

Newsletter Quarterly Gross Domestic Product (QGDP) Second Quarter 2019



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Main points

- Ghana provisional Real Gross Domestic Product (GDP) in volume terms was estimated to have increased to 5.7 percent in quarter two (April to June) 2019.
- When seasonally adjusted, Ghana Real GDP increased to 1.4 percent in quarter 2 (April to June) 2019; down from 1.6 percent in quarter 1 (January to March) 2019.
- The main sub-sectors driving the growth in the April to June 2019 GDP were Information & Communication, Mining & Quarrying, Health & Social Work and Real Estate.
- Information & Communication sub-sector increased from 14.6% in quarter two of 2018 to 52.8% in quarter two of 2019.
- The Real Estate sub-sector recoverd from a contraction of 0.8% in quarter two of 2018 to 14.9% in quarter two of 2019.
- The Mining and Quarrying sub-sector slowed to 14.0% in quarter two of 2019 from 24.7% in quarter two of 2018.
- The Health and Social Work sub-sector also slowed to 10.3 % in quarter one of 2019 from 26.8% in the same period of 2018.
- Negative contributors to the QGDP growth came from the sub-sectors of Construction (-8.3%), Water Supply, Sewerage, Waste Management & Remediation Activities (-7.9%), Eletricity (-7.5%), Forestry and logging (-6.5%) and Fishing (-2.1%).

Things you need to note about this release

Gross Domestic Product (GDP) growth is the main indicator of economic performance. There are three approaches used to measure GDP: the output approach, the expenditure approach and the income approach.

This Statistical Release contains independently compiled quarterly estimates of the Gross Domestic Product (GDP) for the 2nd quarter of 2019 using the product approach. The estimates are based on the 2008 System of National Accounts (SNA), the International Standard Industrial Classification (Rev.4) published by the United Nations, and the Quarterly National Accounts Manual: Concepts, Data Sources and Compilation prepared by the International Monetary Fund (IMF). This means that the methodology, concepts and classifications are in accordance with the guidelines and recommendations of an internationally agreed system of national accounts. The estimates of real GDP are expressed in terms of the base year, 2013.

The Annual GDP estimates are derived independent of the quarterly estimates. Short-term indicators are used to estimate the quarterly GDP (see IMF's Quarterly National Accounts Manual: Concepts, Data Sources and Compilation) and benchmarked to the annual GDP.

Current or Nominal GDP is the value of final goods and services evaluated at current quarter prices.

Constant or Real GDP is the value of final goods and services evaluated at base year prices. In Ghana, the base year is 2013. By using the prices from the base-year (or holding prices constant over time), we eliminate the impact of rising prices on GDP in order to get a measure of "Real" economic activity.

Seasonal Adjustment

The quarterly value added and GDP estimates have been seasonally adjusted. Seasonal adjustment is the process of estimating and removing seasonal effects from time series to reveal non-seasonal features. This process is to provide a clearer view of short term movements and trends and to allow early identification of turning points.

Revision Policy

While the majority of revisions are made to the four most recent quarters of the series, there is no restriction on when an estimate of the quarterly series for a given period can be revised. The main causes of revisions are as follows:

a) Incorporation of additional and improved data: Most revisions reflect the incorporation of a wider range of data. In particular, some data that were not available at the release date are incorporated through revisions into subsequent releases.

- b) Reconciliation of quarterly and annual measures: The process of reconciling the quarterly measures with the annual measures can lead to further revisions. The quarterly measures of these series are based on a smaller range of data than the annual measures.
- c) The rebased provisional quarterly GDP estimates may be revised further and finalized based on the availability of additional data.

Related Publications

Users may refer to other publications on GDP on the **GSS website:** www.statsghana.gov.gh

Quarterly real GDP growth, Ghana: April to June 2019

Provisional real quarterly gross domestic product (QGDP) including Oil and Gas, by production increased to 5.7% (year on year) in the second quarter of 2019. In the same period in 2018, the increase was 5.4%.

GDP growth rate without oil and gas (Non-Oil GDP) for second quarter 2019 is 4.3% which compares to the same period in 2018 with a growth rate of 5.0%

The Services sector recorded the highest growth of 6.5%; the Industry sector followed with 6.1% and Agriculture with 3.1%.

