

Methods of estimation of outputs of the service sector

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What Is Gross Domestic Product (GDP)?

- Gross domestic product (GDP) is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period.

GDP can be measured by three approaches:

1. Production approach :
 - $\text{Output} - \text{Input} = \text{Value Added}$
2. Expenditure approach :
 - $\text{Consumption} + \text{Gross capital Formation} + \text{Exports} - \text{Imports}$
3. Income approach :
 - $\text{Compensation of employees} + \text{consumption of fixed capital} + \text{Taxes less subsidies on products} + \text{Operating surplus.}$

Classification of Industries

1. **Agriculture, forestry and fishing**
2. **Mining and quarrying**
3. **Manufacturing**
4. **Electricity, gas, steam and air conditioning supply**
5. **Water supply; sewerage, waste management and remediation activities**
6. **Construction**
7. **Wholesale and retail trade; repair of motor vehicles and motorcycles**
8. **Transportation and storage**
9. **Accommodation and food service activities**
10. **Information and communication**
11. **Financial and insurance activities**
12. **Real estate activities**
13. **Professional, scientific and technical activities**
14. **Administrative and support service activities**
15. **Public administration and defence; compulsory social security**
16. **Education**
17. **Human health and social work activities**
18. **Arts, entertainment and recreation**
19. **Other service activities**

Output in the SNA

■ Market Output

- Market output consists of output intended for sale at economically significant prices.

■ Output produced for own final use

- Output for own final use consists of products retained by the producer for his own use as final consumption or capital formation.

■ Non-market output

- Non-market output consists of goods and individual (education, health, etc.) or collective services (law & order, defence, public administration, etc.) produced by 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.
- Output measured as total cost of production

Intermediate consumption

- Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital.
- Intermediate consumption:
 - Office rent, Electricity bill, Fuel, Telephone bill, uniforms etc.
 - Travel and hotel services while on business, medical facilities etc
 - “Small” or regular Maintenance and repairs are intermediate consumption
 - Large or such as to extend an asset’s life or improve its performance are capital formation

Gross Output (GO)

■ Market goods and services

$GO = \text{quantity} * \text{unit price}$

$GO = \text{sale}$
+ change in inventory
+ own final use

$GO = \text{Intermediate input}$
+ compensation
+ taxes net of subsidies
+ consumption of fixed capital
+ operating surplus

■ Non market goods and services, use

$GO = \text{intermediate input}$
+ compensation of employee
+ taxes net of subsidies
+ consumption of fixed capital

Electricity, gas, steam and air conditioning supply

- This sector is classified into 2 sub-sectors
 - electricity
 - gas and
- Economic activities relating to **generation, transmission and distribution** of electricity are included in the electricity sub-sector.
- **Transmission, Distribution** activities of natural gas are included in the gas sub-sector and
- **Collection, purification, distribution** of water and sewerage activities are covered under water supply sub-sector.

