they may be classified:

a. According to whether the goods or services have been produced by market or non-market producers;

b. According to whether the expenditures are on collective services or individual goods or services;

c. By function or purpose according to the classification of the functions of government (COFOG); or

d. By type of good or service according to the CPC.

Options 'b and d' are not materialized for Pakistan. Option b stands for the above mentioned "social transfers in kind" while option d cannot be applied due to lack of data and to resource constraints.

For countries like Pakistan whose central banks are providing surveillance services and thus are producing non-market output the new SNA foresees a special addition to collective consumption. According to SNA 2008 (6.153 and 8.130) a current transfer ("current transfer between the central bank and general government" under "miscellaneous current transfers") has to be recorded. The underlying convention is a virtual transfer from the State Bank to the central government which enhances the government's disposable income by the amount of the collective consumption dedicated to the surveillance service of the State Bank. In other words: with the provision of this virtual money from the State Bank, the government is in a position to virtually purchase the non-market output from the State Bank. As a result of these virtual transactions the balancing items saving and net lending both of general government as well as of State Bank remain unaffected. In the base year 2005-06 the collective consumption resulting from the State Bank's non-market activity was Rs. 11531 million. For this see also Chapter 4, part C (financial services) of this methodology.

Expenditures on the outputs of non-market producers that are provided free, or at prices that are not economically significant, to individual households or the community account for most of the collective consumption expenditure. Government may produce output for own final use and some market output but most production by units of general government is non-market in nature. The value of the non-market output is estimated by the sum of the costs involved in production. Although government delivers some goods and services to individually identifiable persons, the costs of so doing are shown as collective consumption expenditure. The value of collective consumption expenditure on non-market goods and services is not necessarily exactly equal to the value of government output of these goods and services. The values of these expenditures are equal to the estimated values of all types of output

less the value of production for own capital formation and less the values of any receipts from sales. These receipts may be derived from sales of some goods or services at prices that are not economically significant or from sales of a few goods or services at prices that are economically significant (sales of secondary market output). Examples for the latter cases are sales from statistical yearbooks or from tickets of public museums and the like. These can safely be assumed as negligible as compared to the volume of non-market output. The results according to the option "c" are given below. Details may be seen from chapter 4, part E.

Final consumption expenditure of general government for the base year 2005-06			
Functions of Government (COFOG)	Final consumption expenditure	Collective consumption expenditure	Individual consumption expenditure
1	2	3	4
01. General public services	315733	315733	0
02. Defence	190931	190931	0
03. Public order and safety	65111	65111	0
04. Economic affairs	105926	105926	0
05. Environmental protection	5059	5059	0
06. Housing and community amenities	18111	18111	0
07. Health	20804	7067	13737
08. Recreation, culture and religion	14671	12897	1774
09. Education	112685	43	112642
10. Social protection	8430	2860	5570
Total	857461	723738	133723

Summary: This is the second largest final use after the household consumption. Expenditures by the general government are, by convention, considered as forming part of the final uses (consumption or GFCF) of general government itself. In accounting terms, final consumption expenditure by government is equal to its cost, defined by the following sum:

Collective consumption expenditure =
Compensation of employees of the government,
Plus purchases by government of materials and other intermediate consumption items,
Plus consumption of government fixed capital,
Plus purchases of goods and services by the government for the benefit of households
Plus other taxes on production
minus partial payments by households or firms for services provided by government
Plus non-market output of the central bank

C. Gross fixed capital formation

Introduction

Gross fixed capital formation is a transaction shown in the capital account of the aforementioned five institutional sectors of the economy. The purpose of the capital account is to record the values of the non-financial assets that are acquired, or disposed of, by resident institutional units by engaging in transactions An **asset** is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using it over a period of time. It can be a financial asset (money, shares etc) or a non-financial one. The non-financial ones are physical in nature and (with the exception of valuables) make up the capital stock of a country which it utilizes as a production factor to generate GDP.

Two different categories of non-financial assets are distinguished from each other: produced assets and non-produced assets.

a. Produced assets have come into existence as outputs from production processes that fall within the production boundary of the SNA. There are three main types of produced assets: fixed assets, inventories and valuables. Both fixed assets and inventories are assets that are held only by producers for purposes of production. Valuables may be held by any institutional unit and are primarily held as stores of value.

b. Non-produced assets are non-financial assets that have come into existence in ways other than through processes of production. There are three distinct types of non-produced non-financial assets in the SNA: natural resources, contracts, leases and licences, and goodwill and marketing assets. These three types of assets have little in common except that they are all non-produced and non-financial. **Natural resources** consist of naturally occurring resources such as land, water resources, uncultivated forests and deposits of minerals that have an economic value. **Contracts, leases and licences** are treated as assets only when two conditions are both satisfied.

Fixed assets are produced assets that are used repeatedly or continuously in production processes for more than one year. The distinguishing feature of a fixed asset is not that it is durable in some physical sense, but that it may be used repeatedly or continuously in production over a long period of time, which is taken to be more than one year. **Inventories** are produced assets that consist of goods and services, which came into existence in the current period or in an earlier period, and that are held for sale, use in production or other use at a later date. **Valuables** are produced goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over time. Valuables may be held by all sectors of the economy.

Three headings for the net change in the value of non-financial assets are shown in the capital account:

a. Gross capital formation;
b. Consumption of fixed capital;
c. Acquisitions less disposals of non-produced non-financial assets.

Gross capital formation shows the acquisition less disposal of produced assets for purposes of fixed capital formation, inventories or valuables. It is possible (though uncommon) for the gross capital formation of an individual institutional unit or sector to be negative if it sells off enough of its existing assets to other units or sectors. Gross capital formation is measured by the total value of the gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables.

Consumption of fixed capital is the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage. The asset boundary for fixed assets consists of goods and services that are used in production for more than one year. Non-produced non-financial assets have been discussed briefly in the above paras.

Gross fixed capital formation: boundary and measurement

Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds to the value of non-produced assets.

All goods and services supplied to the economy by means of production, imports or the disposal of produced assets must be used for exports, consumption (intermediate or final) or as part of capital formation. The boundary line between those products that are retained in the economy and are used for consumption and those products that are used for capital formation is known as the **asset boundary**. The asset boundary for fixed assets consists of goods and services that are used in production for more than one year.

Two exclusions from the asset boundary should be noted at the outset. The first is that consumer durables are not treated as fixed assets. The services these durables produce are household services outside the production boundary of the SNA. However, owner-occupied dwellings are not treated as consumer durables but are included within the asset boundary. The second exclusion concerns small tools. These have been treated as materials or supplies used for intermediate consumption.

Not all goods included within the asset boundary must be newly produced. Nor are all services included within the asset boundary immediately recognizable. An existing fixed asset is one whose value was included in the stock of fixed capital of at least one producer unit in the domestic economy at some earlier point in time either in the current period or in the immediately previous accounting period. Thus, when the ownership of an existing fixed asset is transferred from one resident producer to another, the value of the asset sold, bartered or transferred is recorded as negative gross fixed capital formation by the former and as positive gross fixed capital formation by the latter. Thus, it is perfectly possible for gross fixed capital formation to be negative as a result of the sale or disposal of existing fixed assets, although aggregate gross fixed capital formation is unlikely to be negative for large groups of units such as subsectors, sectors or the economy as a whole.

Gross fixed capital formation may take the form of improvements to existing fixed assets, such as buildings or computer software that increase their productive capacity, extend their service lives, or both. By definition, such gross fixed capital formation does not lead to the creation of new assets that can be separately identified and valued, but to an increase in the value of the asset that has been improved. A different treatment is applied to improvements to land in its natural state. In this case the improvements are treated as the creation of a new fixed asset and are not regarded as giving rise to an increase in the value of the natural resource. If land, once improved, is further improved, then the normal treatment of improvements to existing fixed assets applies.

The distinction between ordinary maintenance and repairs that constitute intermediate consumption and those that are treated as capital formation is not clear cut. As explained in paragraphs 6.226 to 6.229, of 2008 SNA ordinary maintenance and repairs are distinguished by two features:

a. They are activities that must be undertaken regularly in order to maintain a fixed asset in working order over its expected service life. The owner or user of the asset has no choice about whether or not to undertake ordinary maintenance and repairs if the asset in question is to continue to be used in production;

b. Ordinary maintenance and repairs do not change the fixed asset's performance, productive capacity or expected service life. They simply maintain it in good working order, if necessary by replacing defective parts by new parts of the same kind.

On the other hand, improvements to existing fixed assets that constitute gross fixed capital formation must go well beyond the requirements of ordinary maintenance and repairs. They must bring about significant changes in some of the characteristics of existing fixed assets.