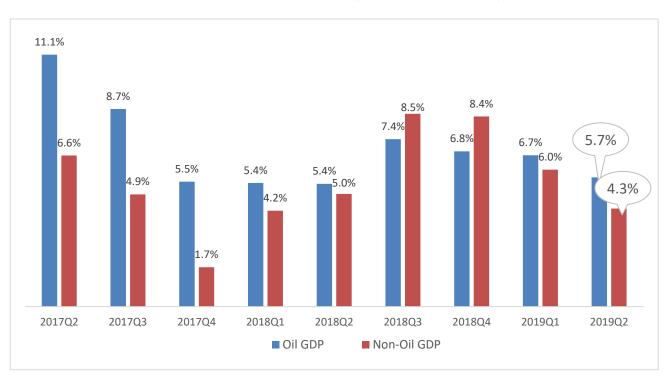


Figure 1: Quarterly real GDP growth rate (2017Q2-2019Q2)

Real quarterly gross domestic product: April to June 2019

The **GDP** estimate at constant 2013 prices for the 2nd quarter of 2019 was **GH¢39,952.6 million** compared to **GH¢37,804.9 million** in the 2nd quarter of 2018.

The **Non-oil GDP** at constant 2013 prices for the 2nd quarter of 2019 was **GH¢36,839.7 million** compared to **GH¢35,317.9 million** in the 2nd quarter of 2018.

Sector	Expanding sub-sectors		Contracting sub-s	ectors
	Livestock	5.7%	Forestry & Logging	-6.5%
Agriculture (3.1%)	Crops	4.0%	Fishing	-2.1%
	Mining & Quarrying	14.0%	Construction Water Supply,	-8.3%
Industry (6.1%)	Manufacturing	7.4%	Sewerage, Waste Management & Remediation Activities	-7.9%
			Electricity	-7.5%
	Information & Communication	52.8%		
	Real Estate	14.9%		
Services	Health & Social Work	10.3%		
(6.5%)	Education	8.9%	Public Administration &	
	Hotel & Restuarants	6.6%	Defence, Social Security	-2.8%
	Professional, Administrative & Support	5.9%		
	Transport & Storage	3.7%		
	Trade, Repair of Vehicle, Household Goods	2.0%		
	Finance & Insurance	1.4%		
	Other Personal Service Activities	0.6%		

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Table1: Year-on-year growth rates in 2nd quarter of 2019

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Nominal quarterly gross domestic product: April to June 2019

The **GDP** estimate at current prices in purchaser's value¹ for the 2nd quarter of 2019 was **GH**¢**84,126.1 million** compared to **GH**¢**72,500.4 million** in the 2nd quarter of 2018.

The **Non-oil GDP** (*GDP without Oil and Gas*) estimate at current prices for the 2nd quarter of 2019 was **GH¢81,353.6 million** compared to **GH¢69,890.5 million** in the 2nd quarter of 2018.

GDP sectoral shares

The Services sector still remained the largest sector of the Ghanaian economy in the second quarter of 2019 with a share of 49.1 percent of GDP at basic prices. The GDP share of Industry and Agriculture were 35.6 percent and 15.3 percent respectively.

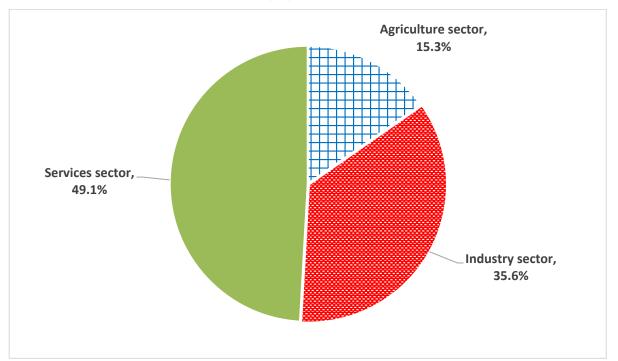


Figure 2: Sectoral distribution (%) of nominal GDP at basic prices

¹ Includes Net Indirect Taxes

Seasonally-Adjusted GDP

The Provisional quarter-on-quarter² seasonally-adjusted Real Gross Domestic Product (including Oil) growth rate for the 2^{nd} quarter of 2019 was 1.4 percent.

