QUARTERLY NATIONAL ACCOUNTS STATISTICS
Q1 2014 – Q4 2024

Quarterly Bulletin

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NATIONAL STATISTICS BUREAU

Thimphu, Bhutan

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Foreword

The National Statistics Bureau (NSB) is pleased to present the first edition of Quarterly National Accounts Statistics (QNAS) starting from the 4th quarter 2024. The main objective of the QNAS is to update and provide insights on the economic performance on a quarterly basis. The bulletin provides key economic indicators such as economic growth, and level of economic flows from production activities.

The QGDP figures are estimated in conformity with the compilation methodology, definitions, and standards prescribed in the Quarterly National Accounts Manual – 2017 published by International Monetary Fund (IMF). We hope this bulletin facilitates evidence-based decision-making, supports the formulation of policies and plans, and aids in the monitoring and evaluation of development programs.

This edition of the QNAS Bulletin presents data at the three major sector/industry levels. More detailed disaggregation will be introduced in future editions as the quality of indicators at a granular level improves.

The NSB extends its sincere gratitude to the IMF South Asia Regional Training and Technical Assistance Center (SARTTAC), Delhi, India, for the technical assistance in developing QNA, and to all government, and private sector agencies for their continued support and cooperation. Your feedback and comments are highly valued as we strive to improve future editions of the bulletin.

National Statistics Bureau

Thimphu: Bhutan

1. Overview

1.1. Background

Quarterly National Accounts (QNA) provide timely and comprehensive information on economic developments compared to annual national accounts statistics and short-term indicators. They serve as a framework to assess, analyze, and monitor current economic conditions. The primary advantage of QNA is its ability to integrate various short-term indicators into a consistent national account's framework. However, QNA estimates rely on limited data compared to annual GDP estimates.

The consistency between quarterly and annual GDP estimates are maintained by using a process called **benchmarking**. Benchmarking ensures quarterly estimates are aligned with annual GDP data, in that the sum of the four quarters corresponds to their annual value. This process helps preserve the quarterly pattern of economic activity while ensuring coherence with more reliable annual estimates.

1.2. Methods

The compilation of Quarterly GDP (QGDP) estimates follows a systematic approach consisting of four main steps:

1.2.1. Identification of Benchmarks

Benchmarks refer to the published annual value-added estimates by industry at constant prices, derived from the Annual National Accounts (ANA). These benchmarks provide the reference points against which quarterly estimates are aligned. The level of industrial detail in the benchmarks is consistent with the published ANA data.

1.2.2. Stocktaking of Source Data

The next step is to identify and review all available data sources that can serve as high-frequency indicators (HFIs) for quarterly estimates. These include production data, sales figures, tax data, employment statistics, and other administrative records. The availability, reliability, and frequency of the data are assessed to select the most appropriate indicators.

1.2.3. Selection of High-Frequency Indicators (HFIs)

HFIs are selected based on their statistical properties, including their correlation with annual data and their ability to capture short-term economic trends. Statistical tests, visual charts, and correlation analysis are used to determine the suitability of each indicator. The chosen indicators serve as proxies to extrapolate quarterly value-added estimates for each industry.

1.3. QGDP Compilation

The final step involves compiling quarterly estimates using the **Basic Denton Method**. This mathematical technique ensures that quarterly estimates follow the short-term movements of the selected indicators while remaining consistent with annual benchmarks. The method minimizes distortions and preserves the underlying pattern of the indicators.

The quarterly estimates are generated by applying the movements of selected high frequency indicators to the benchmarks. The IMF's **XLPBM Excel add-on** is used to apply the Basic Denton Method, facilitating both interpolation and extrapolation of quarterly data.

The Basic Denton is the most common technique as illustrated below.

$$X_{q,\beta+1} = X_{4,\beta} \cdot \left(\frac{I_{q,\beta+1}}{I_{4,\beta}} \right)$$

$X_{q,\beta}$ is the level of the QNA estimate for quarter q of year β.

$I_{q,\beta}$ is the level of the indicator in quarter q of year β.

Where the quarterly GVA for an industry is a function of the most recent benchmarked quarterly value (the fourth quarter of the preceding year) and the ratio of the underlying indicator between the current quarter and most recent benchmarked quarter (again, the fourth quarter of the preceding year).

