

# GHANA LMI

## LOGISTICS MANAGERS INDEX

# FIRST QUARTER 2024 LOGISTICS MANAGERS INDEX REPORT

(January – March 2024)

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**The LMI Value for Ghana for the first quarter of 2024 is 62.4**

**The LMI for the first quarter of 2024 decreased by 0.9 points to 62.4 from the previous quarter's 63.3 (fourth quarter of 2023).**

**Growth is INCREASING at an INCREASING RATE for Inventory Costs, while for all other metrics growth is INCREASING at a DECREASING RATE.**

(Kumasi, Ghana) – The first quarter 2024 Logistics Managers Index registered a value of 62.4, which is 0.9 points lower than the value of 63.3 recorded in the fourth quarter of 2023. This marks the fourth consecutive decline in growth of the LMI. This decline is driven by a slowdown in the rate of growth for

inventory levels, warehousing capacity, warehousing utilization, warehousing prices, transportation capacity, transportation utilization and transportation prices. This decline reflects the general slowing down of the Ghanaian economy and the steady loss of economic buoyancy experienced in the first quarter of 2023.

It is interesting to note that this quarter's LMI value represents the lowest recorded by the index since its inception in March 2022. Also interesting to note is that the only metric experiencing increasing growth is a cost metric (inventory cost), which directly reflects the rising cost of doing business in Ghana (for this quarter).

Researchers at the Centre for Applied Research and Innovation in Supply Chain – Africa (CARISCA) issued this report today.

The overall LMI score is a combination of eight distinct metrics that make up activities in the logistics sector: inventory levels and costs; warehousing capacity, utilization and prices; and transportation capacity, utilization and prices. A diffusion index, with a range

between 1 and 100, is used to calculate the overall LMI. A reading above 50.0 indicates that logistics activities are expanding while a reading below 50.0 reflects a contraction of logistics activities.

The LMI summarizes the responses of supply chain, logistics, procurement and operations managers from multiple industries in Ghana. Data for the first quarter 2024 was collected from January to March.

## REPORT HIGHLIGHTS

- ✓ **The overall Logistics Managers Index (LMI) for Ghana for the first quarter of 2024 stands at 62.4, down by 0.9 percentage points from the 2023 fourth quarter's reading of 63.3.**

This slight slowing down of growth can be attributed to the decreasing rate of growth in inventory levels, warehousing capacity, warehousing utilization, warehousing prices, transportation capacity, transportation utilization and transportation prices.

- ✓ **All the indicators for the first quarter are above the threshold of 50%.**

Findings from the Q1-2024 survey indicate that inventory levels continue to slow down. This quarter's value of 55.5 (down 2.8 points from the previous quarter's 58.3) is the third consecutive decrease in the past four quarters. It is obvious that many organizations are experiencing low stock levels at the beginning of the year. Comments from respondents indicate that the high cost of doing business and lack of liquidity, as well as the cedi's continuous poor trading against the dollar in forex markets, have affected the ability of many firms to re-stock and import goods into the country. The slow pace of growth of inventory levels often has ripple effects across the supply chain, as lower inventory levels generally lead to the slowing down of warehousing (-1.2) and transport capacity (-5.6) and subsequently slower expansion for warehousing (-6.0) and transportation (-5.2) utilization.

- ✓ **Logistics cost indicators are growing at a decreasing rate, with warehouse prices recording a value of 76.7 (down by 0.5 points) and transportation prices recording a value of 87.6 (down by 0.9 points).**

The exception here has been inventory cost, which is growing at an increasing rate (81.1-up by 1.2 points). Altogether, aggregate logistics cost is almost steady at 245.4 (from the previous 245.6).

- ✓ **Warehouse capacity grew at a decreasing rate of 58.1 (down by 1.2 from the previous quarter's 59.3). Warehouse utilization also experienced a decrease in growth, at 57.8 (down by 6.0 from the previous quarter's 63.8).**

The warehousing sector is obviously experiencing slowed business growth due to the low levels of inventory.

- ✓ **Transportation capacity is still in growth mode but at a decreasing rate. The current metric value is 63.2 (down by 5.6 from the previous quarter's 68.8). A similar observation is recorded for transport utilization, which decreased to 61.6 (down by 5.2 from the previous quarter's 66.8).**

- ✓ **The growth of logistics activities is expected to be steady in the next 12 months, with a forecast LMI of 65.9.**

This is a slightly higher projection than the previous quarter's 64.3. There seems to be greater optimism this first quarter about growth in logistics activities and the Ghanaian economy in general.