Gross fixed capital formation in a particular category of fixed asset consists of the value of producers' acquisitions of new and existing products of this type less the value of their disposals of fixed assets of the same type. Costs incurred on acquisition of an asset are treated as an integral part of the value of that unit's gross fixed capital formation. All these costs associated with acquiring and disposing of assets may be described as costs of ownership transfer. The various components of acquisitions and disposals of fixed assets are listed below:

a. Value of fixed assets purchased;
b. Value of fixed assets acquired through barter;
c. Value of fixed assets received as capital transfers in kind;
d. Value of fixed assets retained by their producers for their own use, including the value of any fixed assets being produced on own account that are not yet completed or fully mature;

less

e. Value of existing fixed assets sold;
f. Value of existing fixed assets surrendered in barter;
g. Value of existing fixed assets surrendered as capital transfers in kind.

Items (a) to (d) include new assets, existing assets, the value of improvements to assets and the cost of ownership transfers in respect of these assets. Items (e), (f) and (g) include disposals of assets that may cease to be used as fixed assets by their new owners: for example, vehicles sold by enterprises to households for their personal use, assets that are scrapped or demolished by their new owners and assets that are exported.

Gross fixed capital formation is usually shown by type of asset. Exhaustive details are given in Chapter 10 (Capital Account) and in the respective paras of the Annex 1 (classification hierarchies) of the SNA. The SNA does not formally include a division between tangible and intangible assets in the classification. However, the categories of dwellings, other buildings and structures, machinery and equipment, weapons systems and cultivated biological resources can be taken to correspond to tangible assets and the other categories to intangible assets. The classification of assets has been adopted for Pakistan as far as empirically possible. The outcome of this can be seen in the tables below showing the results of rebasing for GFCF.

Summary

Gross fixed capital formation is precisely defined in the national accounts as the net acquisition of produced fixed assets, i.e. assets intended for use in the production of other goods and services for a period of more than one year. The word fixed is used to indicate that additions to inventories are not included in GFCF. It does not mean that the equipment in question cannot move. The term “fixed” was chosen in contrast to “variable” capital which consists of inventories. Net acquisition signifies that GFCF records the purchases of fixed assets after deduction of sales of fixed assets. The term produced assets signifies that only those assets are included in GFCF that are the result of a production process recognised by the national accounts. Transactions in non-produced assets are included in balance sheet accounts.

GFCF can be broken down by the nature of the product or by investing industry or by type of asset. Their cross classification may also be useful for analysis purpose. In Pakistan we classify the GFCF by investing industry and by type of assets. The types of assets are:

A. Material fixed assets
   i. Dwellings,
   ii. Other buildings and structures
   iii. Machinery and equipment
   iv. Cultivated assets
B. Intangible fixed assets
   i. Mineral exploration
   ii. Software
   iii. Literary and artistic originals

Summary table 30 is reproduced here for reference, detail of which is given in table 31.

Summary of Gross Fixed Capital Formation by type of assets (AN11) for the year 2005-06		Rs. Mill.	Share (%)
AN111	**Dwellings (Residential buildings)**	**47307**	**3.25**
AN112	**Other Buildings and structures**	**550953**	**37.82**
AN113	**Machinery and Equipment**	**662832**	**45.50**
AN114	**Weapons systems***		
AN115	**Cultivate Biological Resources**	**170184**	**11.68**
AN116	**Cost of ownership transfer on non-produced assets***		
AN117	**Intellectual Property Products**	**25613**	**1.76**
AN11		**1456889**	**100.00**

This has been materialized in Pakistan in the questionnaire below which as a standard document is utilized for surveys on GFCF in various industries. This does not withstand the fact that for empirical reasons we also have classifications of assets which follow other criteria as, for example, in agriculture.

Gross fixed capital formation is valued at purchasers' prices, which for the capital goods include transportation and installation charges as well.

For the measurement of GFCF in Pakistan all four possibilities or a mixture of them are exploited:

- Primary data from surveys by asking the investor
- Secondary data (i.e. without special survey) by utilizing data which are already available (government budgets and government finance statistics, banking statistics, company reports)
- Commodity flow approach: If information of the investor is not available the amount is derived from the domestic output or import of goods or services which presumably are object of the capital formation.
- Proxy estimates from variables which are considered to correlate strongly with capital formation: loans from banks and other sources.

Questionnaire applied for data collection is given below.

DATA ON GROSS FIXED CAPITAL FORMATION for the year 20.. - ..						
1. Name and Address of establishment / Enterprise:					2. Major kind of activity:	
3. Average number of persons engaged during the year					Rs."000"	
Code	**Type of assets**		Acquisition, addition, alteration & major improvements	Sale Proceeds of fixed assets disposed off	*Own account capital formation	GFCF Col. (3-4+5)
1	2		3	4	5	6
10	Dwellings (Residential buildings)					
21	Other Buildings and structures	Buildings other than dwellings				
22		Other structures				
22-1		i.				
22-2		ii.				
22-3		iii.				
22-4		iv.				
22-5		v.				
22-6		vi. Others n.e.c				
23		Land improvements & cost of land transfer				
31	Machinery and equipment	Transport Equipment (vehicles etc.)				
32		ICT (computer hardware & telecommunication) equipment**				
33		Furniture & Fixture				
33a		Other machinery & equipment				
50	Cultivated biological resources (Animals / trees etc.)***					
71	Intellectual Property Products	Research and Development				
72		Mineral exploration & evaluation ****				
73		Computer software and database				
74		Other intellectual property products				
* Fixed assets produced for own use ** Information, Computer and Telecommunications *** for agriculture only **** for mining only						
Note: Assets, acquired on financial lease, should be included in the respective category.						
Name and Position: _____ Signature: _____						

Estimation of GFCF

Estimates of private sector are computed by a combination of commodity flow, expenditure (survey method) and financial approaches. Commodity flow approach which uses the net availability of capital goods in value terms from domestic production and imports and exports duly adjusted for various margins is applied to the following three sectors.

i. Agriculture
ii. Construction
iii. Transport

Expenditure approach (survey method) is applied to the following sectors:

i. Mining and quarrying
ii. Large scale manufacturing industries (In-production units)
iii. Small and household manufacturing industries
iv. Electricity generation and distribution, and gas distribution
v. Wholesale and retail trade
vi. Financial institutions
vii. Housing services, real estate including ownership of dwellings
viii. Other private services
ix. General government sector

Financial approach is used to estimate GFCF in under-construction large scale manufacturing industries and loans disbursed to different industries. Industry wise detailed methodology is given below.

Results of GFCF by Industry

I: Agriculture

Because of different sources of data GFCF in agriculture has been calculated for the private sector and for the public sector separately. Main components of private GFCF in agriculture are:

i. Imports and domestic production of agriculture machinery
ii. Tube wells installed
iii. Cultivated assets (livestock and timber)
iv. Land improvement
v. Farms and buildings
vi. Wells and bundats
vii. Farm transport
viii. Water courses
ix. Orchards and
x. Non-monetized GFCF.

To estimate GFCF expenditure on farm machinery and implements, the “commodity flow approach” is applied, using domestic production of agricultural machinery and implements, adjusted for imports and exports. As the values of this approach are at output prices of the respective manufacturers or at import values, respectively, the figures have to be enhanced by the trade margins in order to arrive at GFCF at purchasers’ prices. For the old base, trade margins on imported machinery &equipment and domestic production was taken from study of Wholesale & Retail Trade 1999-2000 and stood at 42 per cent whereas in new base 2005-06 it has been worked out at 37 per cent on the basis of CBR publication “Pakistan Custom and Tariff 2005-06”.

In the revised base estimates, the handling charges have been applied @ 3% on total value of imports, inclusive of all taxes. Note that it is neither trade margin nor transport margin. These are the services rendered by

special agents but not independently covered, so as a special case are included over here. A flat rate of 43.7% (taken from the study on agriculture in 1999-2000) of total (other) monetized GFCF was used to derive the non-monetized GFCF in the old base and the same has been extrapolated. In the SNA terminology, it is own-account capital formation and is also a part of output.

The GFCF of agriculture sector for 2005-06 has thus been estimated at Rs. 254795 million as compared to Rs.75434 million for 1999-2000 base methodology. Detail of GFCF by sector and by assets is given below:

Table 1 GFCF (By Sector) in Agriculture, 2005-06 Base, 1999-2000 Base and 1980-81 Base (Rs. Million)

Sector	2005-06 Base	2005-06(1999-00 base)	1999-2000 Base	1980-81 Base
	At 2005-06 prices (bp)		At 1999-2000 prices (fc)	
Private sector	254745	143538	72513	30885
Crop production	84400	67807	53345	
Livestock production	168656	75731	17782	
Forestry	252	-	187	
Fishing	1489	-	1199	
Public sector	50	2037	2921	2921
Total	254795	145575	75434	33806

Table 2 GFCF (By Assets) in Agriculture for the year 2005-06 (Rs. Million)

Assets	2005-06 Base			2005-06 (1999-2000 Base)		
	Private	Public	Total	Private	Public	Total
Agriculture	254745	50	254795			145575
Fixed Assets	84602	50	84652			69844
Cultivated Assets	170137	-	170137			75731

This change is attributed to following factors

i. The private GFCF in new base year 2005-06 has increased due to change in methodology. Some of the private sector GFCF in the fishery and forestry sub-sectors had been included in the public sector GFCF in 1999-2000 base which has been corrected in the new base year 2005-06.

ii. GFCF in cultivated assets has increased to Rs.170 billion in new base year 2005-06 as compared to Rs. 76 billion in1999-2000 base.