For the 2nd quarter of 2019, the quarter-on-quarter seasonally-adjusted growth rates (see Table 2) were as follows:

- In the Agriculture sector, the Crops sub-sector grew by 0.8 percent, compared to 0.6 percent in the 1st quarter of 2019. The Livestock sub-sector grew by 1.2 percent in the 2nd quarter of 2019, compared to 1.3 percent growth rate recorded in the 1st quarter of 2019. The Fishing subsector recorded -0.4 percent compared to -0.3 in the 1st quarter of 2019. The Forestry and Logging sub-sector recorded the least growth rate of -1.7 percent within the Agriculture sector.
- Within the Industry sector, the Mining and Quarrying sub-sector slowed to 3.4 percent in the 2nd quarter of 2019, from 4.8 percent recorded in the 1st quarter of 2019. The Manufacturing sub-sector grew by 1.8 percent in the 2nd quarter of 2019, from 1.4 percent recorded in the 1st quarter of 2019. The Electricity sub-sector recorded -1.9 percent in the 2nd quarter of 2019, compared to 2.6 percent growth recorded in the 1st quarter of 2019. Water Supply, Sewerage, Waste Management & Remediation Activities sub-sector recorded a growth rate of -2.0 percent in the 1st quarter of 2019, compared to -1.6 percent in the 1st quarter of 2019. Construction recorded the least growth rate of -2.1 percent in the 2nd quarter of 2019 compared to 0.6 percent in the 1st quarter of 2019.
- In the Services sector, Information and communication grew by 11.5 percent in the 2nd quarter of 2019 compared to 8.7 percent in the 1st quarter of 2019. The Real Estate also expanded by 3.8 percent in the 2nd quarter compared to 2.4 percent recorded in the 1st quarter of 2019. The least growth rate of -0.7 percent was observed in Public Administration, Defense & Social Security subsector in the 2nd quarter of 2019.

² Quarter-on-quarter GDP estimates provide a short term (within three months) picture of current economic developments. Estimates are influenced by seasonal patterns that are caused by economic behaviour or recurrent exogenous factors such as weather patterns, holidays, religious events, festive seasons, etc.

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Sector	Expanding sub-sectors Livestock	1.2%	Contracting sub-s Fishing	ectors -0.4%
Agriculture (0.7%)	Crops	0.8%	Forestry & Logging	-1.7%
	Mining & Quarrying	3.4%	Construction	-2.1%
Industry (1.5%)	Manufacturing	1.8%	-2.0%	
			Electricity	-1.9%
	Information & Communication	11.5%		
	Real Estate	3.8%		
	Health & Social Work	2.4%	Public Administration &	
Services (1.6%)	Education	2.3%		-0.7%
(1.070)	Hotel & Restuarants	1.6%	Security	-0.770
	Professional, Administrative & Support	1.5%		
	Transport & Storage	1.0%		
	Trade, Repair of Vehicle, Household Goods	0.5%		
	Finance & Insurance	0.4%		
	Other Personal Service Activities	0.2%		