- ✓ **The Electronic Payment System Index (EPI) experienced increased growth in the first quarter, rising to a value of 71.2 (an increase of 1.4 from the previous quarter's 69.8).**

This report is the third time the EPI has crossed the 70 mark. In general, it is expected that use of electronic payments within the logistics sector will grow steadily over the year, as fintech receives broader acceptance and adoption in the Ghanaian economy.

## What Logistics Managers Are Saying

# IMPACT OF THE LMI

Since its inception, the Ghana Logistics Managers index has provided valuable insights about the movement of logistics activities within the country, and it has been well received by top managers in many Ghanaian organizations. On average 316 managers respond to the quarterly LMI surveys.

Feedback from managers about the impact of the LMI has been very positive. Several managers report using the LMI as an intelligence-gathering tool that enables them to make evidence-based decisions about their operational activities and planning. Many of the organizations that contribute to the LMI survey have begun reviewing the results of the surveys in their meetings, and some have made it a tool for forecast planning.

The LMI has made great impact in Ghana's logistics sector. Beyond being used as a data tool that supports

evidence-based decision making, a number of respondents from the Q4-2023 survey (about 16%) confirm that the LMI has contributed to some form of policy change in their organization.

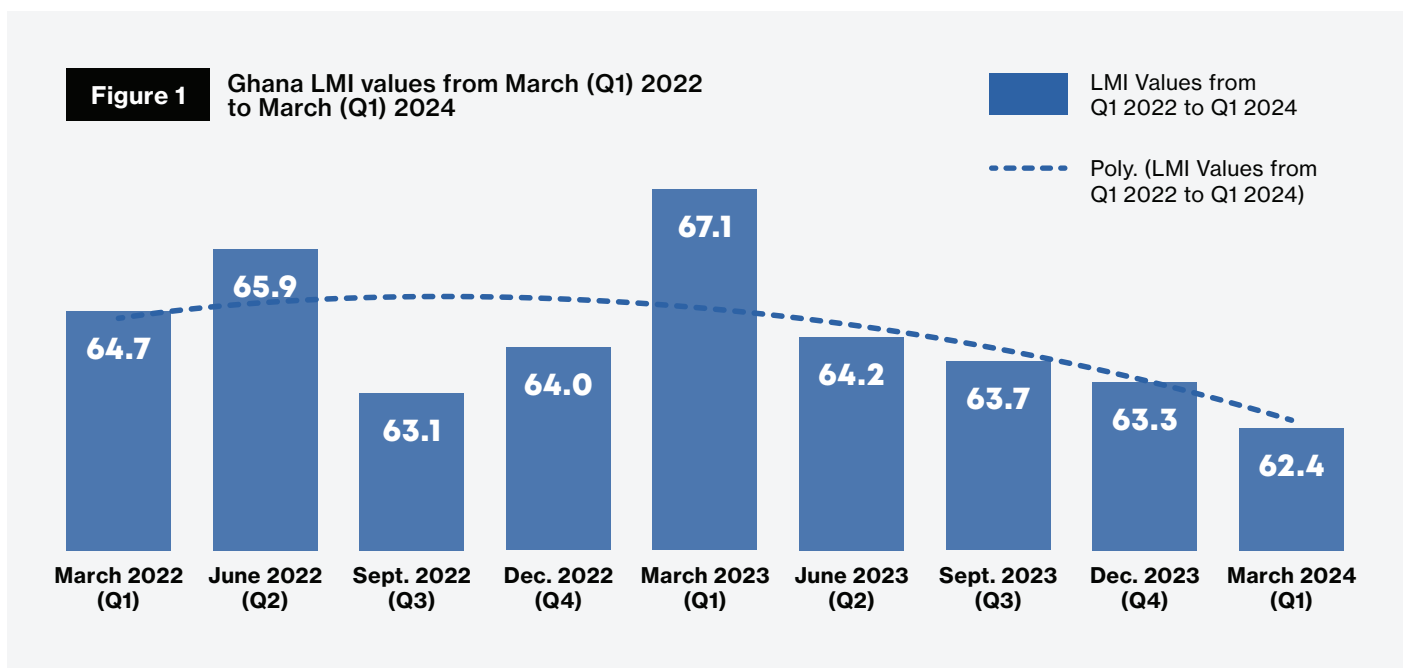
Most of the confirmed policy changes were in the areas of inventory control, forecasting, warehousing, and pricing. Other reported outcomes attributed to insights from the LMI include the development of procurement policies and purchasing plans and improved company projections.