Sub-sector wise detail is given below.

Crops: The estimates of GFCF for agriculture crops production are separately prepared for private and public sectors. The public sector estimates are based on data supplied by the public sector organizations. Data on land improvement, farm buildings & sheds, wells & bundats, farm transport, watercourses and orchards have been taken from Agriculture Census 2000 and extrapolated by the growth rate of the respective items between the two censuses, i.e., 1990 and 2000 to have the constant estimates. It is converted in to current estimate by applying the deflator for agriculture. This estimate has been adopted for the base 2005-06. This practice is being continued for extrapolation in the new base. The GFCF in non-monetized is taken from Study on Agriculture 1999-2000 undertaken by National Accounts, FBS. It has also been extrapolated like the above mentioned items and the same practice is being continued in the base 2005-06. The primary activity is crop production in Pakistan therefore the GFCF have been allocated to crops part instead of distributing it between crops and livestock activities. Detail for the base year is given below in the table.

Table 3 GFCF in Agriculture, Crops for the base year 2005-06 (Rs. Millions)		
Sr. #	Description	Value
1	CIF value of imports of agricultural machinery	4532
2	Add custom duty and sale tax (20%)	906
3	Less exports	626
4	Less re-exports	4
5	Balance of imported equipment available for domestic use	4808
6	Add handling charges @ 3% (on item 1)	136
7	Trade mark-up to wholesale and retail dealers @ 37% of value (on item 5)	1779
8	Total (5+6+7)	6723
9	Domestically produced tractors and agricultural machinery sold	18492
10	Trade mark-up @ 32.5% (on item 9)	6010
11	Total value of imported equipment and domestic production under large scale (8+9+10)	31225
12	Value of production under small scale manufacturing	167
13	Trade mark-up @ 66% under small scale manufacturing (on item 12)	110
14	Total value of equipment, imported and domestic production (11+12+13)	31503
15	Value of Tube wells only	6442
16	Total value of agricultural machinery and tube wells (14+15)	37945
17	Miscellaneous GFCF in agriculture	46406
	Private GFCF of crops (16+17)	84350
	Public GFCF of crops	50
	Total GFCF of crops	84400
	Components of "Miscellaneous GFCF"	
1	Land improvement (monetized)	18854
2	Farms, buildings and sheds	7450
3	Wells and bundat	1301
4	Farm transport	1085
5	Water courses	1371
6	Orchards	1069
7	Non-monetized investment (Own account capital formation)	13666
8	Tube well construction	1611
	Total miscellaneous GFCF	46406

Livestock: In base 1999-2000, gross fixed capital formation in livestock was measured by the value of acquisitions less disposals. It was, therefore, equal to the total value of all mature animals and immature animals produced on own account, acquired by users of the livestock less the value of their disposals. Disposals consist of animals sold or otherwise disposed of including those sold for slaughter, plus those animals slaughtered by their owners. It was under estimation as natural growth and regeneration was not captured comprehensively. In the base 2005-06 it has been valued in a much more detail, basing on the species of livestock individually. The livestock part of agriculture industry is referred, detail is given below. The 1999-2000 base year figure was calculated in detail and for the next years only the total sum was used. For the base year 2005-06 the cultivated assets have been calculated species wise. For the detailed method chapter 2, livestock part where the output/ GVA have been estimated is referred. Comparative results show improvements.

Table 4 GFCF in Livestock, 2005-06 Base and 1999-2000 Base at current prices (Rs. Million)					
Cultivated Assets 2005-06 (new base)		Cultivated Assets 2005-06 (1999-2000 base)		Cultivated Assets 1999-2000	
Buffalo	55531			Dairy cattle	8840
Cattle	54477			Breeding Stock	283
Sheep and Goat	51396			Draught Animals	6930
Others	7127			Goats & Sheep above 1 year	1729
Total	168530	75731			17782

Forestry: In 1999-2000 base the estimates of gross fixed capital formation in forestry were based on results of Study on Forestry conducted for rebasing purposes in 2001. Data was collected by category of forests and area under thereof. The benchmark estimates of 2005-06 have been derived as per existing practice of 1999-2000 base and stands at Rs.252 million. Some of the private sector GFCF in the forestry sub-sector had been included in the public sector GFCF in the base 1999-2000 which has been corrected for the new base year 2005-06. Own account capital formation is like logging camps, temporary roads etc. developed by the contractors. The figures of GFCF, adopted for the base 2005-06 in Forestry sector from the base 1999-2000 are given below:

Table 5 GFCF in Forestry, 2005-06 Base and 1999-2000 Base (Rs. Million)			
Fixed Assets GFCF	2005-06 Base	2005-06(1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
1. Land (Improvement + Cost of Transfer)	38.70	38.70	28.70
2. Buildings (Residential/Non-Residential)	22.49	22.49	16.68
3. Other Construction (Utility Lines)	11.12	11.12	8.25
4. Other Improvements (Water Tracks)	25.07	25.07	18.59
5. Transport Equipment	43.82	43.82	32.50
6. Electrical Machinery & Appliances	23.43	23.43	17.38
7. Non-Electrical Machinery – Agriculture	28.99	28.99	21.50
8. Furniture and Fixture	9.10	9.10	6.75
9. Own Account Capital Formation	49.28	49.28	36.55
Total	252.00	252.00	186.90

Fishing: GFCF for the base 2005-06 has been taken from the inland and marine fishing studies. Fishing crafts, gears and equipment added annually are the major part of GFCF in fishing. Value of fixed assets created as allied services by Fishermen's Cooperative Society, etc. is also added. GFCF for the new base year 2005-06 amounts to Rs 1489 million as compared to Rs.1390 million in the year 2005-06 for 1999-2000 base. Some of the private sector GFCF in the fishery sub-sector had been included in the public sector GFCF in 1999-2000 base which has been corrected for the new base year 2005-06. The detail is given below.

Table 6 GFCF in Fishing Sector, 2005-06 Base and 1999-2000 Base (Rs. Million)			
Description	2005-06 Base	2005-06(1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
Marine Fishing	1472		1092
Inland Fishing	17		107
Total Fishing (A+B)	1489	1390	1199

Table 7 GFCF in fishing by type of assets (Rs. Millions)			
Fixed assets GFCF	**2005-06 base**	**2005-06 (1999-2000 base)**	**1999-2000 base**
	At 2005-06 prices		**1999-2000 prices**
Land improvement and cost of land transfer	7		
Building and construction	4		
Other structure	143		
Machinery and equipment	1285		
Total	1489	1390	1199

II: Former "Industrial Sector"

The term "industrial sector" is well embedded in Pakistan's common language of describing the economy. However, it is not a term used in the SNA or in the classifications of the UN. On the contrary: it confuses as in the SNA the terms "industry" and "sector" have a very specific meaning. The term "industry" stands for a certain kind of major economic activity and is not confined to mining, quarrying, manufacturing, production of electricity and gas and water or construction. In the language of SNA and the UN classifications even the services consist of "industries". The term "sector" has already been specified as standing for the 5 institutional sectors of the economy. Nevertheless, for convenience of the users the respective industries are grouped here as if the familiar term "industrial sector" were still in place.

Mining and Quarrying: The estimates of GFCF for the new base year of this industry have been derived using the information from annual reports of the individual companies instead of survey approach used in old methodology. GFCF have been estimated separately for coal, gas, oil and other minerals by capital assets (tangible & intangible) in line with SNA-2008. Acquisition of capital assets netting out their disposal at current price has been recorded as changes in fixed assets. According to the SNA 2008, (10.107) exploration costs undertaken to discover new deposits of minerals are also treated as GFCF. Deflators will be used to convert the estimates at constant prices. The GFCF in mining and quarrying sector is given in table 8 while bifurcation by type of assets in given in table 9.

Table 8 GFCF in Mining and Quarrying, 2005-06 Base and 1999-2000 Base (Rs. Million)			
Description	2005-06 Base	2005-06 (1999-2000 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
Public Sector	6133	18246	5113
Private Sector	22829	31323	13108
Total	28962	49569	18221

Table 9 GFCF in Mining and Quarrying, 2005-06 Base and 1999-2000 Base (Rs. Million)			
Fixed Assets	2005-06 Base	2005-06 (1999-2000 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
Land Improvement	36		21.6
Buildings	358		251.6
Other Constructions	1424		7.3
Transport Equipment	96		1750.5
Machinery and Equipment	5091		8538.8
Furniture & Fixture	265		71.3
Intangible Assets/Others	1739		3453.6
Exploration cost	19953		
FDI		19148	4126.0
Total	28962	49569	18221

Manufacturing

The total GFCF in manufacturing has been estimated at 2005-06 base as Rs. 287421 million as compared to the figure for 2005-06 at 1999-2000 base estimate of Rs. 140345 million, showing an increase of 105 per cent. The revised estimates consist of Rs. 281329 million in large scale manufacturing (compared to 1999-2000 based estimates at Rs. 120532), and Rs. 6408 million in small scale manufacturing (compared to Rs. 19732 million at 1999-2000 base). The GFCF in slaughtering in 2005-06 base has been estimated as Rs. 7.54 million.