 Table 2: Quarter-on-quarter seasonally adjusted growth rates in 2019 Q2

Appendix :	Appendix 1- Quarterly Gross Domestic Product at current prices by economic activity and respective sectoral distribution												
			Va	lue Added	(GHc Milli	on)				% of GD	P (@ basi	c prices)	
Year Quarter	Agriculture	Industry	Services	Total Value Added (GDP_@ basic prices)	Net indirect Taxes	Total (GDP in purchaser's value)	ow InformalGDP in purchaser's value	Total Non-Oil (GDP in purchaser's value)	Agriculture	Industry	Services	Total Value Added (GDP_@_basic prices)	ow Informal GDP in purchaser's value
2013_Q1*	5,878.2	10,921.3	12,600.6	29,400.1	1,443.3	30,843.4	8,473.6	29,024.5	20.0	37.1	42.9	100.0	27.5
2013_Q2*	5,626.2	10,912.2	12,442.4	28,980.8	1,657.5	30,638.3	8,199.2	28,894.7	19.4	37.7	42.9	100.0	26.8
2013_Q3*	6,026.7	10,559.1	11,862.3	28,448.1	1,683.9	30,132.0	8,469.1	28,573.9	21.2	37.1	41.7	100.0	28.1
2013_Q4*	7,758.4	10,711.8	11,602.9	30,073.2	2,063.1	32,136.3	10,167.5	30,454.1	25.8	35.6	38.6	100.0	31.6
2014_Q1*	8,152.2	10,648.1	12,914.5	31,714.8	3,294.9	35,009.7	10,621.5	32,798.5	25.7	33.6	40.7	100.0	30.3
2014_Q2*	6,667.0	13,032.9	15,124.7	34,824.6	3,371.4	38,196.0	9,669.9	35,632.6	19.1	37.4	43.4	100.0	25.3
2014_Q3*	7,161.8	15,970.2	14,292.1	37,424.1	3,624.7	41,048.8	10,228.9	38,583.1	19.1	42.7	38.2	100.0	24.9
2014_Q4*	9,105.0	14,116.2	13,800.7	37,021.9	4,156.1	41,178.0	11,946.0	39,417.5	24.6	38.1	37.3	100.0	29.0
2015_Q1*	9,430.4	13,390.2	17,112.6	39,933.2	3,624.9	43,558.1	12,698.9	42,223.8	23.6	33.5	42.9	100.0	29.2
2015_Q2*	7,777.8	15,685.1	17,648.2	41,111.1	3,599.1	44,710.2	11,293.3	43,030.3	18.9	38.2	42.9	100.0	25.3
2015_Q3*	8,519.4	13,699.2	17,511.1	39,729.7	3,788.1	43,517.9	11,861.0	42,557.7	21.4	34.5	44.1	100.0	27.3
2015_Q4*	10,798.1	14,380.7	19,061.8	44,240.6	4,372.3	48,612.9	14,469.5	47,895.4	24.4	32.5	43.1	100.0	29.8
2016_Q1*	11,776.3	14,903.8	22,310.2	48,990.4	3,810.1	52,800.5	16,078.3	52,535.0	24.0	30.4	45.5	100.0	30.5
2016_Q2*	9,411.9	14,614.2	23,206.5	47,232.6	4,358.0	51,590.6	13,821.8	51,465.0	19.9	30.9	49.1	100.0	26.8
2016_Q3*	10,518.0	15,187.8	22,676.6	48,382.3	3,811.3	52,193.7	14,863.3	51,979.8	21.7	31.4	46.9	100.0	28.5
2016_Q4*	13,410.2	16,003.2	24,486.5	53,900.0	4,592.3	58,492.2	18,153.6	58,070.2	24.9	29.7	45.4	100.0	31.0
2017_Q1*	13,147.3	18,508.1	26,933.9	58,589.3	3,959.0	62,548.4	18,411.3	61,490.5	22.4	31.6	46.0	100.0	29.4
2017_Q2*	10,230.5	19,587.9	28,593.5	58,411.9	4,322.8	62,734.7	15,870.0	61,282.7	17.5	33.5	49.0	100.0	25.3
2017_Q3*	12,213.4	19,776.2	26,614.7	58,604.3	4,843.1	63,447.4	17,510.4	60,985.6	20.8	33.7	45.4	100.0	27.6
2017_Q4*	14,963.2	20,142.8	27,555.4	62,661.5	5,279.4	67,940.9	20,456.3	64,466.6	23.9	32.1	44.0	100.0	30.1
2018_Q1*	14,575.5	21,522.4	31,613.9	67,711.8	5,287.4	72,999.1	20,855.2	71,326.9	21.5	31.8	46.7	100.0	28.6
2018_Q2*	11,128.2	23,712.9	32,706.6	67,547.7	4,952.7	72,500.4	17,787.7	69,890.5	16.5	35.1	48.4	100.0	24.5
2018_Q3*	13,199.9	24,318.0	31,336.3	68,854.2	5,368.4	74,222.6	19,685.6	71,760.8	19.2	35.3	45.5	100.0	26.5
2018_Q4*	16,020.0	25,217.1	33,622.2	74,859.2	6,014.8	80,874.0	22,925.3	77,010.1	21.4	33.7	44.9	100.0	28.3
2019_Q1*	15,569.5	26,208.7	37,345.4	79,123.6	5,603.2	84,726.7	23,262.7	81,954.3	19.7	33.1	47.2	100.0	27.5
2019_Q2*	12,080.1	27,998.5	38,715.0	78,793.5	5,332.6	84,126.1	20,173.4	81,353.6	15.3	35.6	49.1	100.0	24.0
*Provision	al					10							