The objectives of benchmarking are the following:

- to estimate quarterly data that are temporally consistent with the ANA data: that is, to ensure that the sum (or the average) of the quarterly data is equal to the annual benchmark;

- to preserve as much as possible the quarterly movements in the indicator under the restrictions provided by the ANA data; and

- to ensure, for forward series, that the sum of the four quarters of the current year is as close as possible to the unknown future ANA data.

1.4. Benchmarking Using XLPBM Macros

The XLPBM is a Microsoft Excel add-in developed by IMF's Statistics Department to assist compilers of quarterly national accounts statistics. This tool, is intended for quarterly national accounts (QNA) statistics compilation using a spreadsheet-based compilation system. The optimal combination of annual levels and quarterly movements requires an adjustment such that it preserves as much as possible the

short-term movements in the preliminary intra-annual source, subject to the restrictions provided by the annual constraints. This method proposed by Denton is grounded on a principle of movement preservation, whereby the adjusted values are sought to preserve maximally the movement in the original series. The Denton Proportional First difference (PFD) benchmarking method was implemented using XLPBM as it is considered optimal because it best preserves the short-term movements in the quarterly source data under the restrictions provided by the annual data.

1.5. Current Price Estimate

The QGVA estimates at current prices are compiled by superimposing appropriate Producer Price Index/Consumer Price Index on the QGVA estimates at constant prices, at major industry group level. This is done by estimating the industry wise Implicit Price Deflators (IPDs) for each quarter, using the relevant price indexes, for the reference quarter. The IPDs are worked out as ratio of GVA at current prices and GVA at constant prices. The QGVA estimate at current prices for each industry equals the product of QGVA for the quarter at constant prices and the IPD for the quarter of that industry.

1.6. Publication Timeline and Revision Policy

The QNA will be published 90 days after the end of the reference quarter. The QGDP estimates will be fully consistent with the Annual GDP. The revision policy will be aligned with the compilation of the Annual National Accounts (ANA) to ensure consistency.

The final annual GDP figures are published in July, 6 months after the end of the calendar year. When a new final estimate for the year is compiled, the quarterly figures will be adjusted and updated to match the annual estimates.

The benchmarking method will change historical QGDP estimates, even if historical benchmarks remain unchanged. However, revisions to QGDP are only significant for the most recent four quarters when new benchmarks become available.

2. Economic Highlights

2.1. Economic performance

The Gross Domestic Product (GDP) in the fourth quarter of 2024 recorded a year-on-year growth of 6.86 percent, an increase of 0.36 percentage points from the 6.50 percent growth observed in the previous quarter (Q3).

The **provisional annual** GDP growth for 2024 based on the quarterly estimate was recorded at **6.06** percent, compared to 4.88 percent growth observed in 2023, an increase of 1.18 percentage points.

Among the sectors, the industry sector registered a growth of 14.64 percent, up from 9.35 percent in the previous quarter. This high growth is mainly attributed to the strong performance of the construction and electricity sub-sectors.

The service sector grew by 4.15 percent; however, this was a deceleration from the 5.63 percent growth recorded in the previous quarter.

Meanwhile, the agriculture sector grew by 3.16 percent, a notable increase from 1.71 percent in the previous quarter.