I. Large Scale Manufacturing Industries: GFCF of LSMI has been estimated by using a combination of expenditure & financial approaches. The expenditure approach is applied for 'in production' units, i.e., the units which have started production. The estimates are prepared for public and private sectors separately. The financing approach is applied for the units under construction and is not covered in the category of in production units.

a) In production units: For the new base year the GFCF by units in production has been estimated through the Census of Manufacturing Industries (CMI) 2005-06. For the subsequent years, the companies listed on Karachi Stock Exchange (KSE) are covered through census approach. Non-listed companies are covered through sample survey. The results of both segments are combined together. The GFCF may be balancing, modernising and replacement of the existing assets. The total GFCF by units in production has been computed Rs. 197 billion whereas the largest share comes from plant and machinery followed by building.

b) Under construction units: GFCF by under construction units is estimated through financing approach i.e. loans disbursed by Development Financing Institutions (DFI's) / Scheduled Banks, Leasing & Modarbas. It is treated as new capacity building and expansion. Existing practice is to use the 50% of these loans for GFCF purpose, the same has been continued for the base 2005-06 as well. The rationale is that especially in LSMI the big chunk of capital formation is done during the start-up phase while production (and thus reporting to statistics) has not yet commenced. These parts of capital formation must not be missed in assessing GFCF for the new base. For the current base the equity equivalent to 50% loans has also been assumed being used for GFCF. In the previous base it was missing and hence under estimation.

The figures for the public sectors comprise of GFCF of public corporations like Pakistan Steel Mill etc. and others whose major activity is in manufacturing. They have been excluded from the CMI 2005-06 results. Census approach is applied for the public sector. The deflator is being applied to compile the estimates at constant prices.

Foreign Direct Investment (FDI) which is a financial transaction has been excluded from the GFCF as it is covered in the sectoral estimation directly through surveys and reports. It is considered as double counting. Details are given in the following table:-

Table 10 GFCF by sector in LSMI (Rs. Million)

Sectors	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-00 prices
Private Sector	274979	254727	99345
A. In Production*	190937	197483	75494
B. Under construction (C+D+E)	84042	57240	23851
C. Under Construction (bank loans start-ups, 50%)	38557	38557	23851
D. Loan Disbursed by Leasing & Modarba Companies, (50%)	3464	3464	7825
E. Self-financing / owners' equity (C+D)	42021		
F. Foreign Direct Investment		15223	16026
Public Sector	6350	6296	21188
Total GFCF	281329	261023	120533

Source: i*. CMI 2005-06 ii. PBS iii. SBP

II. Small and Household Manufacturing Industries: In the previous base 1999-2000 the estimates of GFCF in small scale manufacturing were derived from the study conducted for the change of base and stood at Rs. 19732 million. The same were extrapolated at constant prices by applying the fixed growth rate of 9.44 per cent as proposed in the study. The estimates of GFCF on old base were on higher side. The estimates for the new base year 2005-06 have been derived from the survey on Small and Household Manufacturing Industries 2006-07 conducted for the change of base of National Accounts. The GFCF for the year 2006-07 stands at Rs.6758 million. The GFCF at current prices for the year 2006-07 has been converted into constant prices by applying the deflator and stands at Rs.6207 million. The GFCF at constant prices for the year 2006-07 has been extrapolated backward by applying the constant growth rate of 7.36 (the inter survey annual compound growth rate of GFCF between 1996-97 and 2006-07) and stands at Rs.5781 million for the new base year 2005-06. Once the level of contribution of small scale sub-sector to GFCF for the base year has been assessed then the annual estimates at constant prices will be extrapolated by applying the constant growth rate of 7.36 per cent. The estimates at constant prices are converted into current prices by applying a deflator. GFCF was Rs. 19732 million in the base year 1999-2000 which was Rs. 65767 million in 2005-06 at current prices for the same base.

III. Slaughtering: The GFCF in slaughtering is made in the construction of buildings, machinery and equipment. GFCF was estimated through study on slaughtering for the base year 1999-2000. Total GFCF in slaughtering during 2005-06 at 1999-2000 base was estimated as Rs. 7.54 million which has been adopted for the base year 2005-06. For subsequent years the estimates of GFCF at constant prices for slaughtering subsector is being extrapolated by using the growth rate of meat production. Deflator will be used to convert the constant prices GFCF estimates into current prices.

Electricity generation and distribution, Gas distribution and Water Supply: These industries cover expenditure on fixed assets by

i. WAPDA, KESE, IPPs, CPPs, small hydle power plants, for electricity generation &distribution
ii. SNGC, SSGC & Mari gas for gas distribution including for CNG.
iii. Water works & supply (in the base 2005-06 it has been covered under general government sector)

Note that the supply or distribution of natural gas to gas stations for compression through mains is a component of SNGC and SSGC systems. However, the further distribution of CNG is a component of wholesale and retail trade. The other point to mention is that the GFCF of general government sector cannot be bifurcated according to the functions because it is available for the total government. Therefore GFCF of water supply cannot be taken separately. Compared to 1999-2000 based GFCF estimates of Rs.69795, the rebased GFCF estimates stand at Rs. 54765 million. FDI has been excluded from the 2005-06 base as it was double counting. The production of LPG is covered in large scale manufacturing sector. The detailed GFCF estimates for the bases 2005-06 and 1999-2000 are given below.

Table 11 GFCF in Electricity, and Gas, 2005-06 base and 1999-00 base (Rs. Million)

Sector	2005-06 Base (at 2005-06 prices)			1999-2000 Base (at 2005-06 prices)		
	Electricity gen. & distribution	Gas distribution	Total	Elect. Dist.	Gas Dist.	Total
Public	41192	10265	51457	26653	10770	37423
Private	3307	-	3307	13206		13206
FDI				19166		19166
Total	44499	10265	54765	59025	10770	69795

Water supply: The GFCF in the base 1999-2000 was estimated at Rs. 11899 million. For the new base year 2005-06, a study on Water Supply & Sanitation was conducted for change of base. The results showed that revenue earned was recovering very low fraction of the cost of production. Thus, it was decided to calculate the value added of water supply completely on the basis of non-market production and to allocate it to the institutional sector general

government. Nevertheless, the industrial activity (GVA as well as GFCF) remains in Electricity, Gas & Water Supply when the activities will be recorded according to the PSIC. Detail is as follows:-

Table 12 GFCF in Water Supply, 1999-00 base (Rs. Million)											
Year	Net purchase of fixed assets			Building Construction		Other Construction					Total
	Transport Equip.	Machinery & Equip-ment	Furniture & Fixture	Resi-dential	Non-Resi-dential	Sewer-ages	Canals & Tub wells	Dams, Reservoir & Tanks	Electric Machinery	Others	
1999-00	5	171	29	60	13	443	6620	4332	1	225	11899

The GFCF estimates in the electricity, gas and water supply & sanitation by type of fixed assets is as under.

Table 13 GFCF in Electricity, Gas & Water Supply Sector, 2005-06 & 1999-2000 bases (Rs. Million)						
Fixed Assets	2005-06 Base (at 2005-06 prices)			1999-00 base (at 2005-06 prices)		
	Electricity gen. & Distribution	Gas Dist.	Total	Elec. Gen. & Dist.	Gas Dist.	Total
1.Land Improvements	110	23	133	26	10	36
2. Buildings	1083	885	1968	1836	51	1887
3.Other Construction	0	0	0	9555	9715	19270
4. Transport Equipment	333	196	529	851	347	1198
5. Machinery & Equipment	36489	8967	45456	27089	413	27502
6. Furniture & Fixture	85	154	239	107	157	264
7. Intangible Assets/Others	52	40	92	395	78	473
Transmission & Distribution Equipment	6346	-	6346			
FDI				19166		19166
Total	44498	10265	54763	59025	10771	69795

Construction: GFCF in construction is computed separately for private and public sector contractors. For private sector, GFCF is estimated through commodity flow approach taking into account the CIF value of imports of construction machinery and value of domestic production used for construction purposes namely concrete mixture, road rollers, etc. The import duty and sales tax, etc. are added to CIF value of import of construction machinery and equipment while value of export/ re–export is deducted. In 1999-2000 base 42% was added on the net available balance for domestic use from total imports to account for Trade Margin which has now worked out as 37 % for the new base year 2005-06 based on the FBR Publication “Pakistan Custom and Tariff 2005-06”. 3% of CIF value of import is added as handling charges which is a kind of service as explained in agricultural machinery. There are no trade services on the domestically produced construction machinery. The private sector estimates of GFCF in the construction sector have thus been worked out at Rs. 14654 million.