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2013_Q1* 5,87 2013_Q2* 5,62 2013_Q3* 6,02 2013_Q4* 7,75 2014_Q1* 6,36 2014_Q2* 5,45	378.2 10, 526.2 10, 526.7 10, 528.4 10,),921.3),912.2	12,600.6	Total Va (GDP_@			w Informal GDP in urchaser's value	al (Non Oil DP)***	iculture	łustry	rices	*		GDP)**
2013_Q2* 5,62 2013_Q3* 6,02 2013_Q4* 7,75 2014_Q1* 6,36 2014_Q2* 5,45	526.2 10, 526.7 10, 758.4 10,),912.2		29,400.1			од	Tota G	Agr	Inc	Serv	Total (Oil GDP)*	ow Informal purchaser's	Total (Non-oil GDP)**
2013_Q3* 6,02 2013_Q4* 7,75 2014_Q1* 6,36 2014_Q2* 5,45	026.7 10, 758.4 10,		12,442.4		1,443.3	30,843.4	8,473.6	29,052.0						
2013_Q4* 7,75 2014_Q1* 6,36 2014_Q2* 5,45	758.4 10	0,559.1		28,980.8	1,657.5	30,638.3	8,199.2	28,910.2						
2014_Q1* 6,36 2014_Q2* 5,45			11,862.3	28,448.1	1,683.9	30,132.0	8,469.1	28,568.3						
2014_Q2* 5,45	861.7 9	0,711.8	11,502.9	29,973.2	2,063.1	32,036.3	10,149.6	30,316.6						
_		9,835.6	12,933.4	29,130.8	1,408.9	30,539.7	9,011.3	28,735.7	8.2	-9.9	2.6	-1.0	6.3	-1.1
2014 03* 6.03	56.3 11	1,146.2	13,601.5	30,204.0	1,750.7	31,954.7	8,259.3	30,235.5	-3.0	2.1	9.3	4.3	0.7	4.6
	38.5 12	2,096.1	12,520.6	30,655.2	1,864.7	32,519.9	8,693.1	30,690.0	0.2	14.6	5.5	7.9	2.6	7.4
2014_Q4* 7,67	571.4 10	0,521.5	11,961.3	30,154.3	2,080.0	32,234.3	10,102.4	30,321.1	-1.1	-1.8	4.0	0.6	-0.5	0.0
2015_Q1* 6,83	338.3 10	0,675.8	13,466.0	30,980.1	1,526.1	32,506.1	9,603.2	30,633.3	7.5	8.5	4.1	6.4	6.6	6.6
2015_Q2* 5,57	574.3 11	1,720.4	13,267.2	30,561.9	1,770.3	32,332.2	8,385.9	30,515.2	2.2	5.2	-2.5	1.2	1.5	0.9
2015_Q3* 6,07	076.9 11	1,400.7	12,702.3	30,179.8	1,821.8	32,001.6	8,762.6	30,295.3	0.6	-5.7	1.5	-1.6	0.8	-1.3
2015_Q4* 7,61	514.0 10	0,283.9	13,111.1	31,009.0	2,157.0	33,166.0	10,279.9	31,149.7	-0.7	-2.3	9.6	2.9	1.8	2.7
2016_Q1* 6,86	863.5 11	1,242.4	13,825.1	31,931.0	1,588.3	33,519.3	9,744.2	32,100.2	0.4	5.3	2.7	3.1	1.5	4.8
2016_Q2* 5,75	758.7 11	1,023.8	13,675.1	30,457.7	1,835.6	32,293.3	8,571.5	31,555.1	3.3	-5.9	3.1	-0.1	2.2	3.4
2016_Q3* 6,31	310.1 12	2,411.5	13,022.9	31,744.4	1,935.2	33,679.7	9,106.5	31,866.5	3.8	8.9	2.5	5.2	3.9	5.2
2016_Q4* 7,93	30.0 11	1,311.8	13,491.2	32,732.9	2,293.7	35,026.6	10,725.9	32,742.5	4.2	10.0	2.9	5.6	4.3	5.1
2017_Q1* 7,33	33.6 12	2,961.8	14,020.2	34,315.7	1,696.8	36,012.5	10,352.9	33,760.0	6.8	15.3	1.4	7.4	6.2	5.2
2017_Q2* 5,98	80.3 13	3,316.1	14,601.0	33,897.4	1,971.9	35,869.3	9,125.0	33,651.3	3.8	20.8	6.8	11.1	6.5	6.6
2017_Q3* 6,83	335.5 14	4,152.1	13,622.6	34,610.2	1,995.4	36,605.6	9,870.5	33,438.6	8.3	14.0	4.6	8.7	8.4	4.9
2017_Q4* 8,35	353.8 12	2,761.4	13,532.4	34,647.6	2,303.2	36,950.8	11,257.7	33,309.8	5.3	12.8	0.3	5.5	5.0	1.7
2018_Q1* 7,67	576.1 14	4,313.4	14,214.4	36,204.0	1,766.2	37,970.1	10,805.0	35,182.7	4.7	10.4	1.4	5.4	4.4	4.2
2018_Q2* 6,26	267.9 14	4,789.7	14,673.1	35,730.8	2,074.1	37,804.9	9,521.6	35,317.9	4.8	11.1	0.5	5.4	4.3	5.0
2018_Q3* 7,20	209.8 15	5,803.2	14,095.4	37,108.5	2,190.9	39,299.4	10,458.5	36,272.7	5.5	11.7	3.5	7.4	6.0	8.5
2018_Q4* 8,72	23.6 13	3,902.1	14,311.8	36,937.5	2,535.7	39,473.2	11,862.6	36,093.9	4.4	8.9	5.8	6.8	5.4	8.4
_	345.5 15	5,518.3	15,238.7	38,602.6	1,893.3	40,495.9	11,283.7	37,301.0	2.2	8.4	7.2	6.7	4.4	6.0
2019_Q2* 6,46 *Provisional	64.4 15	5,690.4	15,626.4	37,781.2	2,171.4	39,952.6	9,994.0	36,839.7	3.1	6.1	6.5	5.7	5.0	4.3