Figure 1: GDP and year-on-year growth rates at 2017 prices
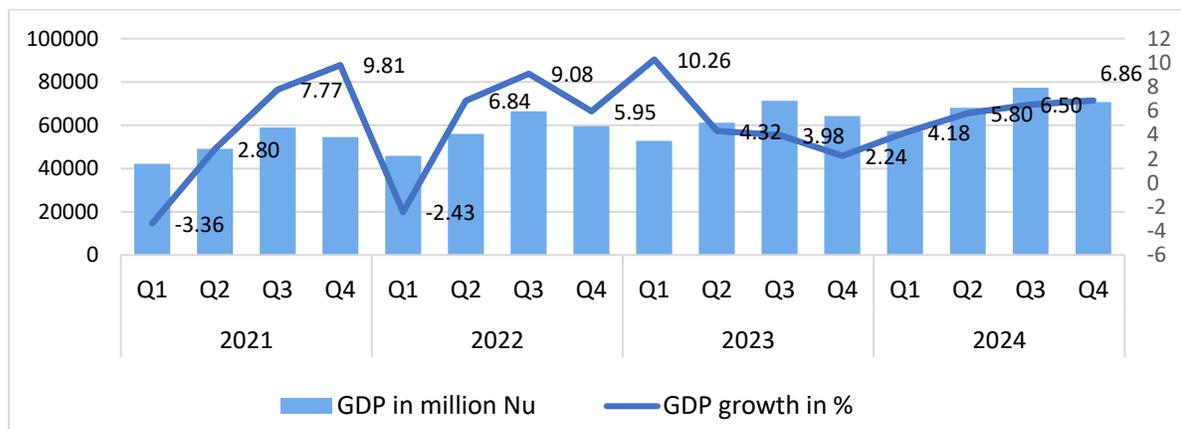
In the fourth quarter (Q4) of 2024, the Gross Domestic Product (GDP) at current market prices was estimated at Nu 70,620.20 million, an increase from Nu 64,210.38 million in the same quarter of the previous year. This represents a 9.98 percent year-on-year growth in nominal terms, reflecting increase in both prices and production in goods and services across all major sectors.

The provisional nominal GDP estimate for year 2024 increased to Nu 273,300.62 million from Nu 249,388.19 million in 2023, reflecting an increase of Nu 23,912.43 million.

Figure 2: Q3 GDP by major industries in million Nu
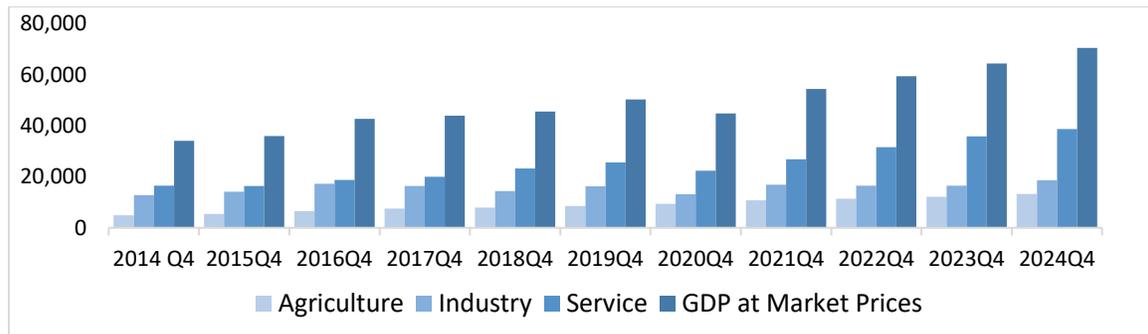
2.2. Sectoral Contribution to GDP

2.2.1. Agriculture sector

The agriculture sector GVA was estimated at Nu 13,240.36 million, contributing 18.75 percent to GDP. However, the sector's share declined from 18.90 percent in the same quarter of 2023, indicating a marginal decrease in its relative contribution to the total economy.

2.2.2. Industry sector

The industry sector GVA was estimated at Nu 18,589.87 million, accounting for 26.32 percent of GDP, reflecting a decline from 35.55 percent in the same quarter of 2023. This indicates a relative contraction in the sector's share, despite the overall growth in output.

2.2.3. Services sector (including taxes less subsidies)

The services sector GVA, including taxes less subsidies, was estimated at Nu 38,789.97 million, accounting for the largest share of GDP at 54.93 percent. However, the sector's share dropped from 55.32 percent in the same quarter of 2023.