According to a manager from Imperial Logistics, a leading freight company in Ghana, "The information from Ghana LMI reports support us in strategic decision making and in the planning of operational activities. It serves as a benchmarking tool that provides an aggregated view of what's taking place in the industry." This opinion is shared by many of the managers familiar with the LMI reports.

## RESULTS OVERVIEW

This report presents the results of the March 2024 (Q1) survey, which is the ninth survey carried out since the Ghana LMI's inception in March 2022. These first-quarter 2024 results continue to reveal the predictive nature of the LMI in relation to the economy of Ghana as a whole.

In this first quarter 2024, there was a drop in overall LMI value to 62.4 from the previous quarter's 63.3 (-0.9). This is the fourth consecutive quarter where we have seen a slowing of logistics growth. This quarter also produced a new all-time low LMI value. Regardless, it is still indicative of growth/expansion (values above the 50% threshold), as we have seen every quarter to date since the survey's inception.





As stated earlier, the slump of growth in **inventory levels** and the decreasing rate of growth of all the other metrics contributed to the decreasing rate of growth of the overall LMI. Organizations seem to have deviated from the normal trend of restocking after the December holidays. Normally, we expect companies to re-order supplies in large quantities for the first quarter of the new year. This was the case in 2023 when inventory levels increased by 10.7 (from 50.5 in December 2022 to 61.2 in March 2023). The slow buildup of inventory this year has contributed to excess capacity for both warehousing and transportation, with growth in utilization for both warehousing and transportation also affected.

The overall Q1 2024 LMI value for the manufacturing respondents was 63.4 while that for respondents from the service sector was 60.3. There is just a slight difference between the overall LMI values for Upstream (60.8) and Downstream (61.2) respondents.

Inflation in Ghana continues to rise, recording a value of 25.8 percent in March 2024 (up by 2.6 percentage from the previous month value of 23.2 percent). Reports from the Ghana Statistical Service indicate that non-food inflation increased to 22.65, while food inflation increased to 29.6%<sup>1</sup>. This goes against earlier predictions by Ghana's Central Bank of inflation dropping to a value between 13 and 17% by December 2023<sup>2</sup>.

Though inflation began to improve late last year, with inflation rates of 26.4% in November 2023, 23.2% in December 2023 and 23.5% in January 2024,<sup>3</sup> the rate of 25.8 percent for March 2024 represents quite a significant uptick in the first quarter. Ghana currently has the sixth highest inflation in Sub-Saharan Africa.<sup>4</sup> The World Bank predicts a further deceleration in growth (a decline from estimated 5% by the end of 2025 to 2.9%) in spite of improvements<sup>5</sup> in the Ghanaian economy projected by the Central Bank and government. The IMF, on the other hand, is more optimistic and has projected a 4.4% growth rate for Ghana by the end of 2025<sup>6</sup>.

Meanwhile, the cedi continues to depreciate against the dollar, with a dollar currently trading at 13.2093 cedis. Ghana's import-based economy is faring poorly against other international currencies (especially the dollar). This situation has been the bane of the Ghanaian economy, with the resultant slowdown of economic and logistics activities.

The high cost of importing and clearing goods from the country's ports has led to a sharp increase in the prices of goods, which is reflected in the increasing growth of the inventory cost metric. Members of the Ghana Institute of Freight Forwarders have stated that the situation has become burdensome and is a disincentive for importers<sup>7</sup>. In August 2023, there was a 20% drop in container traffic at major ports in Ghana (Takoradi and Tema ports), with many importers shifting their business through ports in Togo and Cote d'Ivoire<sup>8</sup>.