Appendix 3- Seasonally adjusted quarterly value added and Gross Domestic Product at constant 2013 prices by economi	С
activity	

	Quarte	rly Value A		activity												
	Quarterly Value Added (GHc Million)								Quarter-on-Quarter Change (%)							
Quarter	Agriculture	Industry	Service	Total Value Added (GDP_@_basic prices)	Net indirect Taxes	Total (GDP in purchaser's value)	ow Informal GDP in purchaser's value	Agriculture	Industry	Service	Total GDP***	ow InformalGDP in purchaser's value				
Q1*	5,878.2	10,921.3	12,580.6	29,380.1	1,443.3	30,823.4	8,470.1	-	-	-	-	-				
Q2*	5,752.2	10,916.7	12,496.1	29,165.1	1,550.4	30,715.5	8,331.9	-2.1	0.0	-0.7	-0.4	-1.6				
23*	5,843.7	10,797.5	12,291.4	28,932.6	1,594.9	30,527.5	8,378.8	1.6	-1.1	-1.6	-0.6	0.6				
Q4*	6,322.4	10,776.1	12,102.1	29,200.5	1,712.0	30,912.5	8,822.9	8.2	-0.2	-1.5	1.3	5.3				
Q1*	6,443.3	10,504.7	12,190.3	29,138.2	1,703.4	30,841.6	8,958.2	1.9	-2.5	0.7	-0.2	1.5				
22*	6,400.8	10,563.2	12,487.7	29,451.7	1,726.7	31,178.4	8,974.6	-0.7	0.6	2.4	1.1	0.2				
23*	6,403.7	10,947.4	12,647.4	29,998.6	1,771.9	31,770.5	9,029.7	0.0	3.6	1.3	1.9	0.6				
Q4*	6,382.0	10,899.9	12,754.2	30,036.0	1,773.3	31,809.3	9,016.5	-0.3	-0.4	0.8	0.1	-0.1				
Q1*	6,501.1	11,109.9	12,887.3	30,498.4	1,802.6	32,300.9	9,164.5	1.9	1.9	1.0	1.5	1.6				
Q2*	6,530.6	11,253.5	12,803.8	30,587.9	1,807.4	32,395.3	9,196.1	0.5	1.3	-0.6	0.3	0.3				
23*	6,540.2	11,079.6	12,849.2	30,469.0	1,796.7	32,265.7	9,213.5	0.1	-1.5	0.4	-0.4	0.2				
Q4*	6,525.9	11,020.2	13,136.7	30,682.7	1,815.8	32,498.5	9,257.9	-0.2	-0.5	2.2	0.7	0.5				
Q1*	6,532.2	11,161.8	13,226.4	30,920.4	1,831.4	32,751.8	9,293.1	0.1	1.3	0.7	0.8	0.4				
Q2*	6,578.3	10,987.7	13,328.4	30,894.4	1,847.8	32,742.1	9,339.5	0.7	-1.6	0.8	0.0	0.5				
Q3*	6,636.6	11,240.4	13,408.6	31,285.5	1,876.1	33,161.7	9,425.5	0.9	2.3	0.6	1.3	0.9				
Q4*	6,715.6	11,497.4	13,503.6	31,716.5	1,910.1	33,626.6	9,537.0	1.2	2.3	0.7	1.4	1.2				
Q1*	6,833.1	11,927.2	13,552.3	32,312.7	1,935.9	34,245.3	9,689.2	1.8	3.7	0.4	1.8	1.6				
22*	6,888.5	12,500.3	13,783.8	33,172.6	1,967.1	35,139.7	9,827.6	0.8	4.8	1.7	2.6	1.4				