GFCF estimates of public sector construction include GFCF by capital assets i.e., expenditure on land improvement, machinery & transport equipment, furniture& fixture from autonomous bodies such as development authorities, National Construction Company, Indus Basin etc. Construction machinery imported or domestically produced and sold is estimated through commodity flow. Some of it has also been reported in the public sector. The figure equivalent to this figure has been reduced from the private estimation. The Public Sector estimates of GFCF in the construction sector amounts to Rs 6375 million. Total GFCF for the new base year 2005-06 in the construction sector has been estimated at Rs.21029 million against 1999-2000 based estimates of Rs26106 million as shown in the table below along with by type of assets.

Table 14 GFCF in Construction industry (Private) for the base year 2005-06 (Rs. Millions)		
Sr. #	Description	Value
1	CIF value of imports of construction machinery	9102
2	Add custom duty and sale tax (20%)	1820
3	Less exports	313
4	Less re-exports	126
5	Balance of imported equipment available for domestic use	10483
6	Add handling charges @ 3% (on item 1)	273
7	Trade mark-up to wholesale and retail dealers @ 37% of value (on item 5)	3879
8	Total (5+6+7)	13388
9	Domestically produced under LSMI construction machinery sold	19
10	Total value of imported equipment and domestic production under large scale (8+9+10)	14657

Table 15 GFCF in Construction, 2005-06 Base & 1999-2000 Base (Rs. Mill)			
Description	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base
GFCF	At 2005-06 prices		At 1999-2000 prices
Total GFCF	21029	26106	15116
Private	14654	13886	11281
FDI		5362	1092
Public	6375	6858	2743

Table 16 GFCF by type of assets in Construction, 2005-06 Base and 1999-2000 Base (Rs. Million)			
Fixed Assets GFCF	2005-06 Base	Year 2005-06 (1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
1. Land (Improvement + Cost of Transfer)	55	555	539
2. Buildings (Residential/Non-Residential)	247	247	224
3. Other Construction (Utility Lines)	5743	5743	1935
4. Transport Equipment	242	238	14
5. Machinery & Appliances	57	44	27
6. Furniture and Fixture	30	31	4
Total (Public)	6375	6858	2743
Machinery and equipment (Private)	14654	19248	12373
Total GFCF	21029	26106	15116

III: Services

Wholesale, Retail Trade and Hotels & Restaurants: The GFCF in the wholesale and retail trade sector for the base 1999-2000 was based on the study conducted in 2001-02 for rebasing purposes. The estimates of GFCF at current market prices for the benchmark year 1999-2000 were actual and collected directly from the trade and hotel establishments. For compiling the data, balance sheets or accounts registers were used in respect of establishments maintaining regular accounts, whereas, for establishments having no proper accounts, the estimates were based on respondents' memory, trend and averages.

The GFCF estimates of WRT in the new base year 2005-06 have been adopted from the 1999-2000 base estimates. The existing estimates of GFCF at current prices of 1999-2000 base have been used to derive the figure

of GFCF for the new base year 2005-06. The GFCF in wholesale and retail trade has been worked out at Rs. 18089 million as compared to Rs.5821 in 1999-2000 and for hotels & restaurants it is Rs.4006 million for 2005-06 as compared to Rs. 1289 million in 1999-2000. Thus the total GFCF for WRT and hotels and restaurants together for the base year 2005-06 stands at Rs. 22095 Million as shown in the table below.

Table 17 GFCF in Wholesale, Retail Trade and Hotels & Restaurants, bases 2005-06 & 1999-00 (Rs. Mill)

Activities	2005-06 Base	Year 2005-06 (1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-00 prices
Wholesale & Retail Trade	**18089**	**23871**	**5821**
Sale, Repair and Maintenance of Motor Vehicles	2383	3145	767
Wholesale Trade	4677	6172	1505
Retail Trade	11029	14554	3549
Hotels and Restaurants	**4006**	**5286**	**1289**
Hotels, Motels, Inns, Hostels, etc.	3443	4544	1108
Restaurants, Cafes, Canteens and other eating & drinking places	562	742	181
Total	22095	29157	7110

For subsequent years the estimates of GFCF for Wholesale and Retail Trade (WRT) are being extrapolated by using the growth rate of Gross Value Added of the same sector. Specific deflators will be used to convert the constant prices GFCF estimates into current prices.

Transport, Storage and Communication: Gross fixed capital formation has been estimated at Rs.294731 million including public sector GFCF of Rs.80103 million and private sector GFCF of Rs. 214628 million constituting mainly in the acquisition of plant and machinery, transport and communication equipment as shown below in the table. The major contributors at serial no. 14 are the communication companies like Mobilink, Warid, Telenor, Paktel, etc.

Table 18 GFCF in Transport, Storage and Communication for the base year 2005-06 (Rs. Millions)

Sr. #	Description	Value
	Private sector	
1	CIF value of imports of transport machinery	15467
2	Add custom duty and sale tax (56%)	8662
3	Less exports	731
4	Less re-exports	84
5	Balance of imported equipment available for domestic use	23315
6	Add handling charges @ 3% (on item 1)	464
7	Trade mark-up to wholesale and retail dealers @ 37% of value (on item 5)	8626
8	Total (5+6+7)	32405
9	Domestically produced under LSMI transport machinery	54786
10	Trade mark-up @ 32.5% (on item 9)	17806
11	Total value of imported equipment and domestic production under large scale (8+9+10)	104997
12	Value of production under small scale manufacturing	535
13	Trade mark-up @ 66% under small scale manufacturing (on item 12)	353
14	Other private enterprises	108743
15	Total value of equipment, imported and domestic production (11+12+13+14)	214628
	Public sector	

1	Pakistan Railways	4754
2	National Logistic Cell	353
3	Pakistan International Airline	20065
4	Civil Aviation Authority	650
5	Pakistan National Shipping Corporation	1588
6	Port Qasim Authority	127
7	Karachi Port Trust	65
8	National Highway Authority	24311
9	Pak Arab Refinery Ltd. (Pipeline)	151
10	Pakistan Telecommunication Company Ltd.	15125
11	Pak Datacom	57
12	National Telecommunication Corporation	65
13	Telecom Foundation	179
14	PTC Employees Trust	0
15	Pak Telecom Mobile (U-Phone)	12459
16	Pakistan Telecommunication Authority	47
17	Post Office	107
	Total	80103
	Total GFCF (Private + Public)	294731

Table 19 GFCF in Transport, Storage and Communications, bases 2005-06 & 1999-2000 (Rs. Mill.)

Description	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
Private Sector	214628	196338	21920
FDI		116211	1948
Public Sector	80103	80103	56213
Total	294731	392652	80081

The detail of GFCF in Transport, Storage and Communications by type of assets is given in the table below:-

Table 20 GFCF in Transport, Storage & Communication bases 2005-06 & 1999-2000 (Rs. Mill.)

Fixed Assets	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
Land Improvements	769	651	298
Buildings	2425	1358	7099
Other Constructions	30915	30808	34000
Transport Equipment	79985	74342	11253
Machinery and Equipment	156406	148031	25256
Computers	20280	20184	
Others	1091	451	
Furniture & Fixture	2859	615	227
Total GFCF (Private)	294731	276441	78133
FDI		116211	1948
Total	294731	392652	80081

Financial and insurance services/ Financial Corporate Sector: The composition of the Financial Corporate Sector has been highlighted in the GVA estimation. GFCF of Financial corporations (private & public) have been estimated at Rs. 22238 million for the base year 2005-06. The current estimate for the year 2005-06 at the base 1999-2000 is higher due to the inclusion of FDI in the estimate. The comparative GFCF estimates of financial corporations with reference to existing and incipient bases are given below in the table.

Table 21 GFCF in Financial sector for the base year 2005-06 (Rs. Million)

Sr. #	Sub-sector	Value
1	State Bank of Pakistan	593
2	Banks	14667
	a. Scheduled	13257
	b. Non-scheduled	1410
3	Other credit granting	3533
4	Insurance, Reinsurance and Pension funding except compulsory social security	1123
5	Activities auxiliary to financial service activities and insurance activities	2322
	Total GFCF	22238

Table 22 GFCF in Financial Corporations, 2005-06 Base and 1999-2000 Base (Rs. Million)

Description	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base
	At 2005-06 prices		At 1999-2000 prices
Private Sector	20360	19007	4469
FDI		19684	1843
Public Sector	1878	2318	3680
Total	22238	41009	9992

The detail of GFCF in Financial Corporate Sector by type of assets is given in the table below:-

Table 23 GFCF in Financial Corporations 2005-06 Base and 1999-2000 Base (Rs. Million)

Fixed Assets	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base
Land	479	386	35
Buildings	6053	4010	1729
Other Constructions	193	1489	
Transport Equipment	3935	2863	734
ICT (Computer hardware and telecommunication equipment)	2883	2290	
Machinery and Equipment	4342	3384	2098
Furniture & Fixture	3256	4266	2514
Others	1097	2637	1039
Total GFCF	22238	21325	8149
FDI		19684	1843
Total	22238	410009	9992

Housing Services (including ownership of dwellings): Housing services is comprised of three sub-sectors namely Ownership of Dwellings, Real Estate and Cooperative Housing Societies. GFCF of this sector is compiled through expenditure on following by type of fixed assets.

i. New Buildings
ii. Cost of ownership transferred
iii. Alterations/Additions
iv. Major Repair & Maintenance

The methodology for compilation of Gross Fixed Capital Formation in each component of the housing services is explained below. Other types of assets like computers, furniture and fixture etc. are components acquired by the real estate and cooperative housing societies and have been included in these sub-components.

i) **Ownership of Dwellings:**

The estimates of GFCF for the new base year 2005-06 for the ownership of dwellings have been developed by using the information from Construction Survey 2007-08 conducted by Pakistan Bureau of Statistics for the change of base of National Accounts from 1999-2000 to 2005-06. The ratios have been developed from the said survey. The detail of methodology is given below in the table.