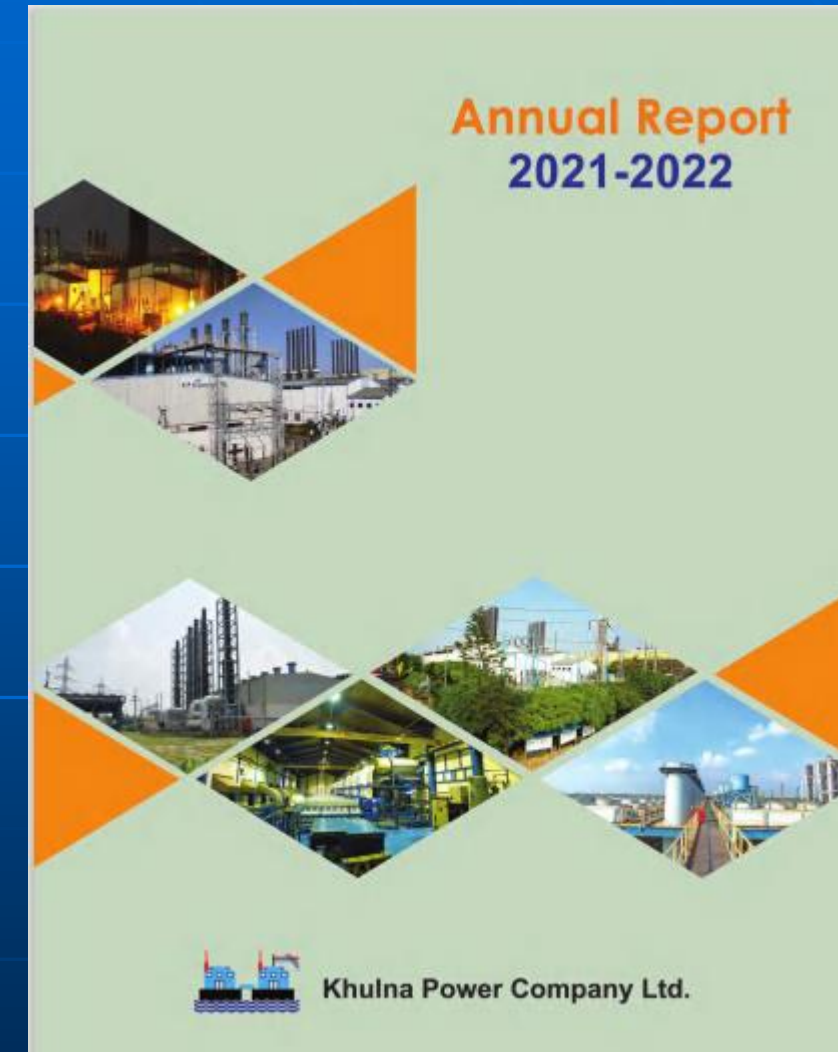
Electricity, gas, steam and air conditioning supply

- Economic activities relating to
 - generation
 - transmission and
 - distribution of electricity



Electricity, gas, steam and air conditioning supply

- Production method is used for estimation.
- Output and Input cost estimate from annual report of respective organisation (PDB, REB, SPL, KPCL etc.)
- Public and private generation company only produces electricity and sell to PDB
- Power Development Board (PDB)
 - producer as well as distributor
 - sale to distributor company (DESCO, REB etc.)
 - sale to consumer (HH, ind. etc.).
- Distributor company
 - Resale electricity to consumer



Electricity, gas, steam and air conditioning supply

- Gross Output (GO)
 - Generation company
 - Sales
 - Distribution company
 - Trade margin
 - Transmission company
 - Service charge/wheeling charge
- Intermediate consumption (IC)
 - Fuel, small repair & maintenance, printing etc.
- Gross value added (GVA)
 - $GVA = GO - IC$
- Unit price index of electricity is used as deflator.

Electricity, gas, steam and air conditioning supply

- Data source:
 - Power Development Board (PDB)
 - Haripur Power Station (HPS)
 - Ashuganj Power Station Company Ltd. (APSCL)
 - Dhaka Electric Supply Company Ltd. (DESCO)
 - Dhaka Power Distribution Company (DPDC)
 - West Zone Power Distribution Company Ltd. (WZPDCL)
 - Rural Electrification Board (REB)
 - Autonomous Bodies Budget, MoF
 - Power Grid Company of Bangladesh (PGCB)
 - Summit Power Company Ltd.
 - Khulna Power Company Ltd. etc.

Electricity, gas, steam and air conditioning supply

Gas:

Coverage

- Transportation and distribution of natural gas
- sale of natural gas to the user/consumer



Electricity, gas, steam and air conditioning supply

Gas:

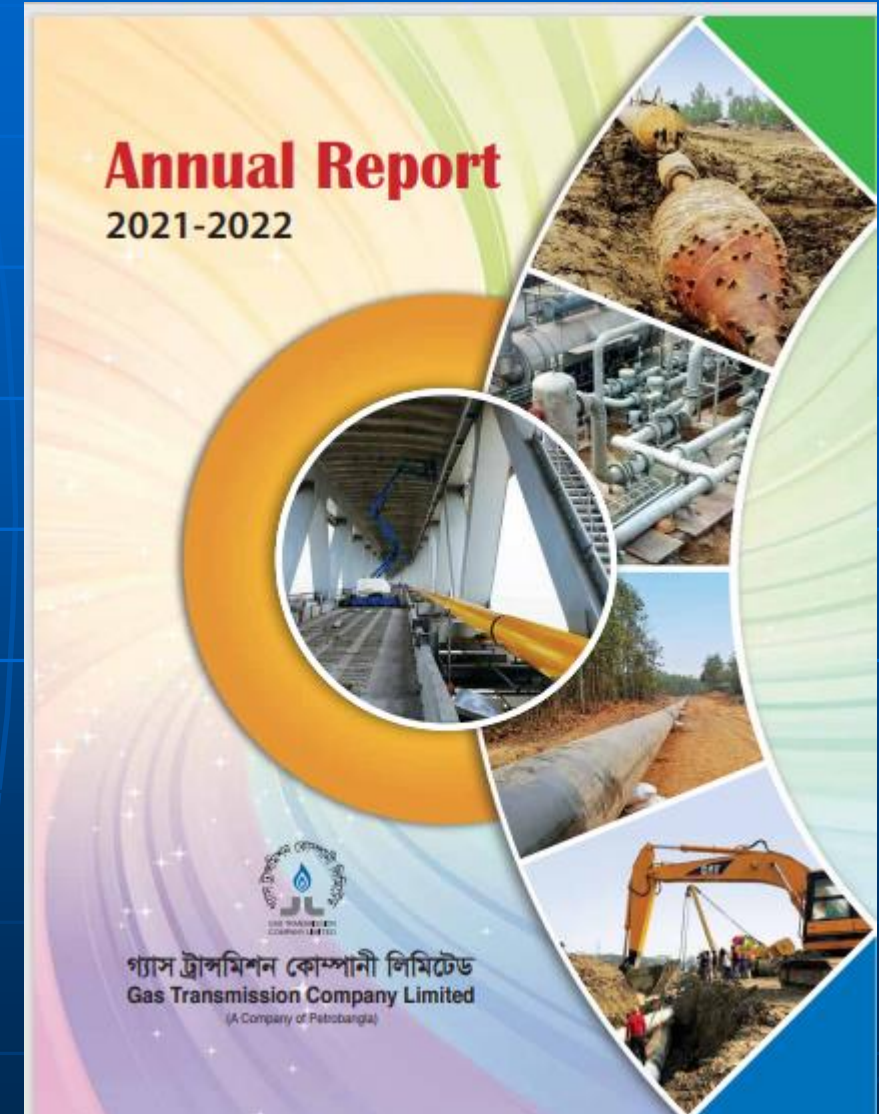
- GVA of this sub-sector is estimated by production method.
- Value of output
 - sale minus purchase + service charge
- Inputs
 - Fuel, administrative cost, repair & maintenance etc.
- Gross value added
 - Output-Inputs
- Unit price index of gas is used as deflator.

Electricity, gas, steam and air conditioning supply

Gas:

■ Data source:

- Petro Bangla
- Titas Gas Field Transmission and Distribution Co. Ltd.
- Jalalabad Gas T and D System Ltd.
- Bakhrabad Gas T and D System Ltd.
- Karnafuly Gas Distribution limited
- West Region Gas Company
- Gas Transmission Company Limited (GTCL).



Wholesale and retail trade; repair of motor vehicles and motorcycles

Coverage

- The activities covered in the sector are wholesale and retail trade of
 - imported products
 - domestically produced agricultural products and
 - domestically produced industrial products.
- Repair of motor vehicle, motorcycles

Wholesale and retail trade; repair of motor vehicles and motorcycles

- Commodity flow method is used to estimate the *GO* of this sector.
- The marketable supply (marketed part) is estimated as the amount of domestically produced commodities (plus respective imports) which are delivered to the customer via trade.
- The *GO* is measured from the trade margin originated from distribution of commodities.
- From the gross trade margins the intermediate cost (packing, overhead cost, etc.) incurred is deducted to arrive at the gross value added.