23*	7,019.9	12,935.4	13,933.7	33,889.0	1,980.2	35,869.2	10,018.6	1.9	3.5	1.1	2.1	1.9				
Q4*	7,125.8		13,944.1		1,991.8	36,359.5	10,151.5	1.5	2.8	0.1	1.4	1.3				
Q1*	7,211.4	13,635.8	13,992.6	34,839.8	2,009.2	36,849.0	10,264.6	1.2	2.5	0.3	1.3	1.1				
Q2*	7,283.3	14,004.2	14,010.6	35,298.1	2,034.7	37,332.9	10,363.7	1.0	2.7	0.1	1.3	1.0				
23*	7,376.9	14,417.0	14,128.8	35,922.7	2,083.6	38,006.3	10,510.7	1.3	2.9	0.8	1.8	1.4				
Q4*	7,469.4	14,702.1	14,323.7	36,495.2	2,141.7	38,636.9	10,661.9	1.3	2.0	1.4	1.7	1.4				
Q1*	7,511.7	15,003.3	14,579.8	37,094.8	2,173.5	39,268.4	10,781.6	0.6	2.0	1.8	1.6	1.1				
Q2* ional	7,560.8	15,228.5	14,818.1	37,607.4	2,197.8	39,805.3	10,899.7	0.7	1.5	1.6	1.4	1.1				
	21* 21* 22* 23* 24* 21* 22* 22* 23* 24* 21* 22* 22* 22* 23* 24* 21* 22* 22* 22* 22* 22* 22* 22	Image Image 1 5,878.2 2 5,752.2 2 5,843.7 2 6,322.4 2 6,403.7 2 6,403.7 2 6,403.7 2 6,322.4 2 6,403.7 2 6,403.7 2 6,501.1 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,530.6 2 6,533.1 3 6,715.6 4 6,715.6 2 7,019.9 4 7,211.4 2 7,376.9 4 7,469.4 5 7,560.8	E E 1 5,878.2 10,921.3 2.1* 5,878.2 10,921.3 2.1* 5,843.7 10,797.5 2.1* 6,322.4 10,776.1 2.1* 6,443.3 10,504.7 2.1* 6,400.8 10,504.7 2.1* 6,400.8 10,899.9 2.1* 6,501.1 11,009.9 2.1* 6,532.0 11,020.2 2.1* 6,530.6 11,253.5 2.1* 6,532.2 11,020.2 2.1* 6,532.2 11,020.2 2.1* 6,532.2 11,020.2 2.1* 6,532.2 11,020.2 2.1* 6,532.2 11,020.2 2.1* 6,533.1 11,240.4 2.1* 6,715.6 11,497.4 2.1* 6,833.1 11,2500.3 2.1* 7,019.9 12,935.4 2.1* 7,211.4 13,635.8 2.2* 7,376.9 14,417.0 2.1* 7,469.4	EBBB0.15,878.210,921.312,580.60.25,752.210,916.712,496.10.25,752.210,797.512,291.40.35,843.710,776.112,102.10.46,322.410,776.112,102.10.46,443.310,504.712,102.10.46,403.810,563.212,487.70.46,403.710,947.412,647.40.46,501.111,109.912,887.30.46,501.111,107.912,887.30.46,525.911,079.612,849.20.46,525.911,020.213,136.70.46,532.211,019.813,226.40.46,578.310,987.713,328.40.46,578.310,987.713,328.40.46,636.611,240.413,408.60.46,636.611,240.413,503.60.46,715.611,497.413,503.60.46,715.611,497.413,503.60.46,833.111,927.213,933.70.47,125.812,500.313,783.80.47,125.813,297.913,944.10.47,211.413,635.813,992.60.47,376.914,417.014,323.70.47,560.815,228.514,818.1	