Figure 3: Share to GDP by major sector, Q3, 2024 in %
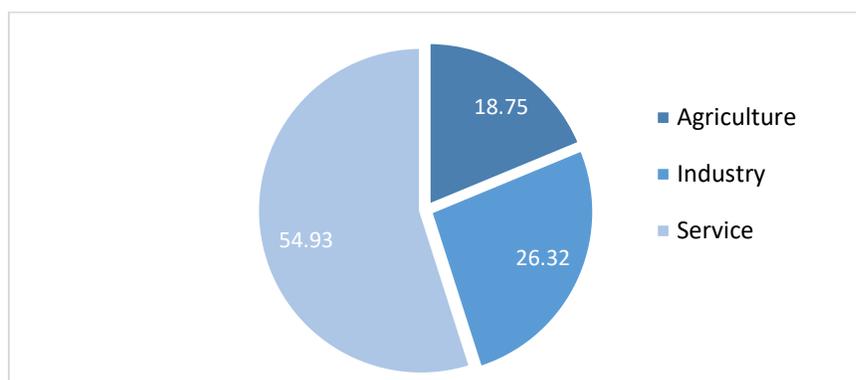
Statistical Table

Table 1: Gross Domestic Product by major industry, in current prices

Quarter	Agriculture	Industry	Service	GDP at Market Prices
		In million Nu		
2014 Q1	2,217.62	8,366.67	14,868.24	25,452.54
2014 Q2	3,399.04	11,444.54	15,439.46	30,283.04
2014 Q3	4,809.49	15,461.37	17,338.48	37,609.34
2014 Q4	4,954.62	12,723.05	16,472.92	34,150.59
2015 Q1	2,343.78	9,643.53	17,684.85	29,672.17
2015 Q2	3,869.75	12,907.93	17,075.97	33,853.64
2015 Q3	5,250.50	17,286.37	18,297.02	40,833.89
2015 Q4	5,371.37	14,153.16	16,468.42	35,992.94
2016 Q1	2,520.80	11,382.35	22,017.37	35,920.52
2016 Q2	4,033.04	14,084.93	18,650.81	36,768.78
2016 Q3	5,872.62	18,113.74	19,054.10	43,040.45
2016 Q4	6,586.89	17,327.29	18,769.33	42,683.52
2017 Q1	2,818.18	14,794.68	21,680.40	39,293.26
2017 Q2	4,395.48	15,523.99	19,881.23	39,800.70
2017 Q3	7,058.35	19,112.31	19,485.83	45,656.49
2017 Q4	7,547.44	16,448.41	20,007.00	44,002.85
2018 Q1	3,582.90	12,960.66	20,248.32	36,791.88
2018 Q2	4,928.22	14,660.70	23,814.91	43,403.83
2018 Q3	7,528.23	20,304.88	23,066.26	50,899.37
2018 Q4	7,901.46	14,377.85	23,298.56	45,577.87
2019 Q1	3,339.23	12,585.25	25,126.19	41,050.67
2019 Q2	5,522.64	15,122.18	25,307.09	45,951.91
2019 Q3	7,555.88	19,786.13	27,924.48	55,266.49
2019 Q4	8,499.22	16,261.11	25,618.37	50,378.70
2020 Q1	3,944.98	10,507.76	27,776.36	42,229.09
2020 Q2	6,572.01	14,033.26	23,453.32	44,058.59
2020 Q3	8,723.32	20,246.60	21,953.81	50,923.74
2020 Q4	9,356.15	13,106.11	22,433.74	44,896.00
2021 Q1	4,776.21	11,515.33	25,848.75	42,140.30
2021 Q2	7,302.22	15,394.04	26,341.32	49,037.58
2021 Q3	9,449.78	20,951.52	28,588.11	58,989.41
2021 Q4	10,798.09	16,860.69	26,838.34	54,497.12
2022 Q1	4,768.06	12,854.66	28,207.16	45,829.87
2022 Q2	7,592.80	18,693.41	29,768.07	56,054.28
2022 Q3	9,705.47	24,457.13	32,211.74	66,374.33
2022 Q4	11,356.25	16,496.17	31,702.81	59,555.23
2023 Q1	5,342.09	13,414.29	33,990.14	52,746.51
2023 Q2	8,839.31	18,128.56	34,229.10	61,196.96
2023 Q3	10,995.79	25,606.89	34,631.65	71,234.33
2023 Q4	12,135.13	16,552.23	35,523.02	64,210.38
2024 Q1	6,014.17	14,040.02	37,246.11	57,300.30
2024 Q2	9,834.10	18,907.25	39,275.12	68,016.47
2024 Q3	11,628.39	27,500.06	38,235.20	77,363.64
2024 Q4	13,240.36	18,589.87	38,789.97	70,620.20