Wholesale and retail trade; repair of motor vehicles and motorcycles

■ Data source:

- Agriculture and Manufacturing sector estimates
- Bangladesh Bank (BB)
- National Board of Revenue (NBR)
- Wholesale and Retail trade Survey 2008-09
- Distributive Trade Survey 2019
- Survey of Gross Marketed Surplus of Agriculture Commodities 2019

Trade

The services provided for making the goods available to the purchasers

- **GO = Sale - cost of goods sold**
- **Cost of goods sold**
 - = purchases of goods for resale
 - + opening stock of goods for resale
 - closing stock of goods for resale
- **GO = sale**
 - + closing inventory
 - opening inventory
 - purchases of goods for resale

Trade (Contd.)

Example: A retail store in 2006 recorded the following transactions:

Sale = 50,000

purchases of goods for sale = 30,000

opening stock = 4,000, closing stock = 5,000

utilities = 200

supplies = 500

other services paid = 50

GO = 50,000 + (5000-4000) - 30,000 = 21,000

**GVA = 21,000 - (200+500+50) = 21,000 - 750
= 20,250**

Transport and Storage:

Transport sector activities are classified into five sub-sectors

- Land Transport
- Water transport
- Air transport
- Support transport services, storage
- Post and Courier

Transport sector again classified as

- Public transport
- Private transport

Land Transport:

Coverage

- Bangladesh Railway (BR)
- Bangladesh Road Transport Corporation (BRTC)
- Mechanized Road Transport
 - Bus/minibus
 - Truck/Covered van
 - Taxi cab/rent a car
 - Uber/Pthao
 - Auto-rickshaw/CNG etc.
- Non-Mechanized Road Transport
 - Rickshaw
 - Cart etc.
- Private car, motorcycle are excluded from this sector (consumer durables)

Land Transport:

- Estimates of the Railways and BRTC are worked out from annual budget documents of the Railway and BRTC.
- Sales and other receipts for services are taken as gross output.
- GVA is estimated by deducting intermediate consumption used up in the process of providing services.
- The value added of bus, truck, taxi cab etc. are originating from these transport fleets/vehicles are derived by using gross earnings, intermediate consumption per vehicle and the number of vehicles in operation.
- The benchmark estimates are converted into current estimates by the fare and freight (FFI) indices.

Water Transport:

Coverage

- Bangladesh Shipping Corporation (BSC)
- Bangladesh Inland Water Transport Corporation (BIWTC)
- Mechanized Water Transport
 - Launch
 - Cargo etc.
- Non-Mechanized Water Transport
 - Country Boat

Water Transport:

- Estimates of the BSC and BIWTC are estimated from annual budget documents of the BSC and BIWTC.
- Sales and other receipts for services are taken as gross output.
- GVA is estimated by deducting intermediate consumption used up in the process of providing services.
- The value added of launch, cargo etc. are originating from these transport fleets/vehicles are derived by using gross earnings, intermediate consumption per vehicle and the number of vehicles in operation.
- The benchmark estimates are converted into current estimates by the fare and freight (FFI) indices.

Air Transport:

Coverage

- Bangladesh Biman
 - **United Air**
 - Novo air
 - Regent Air
 - US Bangla
 - Private Helicopter Service
-
- GO of the air transport are obtained from annual budget documents of the respective agency.
 - Sales and other receipts for services are taken as gross output.
 - GVA is estimated by deducting intermediate consumption used up in the process of providing services.
 - Fare and freight (FFI) indices of air transport are as a deflator

Post and Courier:

Coverage

- Post and courier activity
 - Bangladesh Post Office (BPO)
 - Courier service (Sundarban, Continental etc.)
- GVA of BPO is estimated from budget document.
- GVA of Courier service activities are estimated from Communication Survey 2011 report.

Support Transport Services, Storage:

Coverage

- Chittagong Port Authority (CPA)
- Mongla Port Authority (MPA)
- Bangladesh Parjaton Corporation (BPC)
- Civil Aviation Authority of Bangladesh (CAAB)
- Bangladesh Inland Water Transport Authority (BIWTA)
- Bangladesh Bridge Authority (BBA)
- C&F Agent
- Urban Storage
- Rural Storage

Support Transport Services, Storage:

- Estimates of the State own enterprise (CPA, MPA, BIWTC, CAAB, BPC etc.) are estimated from annual budget documents of the respective organization.
- Sales and other receipts for services are taken as gross output.
- GVA is estimated by deducting intermediate consumption used up in the process of providing services.