Image Image Image Image 01* 5,878.2 10,921.3 12,580.6 29,380.1 02* 5,752.2 10,916.7 12,496.1 29,165.1 03* 5,843.7 10,797.5 12,291.4 28,932.6 04* 6,322.4 10,776.1 12,102.1 29,200.5 04* 6,443.3 10,504.7 12,190.3 29,138.2 02* 6,400.8 10,563.2 12,487.7 29,451.7 03* 6,403.7 10,947.4 12,647.4 29,998.6 04* 6,320.0 10,899.9 12,754.2 30,439.0 04* 6,530.6 11,253.5 12,803.8 30,459.0 04* 6,540.2 11,079.6 12,849.2 30,469.0 04* 6,540.2 11,020.2 13,136.7 30,682.7 04* 6,540.2 11,020.2 13,136.3 31,285.5 04* 6,540.3 11,240.4 13,408.6 31,285.5 04* 6,636.6 11,497.	Image Image <thimage< th=""> Image <thi< td=""><td>Idea Idea Idea Idea Idea Idea Idea 14* 5,878.2 10,921.3 12,580.6 29,380.1 1,443.3 30,823.4 12* 5,752.2 10,916.7 12,496.1 29,165.1 1,550.4 30,715.5 13* 5,843.7 10,776.1 12,102.1 29,200.5 1,712.0 30,912.5 14* 6,322.4 10,776.1 12,102.1 29,200.5 1,712.0 30,912.5 14* 6,403.3 10,563.2 12,487.7 29,451.7 1,726.7 31,178.4 12* 6,400.8 10,563.2 12,487.7 29,451.7 1,726.7 31,178.4 12* 6,403.7 10,947.4 12,647.4 29,998.6 1,771.9 31,770.5 14* 6,382.0 10,899.9 12,754.2 30,036.0 1,773.3 31,809.3 14* 6,501.1 11,109.9 12,803.8 30,587.9 1,807.4 32,395.7 14* 6,540.2 11,020.2 13,136.7 30,682</td><td>Image: Constraint of the section of the sec</td><td>1 1</td><td>Image: biolog Image: b</td><td>1 1</td><td>Image Image <th< td=""></th<></td></thi<></thimage<>	Idea Idea Idea Idea Idea Idea Idea 14* 5,878.2 10,921.3 12,580.6 29,380.1 1,443.3 30,823.4 12* 5,752.2 10,916.7 12,496.1 29,165.1 1,550.4 30,715.5 13* 5,843.7 10,776.1 12,102.1 29,200.5 1,712.0 30,912.5 14* 6,322.4 10,776.1 12,102.1 29,200.5 1,712.0 30,912.5 14* 6,403.3 10,563.2 12,487.7 29,451.7 1,726.7 31,178.4 12* 6,400.8 10,563.2 12,487.7 29,451.7 1,726.7 31,178.4 12* 6,403.7 10,947.4 12,647.4 29,998.6 1,771.9 31,770.5 14* 6,382.0 10,899.9 12,754.2 30,036.0 1,773.3 31,809.3 14* 6,501.1 11,109.9 12,803.8 30,587.9 1,807.4 32,395.7 14* 6,540.2 11,020.2 13,136.7 30,682	Image: Constraint of the section of the sec	1 1	Image: biolog Image: b	1 1	Image Image <th< td=""></th<>				