Table 24 GFCF in Ownership of Dwellings 2007-08

Sr. No	Items	Value (Rs. Million)
1	Total new Construction	186850
2	New Construction for Residential & Residential -cum-commercial @ 87.74%	163942
3	Purchase of Buildings (net)	8083
4	Cost of ownership transferred @ 10% of purchase of buildings	808
5	Alterations/ Additions	59312
6	Repair and Maintenance	21191
7	GFCF 2007-08 (2+4+5+6)	245253

The GFCF for the year 2007-08 at current prices stands at Rs.245253 million, which have been converted into constant prices by applying the building material deflator from WPI and stands at Rs. 199037. The GFCF and its components for the year 2007-08 at constant prices have been extrapolated backward by applying the growth rate of dwellings 4.00 per cent (2 room & more between 1998 and 1981 censuses) which results in Rs. 184021 for the year 2005-06. The detail is given in table below:-

Table 25 GFCF Ownership of Dwellings, 2005-06 base and 1999-00 base (Rs. Million)

Activity	Year 2005-06 at current prices		Year 1999-2000
	Base 2005-06	Base 1999-2000	
New Construction	123011		34070
Cost of ownership transfer	606		
Alterations/ Additions	44504		10877
Repair and Maintenance	15900		33026
Total	184021	149167	77973

The extrapolation at constant prices will be made by applying the constant growth rate of number of dwellings and the estimates at constant prices will be converted into current prices by applying the building material deflator

ii) Real Estate and Cooperative Housing Societies

The estimates of GFCF for the new base year 2005-06 for the Real Estate and Cooperative Housing Societies sub-sectors have been developed by using the information from Survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08" and "Survey on Cooperative Societies 2007-08" conducted for the change of base of National Accounts from 1999-2000 to 2005-06. The GFCF in the year 2007-08 stands at Rs.223 million and Rs.7915 million for the real estate and cooperative societies respectively. The total GFCF at current prices (Rs.8138 million) real estate and cooperative societies have been converted into constant prices by applying the deflator of building material and stands at Rs. 6605 million. The GFCF for the year 2007-08 at constant prices have been extrapolated backward by applying the growth rate of dwellings i.e., 4.0 per cent and stands at Rs. 6106 million for the new base year 2005-06.

The extrapolation at constant prices will be made by applying the constant growth rate of number of dwellings and the estimated at constant prices will be converted into current prices by applying the building material deflator. The total GFCF in Housing Services (including ownership of dwellings) at current prices for the year 2005-06 stands at Rs. 190127 million.

Other Private Services: "Other Private Services" are pure private sector services. It was named as "Social, Community and Personal Services" in the 1999-2000 base. They comprise Renting of Machinery and Equipment, Computer Related Activities (Software Export Board), Computer Related Activities (PASHA), Other Business Activities, Education, Health & Social work, Membership Organizations, NGO's, Recreational, Cultural and Sporting Activities and Other Services activities. GFCF for each type of services were estimated separately. The methodology for compilation of Gross Fixed Capital Formation (GFCF) in each sub-sector of private services is explained below:-

1) Renting of Machinery and Equipment

The GFCF estimates for Renting of Machinery and Equipment have been derived from the Survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". The GFCF for the year 2007-08 stands at Rs.732 million which have been extrapolated backward by applying the growth rate of Gross Value Added (QIM) of the same industry at current prices and stands at Rs.675 million for the new base year 2005-06. The extrapolation at current prices is made by applying the growth rate of Gross Value Added of Renting of Machinery and Equipment at current prices.

2) Computer Related Activities (Software Export Board / PASHA)

For the rationale of the partition of this industry into the two components "Software Export Board" and "PASHA" see chapter 4 part F. The GFCF estimates of Computer Related Activities (Software Export Board) have been compiled by using the information given in the 'Study on Computer Related Services 2005-06' and stands at Rs.1584 million and Rs.1696 million for the years 2005-06 and 2006-07 respectively. The extrapolation of GFCF at current prices will be made by applying the growth rate of Gross Value Added of Computer Related Activities (Software Export Board) at current prices.

The total GFCF at current prices for Computer Related Activities on the base 1999-2000 was Rs.6109 million. The difference between the old base GFCF at current prices (Rs.6109 million) and the Computer Related Activities covered by Software Export Board (Rs.1584 million) has been used as the GFCF for the Computer Related Activities covered by PASHA and stands at Rs.4525 million for the new base year 2005-06. The estimates of GFCF at current prices will be extrapolated by applying the growth rate of Gross Value Added of Computer Related Activities (PASHA) at current prices.

3) Other Business Activities

The existing estimates of GFCF in 'Other Business Activities' at current prices of 1999-2000 base have been used to derive the figure of GFCF for the new base year 2005-06. The total GFCF for the new base year 2005-06

stands at Rs.40447 Million. The extrapolation of Gross Fixed Capital Formation at current prices will be made by applying the growth rate of Gross Value Added of Other Business Activities at current prices.

4) Education

The GFCF estimates for Education (private sector only) have been derived from the Survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". The GFCF for the year 2007-08 stands at Rs.2930 million which have been extrapolated backward by applying the growth rate of Gross Value Added of the same sub-sector at current prices and stands at Rs.2495 million for the new base year 2005-06. The estimates of Gross Fixed Capital Formation will be extrapolated at current prices by applying the growth rate of Gross Value Added of (private sector) Education at current prices. NGOs working in education have also been included here.

5) Health & Social work

The estimates of Gross Fixed Capital Formation for Health & Social Work (private sector only) have been derived from the data on National Health Accounts for the year 2009-10 which stands at Rs.13783 million. The estimates of 2009-10 have been extrapolated backward by applying the growth rate of Gross Value Added at current prices of the same industry and stands at Rs.8200 million for the new base year 2005-06. The extrapolation at current prices will be made by applying the growth rate of Gross Value Added of Health & Social work (private sector) at current prices. NGOs working in this group have also been included here.

6) Membership Organizations

The GFCF estimates for Membership Organizations have been derived from the Survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08". The GFCF for the year 2007-08 stands at Rs.1019 million which have been extrapolated backward by applying the growth rate of Gross Value Added of the same sub-sector at current prices and stands at Rs.760 million for the new base year 2005-06. The GFCF estimates will be extrapolated at current prices by applying the growth rate of Gross Value Added of Membership Organizations at current prices.

7) NGOs

This component has been discussed in detail in the GVA estimation, chapter 4, part F is referred. It is a combination of three sub groups, i.e., NGOs working in education, health and social work. Their contribution has been separated and merged in the respective groups. The estimates of Gross Fixed Capital Formation for NGOs have been compiled by using the information given in the 'Survey of NGOs 2005-06' conducted for the change of base of National Accounts from 1999-2000 to 2005-06 and stands at Rs. 20614 million for the new base year 2005-06. The estimates of Gross Fixed Capital Formation at current prices for NGOs have been extrapolated forward by applying the growth rate of Gross Value Added of the NGOs at current prices.

8) Recreational, Cultural and Sporting Activities

The existing estimates of Gross Fixed Capital Formation in the Recreational, Cultural and Sporting Activities at current prices of 1999-2000 base have been used to derive the figure of GFCF for the new base year 2005-06. The total GFCF for the new base year 2005-06 stands at Rs.2649 Million. The GFCF estimates at current prices will be extrapolated by applying the growth rate of Gross Value Added of Recreational, Cultural and Sporting Activities at current prices.

9) Other Services activities

The GFCF estimates for Other Services activities (private sector only) have been derived from the Survey of "Social, Recreational, Community & Personal Services, Real Estate Activities and Renting of Machinery /Equipment 2007-08" conducted for the change of base of National Accounts from 1999-2000 to 2005-06. The GFCF for the year

2007-08 stands at Rs.1423 million which have been extrapolated backward by applying the growth rate of Gross Value Added of the same sub-sector at current prices and stands at Rs.1061 million for the new base year 2005-06. The extrapolation of GFCF at current prices will be made by applying the growth rate of Gross Value Added of Other Private Services activities at current prices. The GFCF at current prices in Other Private Services is obtained by adding up the GFCF in the aforementioned components and stands at Rs. 83010 million for new base year 2005-06. The GFCF at constant prices is obtained by adding the individual constant components. A comparative table of GFCF of two benchmarks is placed below.