**Figure 2** Cedi trading against the dollar - March 31, 2024  
(Source: Google finance)<sup>9</sup>



1. [wadr.org/ghanas-statistical-service-announces-2-6-jump-in-inflation-rates/](https://wadr.org/ghanas-statistical-service-announces-2-6-jump-in-inflation-rates/)
2. [bloomberg.com/news/articles/2024-02-14/ghana-s-inflation-unexpectedly-quickens-to-23-5-in-january](https://bloomberg.com/news/articles/2024-02-14/ghana-s-inflation-unexpectedly-quickens-to-23-5-in-january)
3. [worldbank.org/en/country/ghana/overview](https://worldbank.org/en/country/ghana/overview)
4. [ghanaweb.live/GhanaHomePage/NewsArchive/Ghana-s-inflation-ranks-6th-in-Sub-Saharan-Africa-World-Bank-reveals-1930163](https://ghanaweb.live/GhanaHomePage/NewsArchive/Ghana-s-inflation-ranks-6th-in-Sub-Saharan-Africa-World-Bank-reveals-1930163)
5. [ghanaweb.live/GhanaHomePage/business/World-Bank-predicts-economic-slowdown-for-Ghana-in-2024-1929443](https://ghanaweb.live/GhanaHomePage/business/World-Bank-predicts-economic-slowdown-for-Ghana-in-2024-1929443)
6. [myjoyonline.com/imf-projects-4-4-growth-rate-for-ghana-in-2025/](https://myjoyonline.com/imf-projects-4-4-growth-rate-for-ghana-in-2025/)
7. [citinewsroom.com/2023/04/high-port-duties-now-burdensome-freight-forwarders-lament/](https://citinewsroom.com/2023/04/high-port-duties-now-burdensome-freight-forwarders-lament/)
8. [theafricareport.com/317148/ghanas-shippers-flock-to-neighbouring-ports-to-avoid-high-charges/](https://theafricareport.com/317148/ghanas-shippers-flock-to-neighbouring-ports-to-avoid-high-charges/)
9. [g.co/finance/USD-GHS?window=1Y](https://g.co/finance/USD-GHS?window=1Y)

The **inventory cost** metric registered a value of 81.1 (an increase of 1.2 points from the previous quarter's 79.9). This implies that goods have become slightly more expensive in the first quarter of 2024 compared to the fourth quarter of 2023. This cost increase breaks the trend of the last three quarters where we saw a lowering of inventory costs in response to declining inflation rates. The 2.6 percent increase in inflation from 23.2 percent in February to 25.8 percent in March 2024 likely explains the rise in inventory cost.

Respondents predict a shrinking of inventory costs in the next quarter, to a value of 76.4. Respondents also anticipate that inventory levels will rise in the next quarter, to a value of 80.1. It will be interesting to see how this prediction plays out, especially considering the World Bank prediction of a further slump in the Ghanaian economy.

**Warehousing capacity** also slowed down from last quarter's 59.3 to 58.1 (a drop of 1.2). **Warehouse prices** have slowed down slightly as well, from 77.2 to this quarter's 76.7 (a decrease of 0.5). **Warehousing utilization** registered a value of 57.8, a decrease of 6.0 from the previous quarter's value of 63.8. While there is growth, it was expected that warehousing metrics would grow at a steady pace as we enter a post-pandemic consumer market and also as e-commerce picks up in Ghana. It seems that the key third party logistics providers (3PLs) are not expanding the scope of their operations due to the general cost of doing business, high cost of inventory and lack of opportunities for diversification.

The **transportation price** metric also registered a slightly lower value of 87.6 compared to the previous quarter (a decrease of 0.9). This metric has seen a consistent though subtle decline for the third straight quarter. This metric reached its highest value of 97.1 in September (Q3) 2022. A reduction of global fuel prices in December 2023 (oil prices averaged US\$78/bbl in December, down from US\$94/bbl in September<sup>10</sup>) contributed to the slowing down of this metric.

Even though this metric has slowed, the decrease is not significant enough to reflect in marketplace transport prices. Currently, two major transport unions (The Transport Operators Union and the Concerned Drivers Association) have announced a 30% increase in transport fares effective April 13<sup>11</sup>. Even though respondents predict a decline in this metric to 80.9, the market conditions indicate otherwise. Respondents are keenly observing this metric to see how it plays out in the second quarter.

The **transportation capacity** index for the first quarter decreased from 63.2 to 68.8 (down by 5.6). There was also a decrease in the **transportation utilization** metric, which registered a value of 61.6, a decrease of 5.2 from the previous 66.8.