Transport and Storage

- Data source:
 - Bangladesh Road Transport Authority (BRTA)
 - Bangladesh Railway (BR)
 - Bangladesh Road Transport Authority (BRTC)
 - Bangladesh Post Office (BPO)
 - Bangladesh Shipping Corporation
 - Biman Bangladesh Airlines Ltd.
 - Autonomous body Budget Document
 - BIWTA, BIWTC, Civil Aviation Authority, Porjaton Corporation,
 - Port Authority (Chittagong, Mongla, Land port)
 - City corporation, Cold storage association
 - Survey on Private Commercial Mechanized and Non-Mechanized Land and Water Transport 2019
 - Communication Survey 2011.

Accommodation and food service activities

Coverage

- Hotel, Camps and Other Lodging Places
- Restaurant and Non-residential Hotels
- Tea Stall
- Eating and Drinking Places and others

Accommodation and food service activities

- Production method is used for estimation.
- Output of hotels and restaurants is measured by the service charge which is the value of sales/receipts
- The IC of this sector comprises materials and supplies consumed in business operation, rental services, fuel, electricity, water and other services such as advertising, insurance, management
- $GVA = Output - IC$
- Deflator
 - Consumer Price Index (CPI), non-food is used for residential hotel
 - Consumer Price Index (CPI), food is used for non-residential hotel

Accommodation and food service activities

- Data source:
 - Survey on Hotel and Restaurants 2009-10
 - Economic Census 2013
 - Annual Establishment and Institution Survey (AEIS)
 - National Board of Revenue (NBR)

Information and communication

Coverage

- Publishing
 - Book publishing
- Motion picture, video and television Programme production, sound recording and music publishing activities
 - Motion picture
 - Cinema Hall
 - Music Producing Companies
- Programming and broadcasting activities
 - Radio Bangladesh
 - Bangladesh Television
 - Private TV

Information and communication

Coverage

- Telecommunication
 - Bangladesh Telecommunication Company Ltd. (BTCL)
 - Bangladesh Submarine Cable Company Limited
 - Mobile Phone Operator (GP, Banglalink, Robi, Teletalk)
 - Internet Service Provider (ISP)
 - Private Satellite TV
 - Cable Operator
- Computer programming, consultancy and related activities
 - Software
 - Computer consultancy
 - Other information technology

Information and communication

- GVA of BTCL, BSCCL are estimated from their budget document.
- GVA of Mobile phone, Satellite TV are obtain from their annual report.
- GVA of the following sub-sectors are estimate from Survey report.
 - Internet Service Provider (ISP)
 - Cable operator.
 - Book Publishing
 - Motion picture
 - Programming and broadcasting activities
 - Computer programming, consultancy and related activities

Information and communication

■ Data source:

- Bangladesh Telecommunication Regulatory Commission (BTRC)
- Bangladesh Telecommunications Company Limited (BTCL)
- Bangladesh Submarine Cable Company Limited (BSCCL)
- GP, Robi, Banglalink, Teletalk (Annual report)
- Communication Survey 2011.
- Satellite Television

Administrative and support service activities sector

Coverage

- Rental and leasing activities
- Employment activities
- Travel agency, tour operator, reservation service and related activities
- Security and investigation activities
- Services to buildings and landscape activities
- Office administrative, office support and other business support activities

Administrative and support service activities sector

Methodology

- Value added of this sector was estimated following production approach.
- Benchmark estimates of GO, IC and GVA, for the new base year, were derived using information of the
 - Survey of Selected Business Services, 2012
 - Case Studies on Selected Economic Activities, 2014
 - Survey of Travel Agent, Tour Operator and Clearing & Forwarding agents, 2019
 - Survey of Mechanized/Non-Mechanized Land and Water Transport 2019 and
 - Bangladesh Road Transport Authority.
- Employment growth rate was used to obtain estimates for the subsequent years at constant prices.

Thank You