Table 26 Comparison of GFCF of Other Private Services for bases 2005-06 and 1999-2000 (Rs. Million)

Description	Base 2005-06	2005-06 (1999-2000 base)	Base 1999-2000	Change (%)	
				Col. (2 / 4)	Col. (2 3)
1	2	3	4	5	6
	At prices 2005-06		At 1999-2000 prices		
Renting of Machinery	675				
Computer Related Activities (Total)	6,109	6,109	2,416	152.9	0.0
Comp. Related Activities (Software Board)	1,584				
Computer Related Activities (Pasha)	4,525	6,109	2,416		
Other Business Activities	40,447	40,447	16,028	152.4	0.0
Education (Total)	10144				
Education (Private)	2,495	6,458	2,482		
Education (NGO)	7649				
Health and social work (Total)	21165				
Health & Social Work	8,200	8,559	3,291	149.2	-4.2
NGOs health	8787				
NGOs social work	4178				
Membership Organization	760				
Recreational, Cultural & Sporting Activities	2,649	2,649	1,032	156.79	0.0
Other Services	1,061	3,800	1,480	-28.3	-72.1
Real Estate*		2,454	957		
Community, Social & Personal		4,138	1,610		
NPISHs**		38,374	14,937		
GFCF (Private)	83,010	112,988	44,233	87.7	-26.5
FDI		8205	2,931		
Total GFCF (Private)	83,010	121,193	47,164	93.0	-24.9
Public Sector GFCF	0	8743	2,869	-100.0	-100.0
Total GFCF (Services)	83,010	129,936	50,033	81.9	-30.0

* Real Estate was a part of Social, Community and Personal Services in old methodology. However, following the PSIC (2007 & 2010) this activity in now shifted along with ownership of dwellings sector.

** Total of Membership organizations and NGO's for new base 2005-06 may be treated as NIPISH

General Government: GFCF by general government consists of the acquisitions less disposal of fixed assets during an accounting period. The expenditure made by Federal, Provincial, local governments and defence services on fixed assets during the year are accounted as gross fixed capital formation by the institutional sector General Government. The expenditure made on residential construction for military personnel are included as part of fixed capital formation.

Data on GFCF has been taken from published budget documents. GFCF at current prices has been worked out on the basis of these budgets at Rs. 198074 million for the year 2005-06 as against 1999-2000 based estimates of Rs. 65749 million showing an increase of 200 per cent as presented in table given below.

Table 27 GFCF in General Government 2005-06 Base and 1999-2000 Base (Rs. Million)				
Description	2005-06 Base	2005-06 (1999-00 Base)	1999-2000 Base	1980-81 Base
	At 2005-06 prices		At 1999-2000 prices	
Transport	12154	19950	2367	2367
Machinery	14047	21791	8659	8659
Furniture and Fixture	5482	18145	1159	1159
Computers	1116			
Land Improvement			30	90
Buildings	51276	48975	19101	25743
Other Construction	94578	91727	33399	26662
Others	19421	5488	1034	
Total	**198074**	**206076**	**65749**	**64680**

Summary of the results by industries is given below in table 28.

Table 28 GFCF comparison, Bases 2005-06 and 1999-2000 (Rs. Million)						
Sr. #	**Sectors- Industry / Year**	**Base 2005-06**	**Base 1999-2000**		**Change (%)**	
		Year 2005-06 (at prices 2005-06)		**Year 1999-2000 (prices 1999-00)**	**Col. (3 / 4)**	**Col. (3 / 5)**
1	2	3	4	5	6	7
	Total GFCF(A+B+C)	1456890	1565838	607410	-7.0	139.9
A.	**Private Sector**	1109206	1197740	394749	-7.4	181.0
B.	**Public Sector**	149606	162022	146912	-7.7	1.8
C.	**General Government**	198078	206076	65749	-3.9	201.3
	Private & Public Sector (A+B)	1258812	1359762	541661	-7.4	132.4
1	Agriculture	254795	145575	75434	75.0	237.8
2	Mining & Quarrying	28962	49569	18221	-41.6	58.9
3	Manufacturing	287117	326797	140345	-12.1	104.6
	i. Large Scale	281329	261023	120532	7.8	133.4
	ii. Small Scale (including slaughtering)	5789	65774	19813	-91.2	-70.8
4	Electricity Gen. and Distr'n & Gas Dist.	54765	69795	67354	-21.5	-18.7
5	Construction	20972	26106	15117	-19.7	38.7
6	Wholesale & Retail Trade	22095	29157	7111	-24.2	210.7
7	Transport & Communication	294731	392651	80081	-24.9	268.0
8	Financial Institutions	22238	41009	9992	-45.8	122.6
9	Ownership of Dwellings	190127	149167	77973	27.5	143.8
10	Other Private Services	83010	129936	50033	-36.1	65.9

Summary of the results by sectors and industries is given below in table 29.

Table 29 GFCF comparison, Private, Public and General Government Sectors Bases 2005-06 & 1999-2000 (Rs. Million)

Sr. #	Sectors- Industry / Year	Base 2005-06	Base 1999-2000		Change (%)	
		Year 2005-06 (at prices 2005-06)		Year 1999-2000 (prices 1999-00)	Col. (3 / 4)	Col. (3 / 5)
1	2	3	4	5	6	7
A.	**Private Sector**	1109205	1197740	394749	-7.4	181.0
1	Agriculture	254745	143538	72513	77.5	251.3
2	Mining & Quarrying	22829	31323	13108	-27.1	74.2
3	Manufacturing	283508	320501	119158	-11.5	137.9
	i. Large Scale	277719	254727	99345	9.0	179.6
	ii. Small Scale	5789	65774	19813	-91.2	-70.8
4	Electricity Gen. & Distr'n & Gas Dist.	3307	32372	15169	-89.8	-78.2
5	Construction	14597	19248	12373	-24.2	18.0
6	Wholesale & Retail Trade	22095	29157	7111	-24.2	210.7
7	Transport & Communication	214628	312549	23868	-31.3	799.2
8	Finance & Insurance	20360	38692	6312	-47.4	222.6
9	Ownership of Dwellings	190127	149167	77973	27.5	143.8
10	Other Private Services	83010	121193	47164	-31.5	76.0
	Public & General Govt. (B+C)	347684	368098	212661	-5.5	63.5
B.	**Public Sector**	149606	162022	146912	-7.7	1.8
1	Agriculture	50	2037	2921	-97.5	-98.3
2	Mining & Quarrying	6133	18246	5113	-66.4	19.9
3	Manufacturing	3609	6296	21187	-42.7	-83.0
4	Electricity Gen. & Distr'n & Gas Dist.	51458	37423	52185	37.5	-1.4
5	Construction	6375	6858	2744	-7.0	132.3
6	Transport & Communication	80103	80102	56213	0.0	42.5
7	Financial Institutions	1878	2317	3680	-18.9	-49.0
8	Other Private Services		8743	2869		
C.	**General Government**	198078	206076	65749	-3.9	201.3
	i. Federal	37307	53522	24980	-30.3	49.3
	ii. Provincial	122774	113512	31763	8.2	286.5
	iii. District Governments	37997	39042	9006	-2.7	321.10

Table 30 Summary of Gross Fixed Capital Formation by type of assets (AN11) for the year 2005-06		Rs. Mill.	Share (%)
AN111	**Dwellings (Residential buildings)**	**47307**	**3.25**
AN112	**Other Buildings and structures**	**550953**	**37.82**
AN113	**Machinery and Equipment**	**662832**	**45.50**
AN114	**Weapons systems***		
AN115	**Cultivate Biological Resources**	**170184**	**11.68**
AN116	**Cost of ownership transfer on non-produced assets***		
AN117	**Intellectual Property Products**	**25613**	**1.76**
AN11		**1456889**	**100.00**

* It is merged with AN111 and AN112 whereas AN114 is not collected

Table 31 GFCF by type of assets (AN11) for the year 2005-06			Rs. Mill.
AN111	**Dwellings (Residential buildings)**		**47307**
AN112	**Other Buildings and structures**		**550953**
	AN1121	**Buildings other than dwellings**	273417
	AN1122	**Other structures**	241563
		i. Telephone/Power lines, Cables etc.	7423
		II. Canals	14268
		iii. Drainage	13100
		iv. Gas Piplines	1568
		v. Railway Tracks/Runways	0
		vi. Roads, Streets Highways	92760
		vii. Tubewells	3777
		viii. Others n.e.c.	108666
	AN1123	**Land improvements & cost of land transfer**	35973
AN113	**Machinery and Equipment**		**662832**
	AN1131	**Transport Equipment (vehicles etc.)**	117301
	AN1132	**ICT (computer hardware & telecommunication) equipment****	24368
	AN1133	**Other machinery and equipment**	521163
		i. Electrical	273239
		ii. Non-electrical	172733
		iii. Furniture & Fixture	33501
		iv. Other machinery and equipment n.e.c.	41690
AN114	**Weapons systems**		
AN115	**Cultivate Biological Resources**		**170184**
	AN1151	**Animals resources yielding repeat products**	168656
	AN1152	**Tree, crop and plant resources yielding repeat products**	1528
AN116	**Cost of ownership transfer on non-produced assets**		
AN117	**Intellectual Property Products**		**25613**
	AN1171	**Research and Development**	4457
	AN1172	**Mineral exploration & evaluation**	19953
	AN1173	**Computer software and database**	1130
	AN1174	**Entertainment, literary or artistic originals**	
	AN1179	**Other intellectual property products**	73