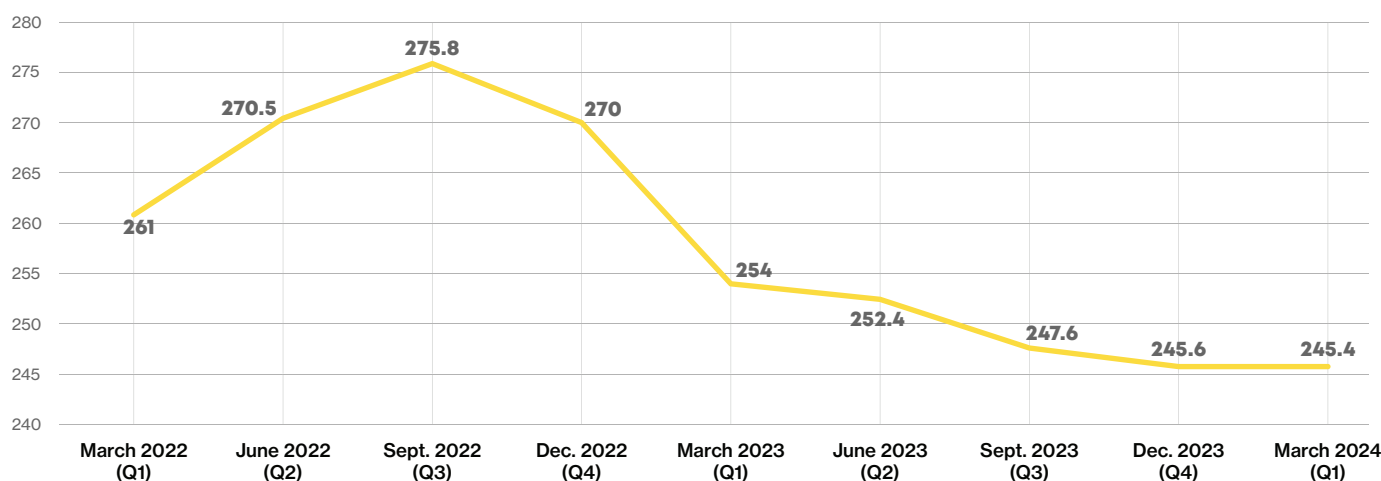
## Aggregate Logistics Costs

**Figure 3** shows the aggregate logistics costs for Ghana in the first quarter of 2024. The vertical axis of the chart ranges from 0 to 300 because the scores of the three metrics (i.e., inventory costs, warehousing and transportation prices) are aggregated, with 150 representing the midpoint.

The aggregate cost for March 2024 (first quarter) in Ghana is down to 245.4, from last December's value of 245.6. This represents the sixth consecutive drop in aggregate logistics costs over the last seven quarters. This quarter's value is the lowest we have seen but does not vary significantly from the previous quarter's value.

It's been a good run of slowing growth in logistics costs. However, Ghana's aggregate cost (even at the lowest of 245.4) is high and above the mean threshold of 150, implying that the cost of logistics in Ghana is on the high side. This metric is directly affected by inflation. The current growth in inflation values inhibits aggregate costs from decreasing at a higher rate.

**Figure 3** Aggregate logistics costs from March 2022 (Q1) to March 2024 (Q1)



10. [blogs.worldbank.org/en/opendata/oil-prices-remain-volatile-amid-uncertainty-arising-geopolitical-conflict](https://blogs.worldbank.org/en/opendata/oil-prices-remain-volatile-amid-uncertainty-arising-geopolitical-conflict)

11. [graphic.com.gh/news/general-news/ghana-news-transport-fares-to-increase-effective-saturday-april-13.html](https://graphic.com.gh/news/general-news/ghana-news-transport-fares-to-increase-effective-saturday-april-13.html)

# FIRST QUARTER 2024 OBSERVATIONS

## Overall LMI









The overall LMI metric for Ghana in the first quarter of 2024 has decreased by 0.9 points, registering a value of 62.4 compared to the previous quarter's (December 2023) value of 63.3. All metrics were in the growth category. There was an increase in inventory costs from the previous quarter's 79.9 to 81.1 (an increase of 1.2). All other metrics experienced slowed growth with inventory levels at 55.5 (down by 2.8), transportation prices at 87.6 (down by 0.9), transportation capacity at 63.2 (down by 5.6), transportation utilization at 61.6 (down by 5.2), warehouse capacity at 58.1 (down by 1.2), warehouse utilization at 57.8 (down by 6.0) and warehouse prices at 76.7 (down by 0.5). We also observe an insignificant drop in aggregate logistics costs (from 245.6 to 245.4).

All the LMI metrics for the first quarter registered values above the threshold of 50%, which confirms growth.