Table 2: Share to GDP by major industries, current prices

Quarter	Agriculture	Industry	Service	GDP at Market Prices
		In %		
2014 Q1	8.71	32.87	58.42	100.00
2014 Q2	11.22	37.79	50.98	100.00
2014 Q3	12.79	41.11	46.10	100.00
2014 Q4	14.51	37.26	48.24	100.00
2015 Q1	7.90	32.50	59.60	100.00
2015 Q2	11.43	38.13	50.44	100.00
2015 Q3	12.86	42.33	44.81	100.00
2015 Q4	14.92	39.32	45.75	100.00
2016 Q1	7.02	31.69	61.29	100.00
2016 Q2	10.97	38.31	50.72	100.00
2016 Q3	13.64	42.09	44.27	100.00
2016 Q4	15.43	40.59	43.97	100.00
2017 Q1	7.17	37.65	55.18	100.00
2017 Q2	11.04	39.00	49.95	100.00
2017 Q3	15.46	41.86	42.68	100.00
2017 Q4	17.15	37.38	45.47	100.00
2018 Q1	9.74	35.23	55.03	100.00
2018 Q2	11.35	33.78	54.87	100.00
2018 Q3	14.79	39.89	45.32	100.00
2018 Q4	17.34	31.55	51.12	100.00
2019 Q1	8.13	30.66	61.21	100.00
2019 Q2	12.02	32.91	55.07	100.00
2019 Q3	13.67	35.80	50.53	100.00
2019 Q4	16.87	32.28	50.85	100.00
2020 Q1	9.34	24.88	65.78	100.00
2020 Q2	14.92	31.85	53.23	100.00
2020 Q3	17.13	39.76	43.11	100.00
2020 Q4	20.84	29.19	49.97	100.00
2021 Q1	11.33	27.33	61.34	100.00
2021 Q2	14.89	31.39	53.72	100.00
2021 Q3	16.02	35.52	48.46	100.00
2021 Q4	19.81	30.94	49.25	100.00
2022 Q1	10.40	28.05	61.55	100.00
2022 Q2	13.55	33.35	53.11	100.00
2022 Q3	14.62	36.85	48.53	100.00
2022 Q4	19.07	27.70	53.23	100.00
2023 Q1	10.13	25.43	64.44	100.00
2023 Q2	14.44	29.62	55.93	100.00
2023 Q3	15.44	35.95	48.62	100.00
2023 Q4	18.90	25.78	55.32	100.00
2024 Q1	10.50	24.50	65.00	100.00
2024 Q2	14.46	27.80	57.74	100.00
2024 Q3	15.03	35.55	49.42	100.00
2024 Q4	18.75	26.32	54.93	100.00