D. Changes in inventories and acquisitions less disposals of valuables

I. Inventory

'Changes in inventories' refers to the value of physical change in the stocks of raw material, work-in-progress and finished goods held by industries and producers of government services as per details given below:

Goods producing industries
- Material and supplies
- Work-in-progress
- Livestock except breeding stock, dairy cattle and the like (which forms GFCF, instead)
- Finished goods

Wholesale & retail trade
Other industries
Producers of government services

Inventories consist of stocks of outputs that are still held by the units that produced them prior to their being further processed, sold, delivered to other units or used in other ways and stocks of products acquired from other units that are intended to be used for intermediate consumption or for resale without further processing. Inventories of services consist of work-in- progress or finished products, for example architectural drawings, which are in the process of completion or are completed and waiting for the building to which they relate to be started. Inventories held by government include, but are not limited to, inventories of strategic materials, and grain and other commodities of special importance to the nation.

Changes in inventories are measured by the value of the entries into inventories less the value of withdrawals and less the value of any recurrent losses of goods held in inventories during the accounting period. When a good is entered into inventories it is acquired as an asset by the enterprise in its capacity as owner either by purchase (or barter) or by an internal transaction with itself as the producer. Conversely, a good leaving inventories represents the disposal of an asset by the owner either by sale or other use, by an internal transfer to the producer or possibly as a result of recurrent losses (recurrent wastage, accidental damage or pilfering).

Most goods going into inventories simply remain there until they are withdrawn in the same state as when they entered. Not infrequently, the price of the goods will have increased while they are in inventories, but these increases are not due to production but are simply holding gains. The indication that storage is being undertaken as a production activity is that the price of the good stored, relative to the general level of prices, is expected to increase by a certain amount over a predetermined time. The goods in storage are classified as work-in-progress and not finished goods. The increase in value during the accounting period up to the expected level at that time is treated as production of storage; any difference from this level is treated as a holding gain or loss.

The transactions in the capital account relating to inventories show the change in the level of inventories of each type. The changes comprise the additions less withdrawals and less regular losses from inventories. Each of the categories is described and defined below.

Materials and supplies consist of all products that an enterprise holds in inventory with the intention of using them as intermediate inputs into production.

Work-in-progress consists of output that is not yet sufficiently processed to be sold. Work-in-progress occurs in all industries, but is especially important in those in which some time is needed to produce the goods, for example, in agriculture, or in industries producing complex fixed assets such as ships, dwellings, software or films. Work-in-progress is subdivided between work-in-progress on cultivated assets and other work-in-progress. Work-in-progress on cultivated biological resources consists of output that is not yet sufficiently mature to be in a state in which it is normally supplied to other institutional units. Other work-in-progress consists of output (other than on cultivated biological resources) that is not yet sufficiently processed to be in a state in which it is normally supplied to other institutional units.

Finished goods consist of goods produced as outputs that their producer does not intend to process further before supplying them to other institutional units. Military inventories consist of single-use items, such as ammunition, missiles, rockets, bombs, etc., delivered by weapons or weapons systems. Goods for resale are goods acquired by enterprises, such as wholesalers or retailers, for the purpose of reselling them to their customers. Goods for resale are not processed further by the enterprises that purchase them, except for presenting them for resale in ways that are attractive to their customers. Thus, goods for resale may be transported, stored, graded, sorted, washed, packaged, etc. by their owners but are not otherwise transformed. By convention, goods acquired by government for distribution as social transfers in kind but that have not yet been so delivered are also included in goods for resale.

In Pakistan it is not directly estimated. Its estimation is the continuity of the previous bases. Fresh estimation is needed, a study is recommended.

II. Valuables

Valuables are not used primarily for purposes of production or consumption but are held as stores of value over time. Valuables are expected to appreciate or at least not to decline in real value, nor to deteriorate over time under normal conditions. They consist of precious metals and stones, jewellery, works of art, etc. Valuables may be held by all sectors of the economy. Costs of ownership transfer, such as valuers' and auctioneers' margins, are treated as gross capital formation and included in the value of the items.

Precious metals and stones are treated as valuables when they are not held by enterprises for sale or use as inputs into processes of production nor are held as monetary gold and are not held as a financial asset in the form of unallocated metal accounts. Paintings, sculptures, etc., recognized as works of art and antiques are treated as valuables when they are not held by enterprises for sale. In principle, museum exhibits are included under valuables. Other valuables not elsewhere classified include such items as collections of stamps, coins, china, books etc. that have a recognized market value and fine jewellery, fashioned out of precious stones, and metals of significant and realizable value.

The category of valuables has been introduced with the SNA 1993. It was argued that this category should fill the gap in the system as jewellery etc, indeed, is neither consumption good nor physical asset in a production process. For the conceptual purity and beauty and comprehensiveness of the System of National Accounts it is reasonable to include this item though in most countries the amount is negligible and difficult to estimate. In Pakistan valuables are mainly hold by households. However, the amount of the overall value or, what is needed most, the annual amount of net additions to valuables, is not known. For simplicity we assume that the net addition to valuables is nil. The same holds for produced net additions to the cultural assets in the museums of the country.

E. Exports and Imports of goods and services

In national accounts exports and imports are recorded at the moment at which the legal ownership of the goods passes between residents and non-residents or the services are rendered by either group or by one transactor to the other. This is usually the case when they cross the border and then are registered by the customs authorities. That is, these transactions are recorded on the basis of physical movement of goods and services and not on financial basis. The basic data on merchandise are taken from the foreign trade statistics of the PBS, whereas non-factor services and other current transfers are extracted from the SBP's balance of payments statistics. Besides, it includes imports under baggage, gifts in cash or in kind but excludes military equipment transferred between governments.

Like in the balance of payments, imports and exports of goods are recorded in the SNA at border values. (FOB or free-on-board; that is, at the exporter's customs frontier). However, within customs declarations, imports are usually valued CIF (that is, they include cost, insurance and freight) at the point of entry into the importing economy. This valuation is standard, regardless of whether any of the CIF elements are provided by domestic enterprises because import duties are typically imposed on the CIF valuation. It also excludes the cost of transport from the

border of the importing economy to the premises of the importer. This transport also may be provided by either a resident or non-resident carrier. Exports are valued FOB (free on board) at the point of exit from the exporter's economy. It includes the cost of transport from the exporter's premises to the border of the exporting economy.

The imports are deflated by the imports price index and the exports by the exports price index to bring the same at constant prices.

Summary results of the expenditure on GDP have been tabulated below in table 30.

Table 32 Comparison of Expenditure on GDP base 2005-06 and 1999-2000 for the year 2005-06 and 1999-2000 (Rs. Million)

Description	Base 2005-06	Base 1999-2000		Change (%)		
	year 2005-06 at Prices of 2005-06		Year 1999-2000	Col. (2/3)	Col. (2/4)	Diff. Col. (2-3)
1	2	3	4	5	6	7
Households Final Consumption Expenditure	6379481	5720225	2884020	11.53	121.20	659257
General Government Final Consumption Expenditure	857461	824300	330691	4.02	159.29	33161
Gross fixed capital formation	1456889	1565838	607410	-7.17	139.30	-108949
Changes in inventories	131459	121971	51700	7.74	154.19	9487
Exports of goods and non-factor services	1161269	1161257	514280	0.00	125.80	12
Less imports of goods and non-factor services	1770399	1770386	561990	0.00	215.02	13
Expenditure on gross domestic product (at mp)	8216160	7623205	3826111	7.74	114.67	592955

Changes in the shares of components of expenditures in the two bases are given below in table 31.

Table 33 Shares of components of consumption expenditures in the bases 2005-06 and 1999-2000

Sr. #	Components	Base & Year 2005-06	Share (%)	Base & Year 1999-2000	Share (%)
1	**2**	**3**	**4**	**5**	**6**
1	Households Final Consumption Expenditure	6379481	77.7	2884020	75.4
2	General Government Final Consumption Expenditure	857461	10.4	330691	8.6
3	Gross fixed capital formation	1456889	17.7	607410	15.9
4	Changes in inventories	131459	1.6	51700	1.4
5	Exports of goods and non-factor services	1161269	14.1	514280	13.4
6	Less imports of goods and non-factor services	1770399	(21.6)	(561990)	(14.7)
7	Expenditure on gross domestic product (at mp)	8216160	100.0	3826111	100.0

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