However, it is at a decreasing rate for all of the metrics except inventory cost. The country is still in "slow growth" mode, with inflation picking up again in March (25.8%) after it dropped to its lowest value of 23.2% in December 2023. The cedi's poor trading against the two key international currencies (dollar and pound) also exacerbates the situation, resulting in a high cost of doing business and slowing down of the economy.

The index scores for each of the eight components of the Logistics Managers Index, as well as the overall LMI score for the fourth quarter of 2023, are presented in **table 1**. The transportation price dropped to a new all-time low of 87.6. Transportation and inventory costs have traditionally been the metrics with the highest values. The lowest value we have recorded for inventory cost has been 79.9 (in December 2023).

**Table 1: LMI Values for Ghana for March (Q1) 2024 and December (Q4) of 2023**

| LOGISTICS AT A GLANCE – Q1 2024   |                  |                     |                             |                     |                |
|---|------------------|---------------------|-----------------------------|---------------------|----------------|
| Index   | March 2024 Index | December 2023 Index | Quarter-Over-Quarter Change | Projected Direction | Rate of Change |
| <b>LMI®</b>   | <b>62.4</b>      | <b>63.3</b>         | -0.9                        | Growing             | Decreasing     |
|  <b>Inventory Levels</b>           | 55.5             | 58.3                | -2.8                        | Growing             | Decreasing     |
|  <b>Inventory Costs</b>            | 81.1             | 79.9                | 1.2                         | Growing             | Increasing     |
|  <b>Warehousing Capacity</b>       | 58.1             | 59.3                | -1.2                        | Growing             | Decreasing     |
|  <b>Warehousing Utilization</b>    | 57.8             | 63.8                | -6.0                        | Growing             | Decreasing     |
|  <b>Warehousing Prices</b>         | 76.7             | 77.2                | -0.5                        | Growing             | Decreasing     |
|  <b>Transportation Capacity</b>    | 63.2             | 68.8                | -5.6                        | Growing             | Decreasing     |
|  <b>Transportation Utilization</b> | 61.6             | 66.8                | -5.2                        | Growing             | Decreasing     |
|  <b>Transportation Prices</b>      | 87.6             | 88.5                | -0.9                        | Growing             | Decreasing     |

Respondents anticipate that the growth observed in the logistics sector will remain steady in the next 12 months and predict an LMI value of 65.9 in the next quarter. This prediction is slightly higher than last quarter's prediction of 64.3.

Historic Logistics Managers' Index Scores

The reading for this quarter along with readings from the last seven quarters of the LMI are presented in **table 2**:









Table 2: Historic Logistics Managers' Index Scores

| Quarter | LMI Values | All-time Average – 64.27<br>High – 67.1<br>Low – 62.4<br>Std Dev – 1.46 |
|---------|------------|---|
| Q1 2024 | 62.4       |   |
| Q4 2023 | 63.3       |   |
| Q3 2023 | 63.7       |   |
| Q2 2023 | 64.2       |   |
| Q1 2023 | 67.1       |   |
| Q4 2022 | 64.0       |   |
| Q3 2022 | 63.1       |   |
| Q2 2022 | 65.9       |   |
| Q1 2022 | 64.7       |   |