Table 3: Gross Domestic Product by major industries, in 2017 prices

Quarter	Agriculture	Industry	Services	GDP at Market Prices
In million Nu				
2014 Q1	2,888.87	9,642.78	16,295.61	28,827.26
2014 Q2	4,381.14	13,429.72	17,226.01	35,036.87
2014 Q3	5,920.89	17,630.10	17,390.64	40,941.63
2014 Q4	6,041.72	14,268.34	17,755.21	38,065.27
2015 Q1	2,908.30	10,767.84	18,374.61	32,050.74
2015 Q2	4,881.18	14,887.97	18,557.55	38,326.69
2015 Q3	6,227.89	18,791.31	17,702.06	42,721.26
2015 Q4	6,212.04	15,199.56	17,877.11	39,288.70
2016 Q1	2,880.27	11,760.18	19,411.73	34,052.18
2016 Q2	4,583.06	14,702.84	20,809.16	40,095.07
2016 Q3	6,590.53	19,475.99	19,944.60	46,011.12
2016 Q4	7,102.83	18,144.76	19,897.70	45,145.29
2017 Q1	2,911.29	14,914.34	20,169.78	37,995.41
2017 Q2	4,444.58	15,545.03	20,977.51	40,967.13
2017 Q3	7,075.78	19,084.45	19,933.87	46,094.10
2017 Q4	7,387.80	16,335.58	19,973.28	43,696.66
2018 Q1	3,361.88	13,343.42	20,725.46	37,430.76
2018 Q2	4,636.96	14,806.64	22,160.52	41,604.13
2018 Q3	7,139.86	20,421.36	23,173.48	50,734.70
2018 Q4	7,307.11	14,675.06	22,911.05	44,893.22
2019 Q1	3,087.35	12,803.18	23,490.04	39,380.57
2019 Q2	5,087.66	14,906.33	24,363.65	44,357.64
2019 Q3	7,045.21	18,598.87	26,127.79	51,771.87
2019 Q4	7,613.60	16,093.81	25,497.44	49,204.85
2020 Q1	3,473.33	11,083.02	24,575.64	39,131.99
2020 Q2	5,652.89	12,708.15	22,439.63	40,800.67
2020 Q3	7,132.11	17,375.20	20,505.65	45,012.97
2020 Q4	7,488.83	12,251.76	21,153.81	40,894.40
2021 Q1	3,572.73	10,885.45	23,357.05	37,815.22
2021 Q2	5,477.71	13,323.52	23,143.48	41,944.71
2021 Q3	7,192.15	17,206.74	24,109.46	48,508.35
2021 Q4	7,842.80	14,109.48	22,951.85	44,904.14
2022 Q1	3,395.25	10,189.13	23,313.60	36,897.97
2022 Q2	5,454.67	14,991.53	24,368.76	44,814.96
2022 Q3	7,000.26	19,544.51	26,368.63	52,913.40
2022 Q4	7,959.44	13,907.69	25,707.94	47,575.07
2023 Q1	3,616.87	10,573.20	26,494.18	40,684.25
2023 Q2	5,748.48	14,471.65	26,530.50	46,750.64
2023 Q3	7,049.16	20,301.05	27,670.06	55,020.28
2023 Q4	7,721.84	13,269.88	27,650.67	48,642.39
2024 Q1	3,785.11	11,093.72	27,507.48	42,386.32
2024 Q2	6,091.39	15,227.53	28,145.58	49,464.50
2024 Q3	7,169.76	22,198.49	29,228.85	58,597.11
2024 Q4	7,965.63	15,213.21	28,798.79	51,977.63

Table 4: Gross Domestic Product, year-on-year growth rates in 2017 prices

Quarter	Agriculture	Industry	Services	GDP at Market Prices
		% change		
2014 Q1	0.67	11.67	12.76	11.18
2014 Q2	11.41	10.86	7.73	9.39
2014 Q3	5.19	6.59	1.79	4.35
2014 Q4	2.82	6.53	0.69	3.21
2015 Q1	(0.96)	9.22	5.64	6.24
2015 Q2	(6.11)	(1.24)	12.13	4.61
2015 Q3	5.82	3.64	12.67	7.70
2015 Q4	14.34	19.38	11.30	14.91
2016 Q1	1.08	26.82	3.91	11.58
2016 Q2	(3.02)	5.73	0.81	2.17
2016 Q3	7.36	(2.01)	(0.05)	0.18
2016 Q4	4.01	(9.97)	0.38	(3.21)
2017 Q1	15.48	(10.53)	2.75	(1.49)
2017 Q2	4.33	(4.75)	5.64	1.55
2017 Q3	0.91	7.01	16.25	10.07
2017 Q4	(1.09)	(10.17)	14.71	2.74
2018 Q1	(8.17)	(4.05)	13.34	5.21
2018 Q2	9.72	0.67	9.94	6.62
2018 Q3	(1.33)	(8.92)	12.75	2.04
2018 Q4	4.19	9.67	11.29	9.60
2019 Q1	12.50	(13.44)	4.62	(0.63)
2019 Q2	11.11	(14.75)	(7.90)	(8.02)
2019 Q3	1.23	(6.58)	(21.52)	(13.06)
2019 Q4	(1.64)	(23.87)	(17.04)	(16.89)
2020 Q1	2.86	(1.78)	(4.96)	(3.36)
2020 Q2	(3.10)	4.84	3.14	2.80
2020 Q3	0.84	(0.97)	17.57	7.77
2020 Q4	4.73	15.16	8.50	9.81
2021 Q1	(4.97)	(6.40)	(0.19)	(2.43)
2021 Q2	(0.42)	12.52	5.29	6.84
2021 Q3	(2.67)	13.59	9.37	9.08
2021 Q4	1.49	(1.43)	12.01	5.95
2022 Q1	6.53	3.77	13.64	10.26
2022 Q2	5.39	(3.47)	8.87	4.32
2022 Q3	0.70	3.87	4.94	3.98
2022 Q4	(2.99)	(4.59)	7.56	2.24
2023 Q1	4.65	4.92	3.82	4.18
2023 Q2	5.97	5.22	6.09	5.80
2023 Q3	1.71	9.35	5.63	6.50
2023 Q4	3.16	14.64	4.15	6.86

Annexture

Table 1: Quarterly estimates of GDP at constant prices, Data sources and methods

Industry	Data Sources/ Method
Crops	The indicator used for benchmarking to annual estimates and extrapolation is quarterly gross output of major crops. These crops account for about 80 percent of the total value of output. Harvest based approach was adopted for quarterly allocation of annual output of major crops, paddy, maize, wheat, buckwheat, potato and chili, mandarin, apple, areca-nut and radish. Allocation is based on a crop calendar developed in consultation with Agricultural Statistics division. In this approach, the output of a particular crop is allocated to the quarters corresponding to harvesting period of that crop. For this sector, the method adopted was first to benchmark each of the products for which quarterly data are available to the annual output for that product. For experimental estimates of QGVA, the harvest value was recorded as production. Remaining crops, assumes a simple production profile such as equal distribution over time and annual estimate is distributed equally across the four quarters.
Forestry	Extrapolation using quarterly volume index of timber production.
Animal Farming	In the case of livestock products, quarterly estimates of production of major livestock products namely, milk, eggs and meat are compiled using season wise information provided by the Agriculture Statistics Division. The remaining other livestock products, assume a simple production profile such as equal distribution over time and annual estimate is distributed equally across the four quarters.
Mining	Composite volume index of dolomite, limestone, gypsum, coal, marble, quartzite stones, granite and Iron ore is used as an indicator for extrapolation.
Manufacturing	Volume index of exports of manufactured products was used for benchmarking to annual estimates and extrapolation of estimates of manufacturing.
Electricity	Volume index of electricity production is the indicator used for benchmarking of annual estimates and extrapolation.
Construction	Composite volume index of sales cement and timber production was used for benchmarking and extrapolation.
Wholesale and retail trade; repair of motor vehicles and motorcycles	Deflated sales tax collected for goods and commodities, petroleum products and vehicles were used as quarterly indicators for benchmarking and extrapolation. Price indices used for deflating sales tax are CPI.
Transportation and storage	Volume index compiled using imports of fuel deflated by import price index is used as an indicator for Land Transport. For air transport imports of ATF deflated by import price index is used as an indicator.

Accommodation and food service activities	Sales tax collected for accommodation and food service activities deflated by overall CPI is used as an indicator for benchmarking to the annual estimates and extrapolation.
Information and communication	Revenue of telecom companies deflated by CPI is used as an indicator for benchmarking and extrapolation.
Financial services	Extrapolation and benchmarking using quarterly data on deposits and advances deflated with overall CPI.
Real estate activities	A simple production profile such as equal distribution over time was assumed and annual estimate is distributed equally across the four quarters.
Professional, scientific, and technical activities and administrative and support service activities	Business Income tax data collected for services activities deflated by CPI (Non-food)
Public administration and defense	In absence of wage rate index, overall CPI was used to deflate the wages of government employees.
Education	Extrapolation and benchmarking using wages of employees in education services deflated by CPI (education). Due to lack of data, private education value added is assumed to grow proportionally to the public education services.
Human health and social work activities	Wages of health workers deflated by CPI (health) is used as an indicator for benchmarking and extrapolation. Due to lack of data, private health value added is assumed to grow proportionally to the public health services.
Arts, entertainment, and recreation	Sales tax collected for cable TV & cinemas deflated by CPI (recreation) Is used as an indicator for extrapolation and
Taxes less Subsidies on products	Extrapolation of benchmark year estimates for different product taxes using volume growth of relevant goods and services subject to tax and aggregated to get the total volume of taxes. The estimation of subsidies in an analogous manner. Deflated values of imports used as an indicator for benchmarking and extrapolation of Import duties.

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