Downstream and Upstream Activities

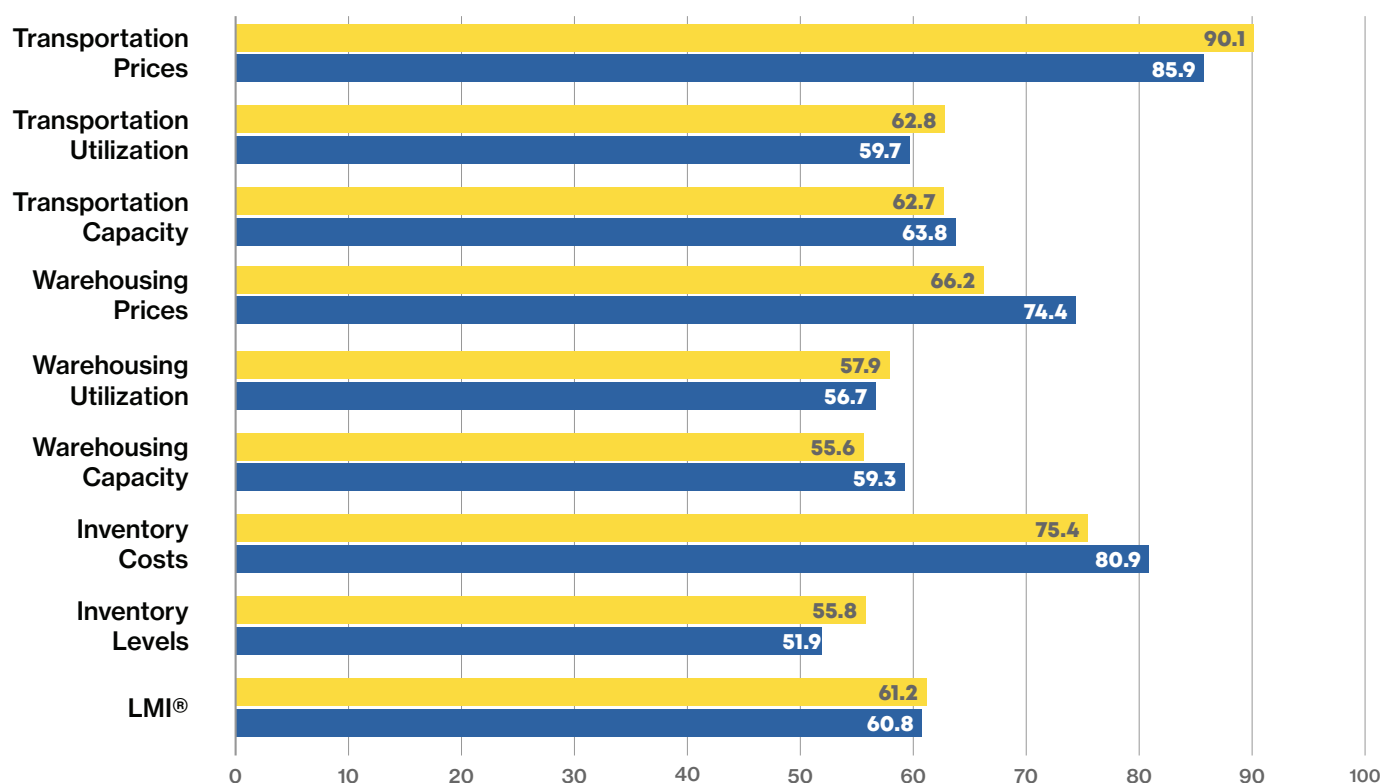
The differences between observations made for firms downstream (reflected by the gold bars in **figure 5**) and those upstream (reflected by blue bars in **figure 5**) are insignificant or only marginal. We often expect to see a balance between these two groups. On average, downstream firms reported higher values than upstream firms for all the metrics in the first quarter, with the exception of warehousing prices and inventory costs. This finding indicates that inventory costs in the next quarter might see further growth, since upstream firms have begun experiencing higher growth with this metric compared to downstream firms. **Table 3** below indicates these values.

Table 3: Downstream and Upstream Values – Q1 2024

| Downstream and Upstream Values – Q1 2024   |                   |                 |       |              |
|--|-------------------|-----------------|-------|--------------|
| Index  | Downstream Values | Upstream Values | Delta | Significant? |
| LMI®   | 61.2              | 60.8            | 0.4   | No           |
|  Inventory Levels           | 55.8              | 51.9            | 3.9   | No           |
|  Inventory Costs            | 75.4              | 80.9            | 5.5   | No           |
|  Warehousing Capacity       | 55.6              | 59.3            | 3.7   | No           |
|  Warehousing Utilization    | 57.9              | 56.7            | 1.2   | No           |
|  Warehousing Prices         | 66.2              | 74.4            | 8.2   | No           |
|  Transportation Capacity    | 62.7              | 63.8            | 1.1   | No           |
|  Transportation Utilization | 62.8              | 59.7            | 3.1   | No           |
|  Transportation Prices      | 90.1              | 85.9            | 4.2   | No           |

**Figure 4** Downstream and Upstream Values – Q1 2024

Downstream Upstream



### Manufacturing and Service Sector Activities

Manufacturing firms registered higher values than service firms for all the metrics. The overall LMI value for the manufacturing sector was 63.4, while that for the service sector was 60.3 (see **figure 5** and **table 4**). It is usually expected that values for manufacturing respondents will be higher than that for service respondents. However last quarter's result was the opposite, with the LMI for the service sector recording 63.35 while the manufacturing sector recorded 62.67.

**Figure 5** Manufacturing and Service Sectors - Q1 2024

Manufacturing Service

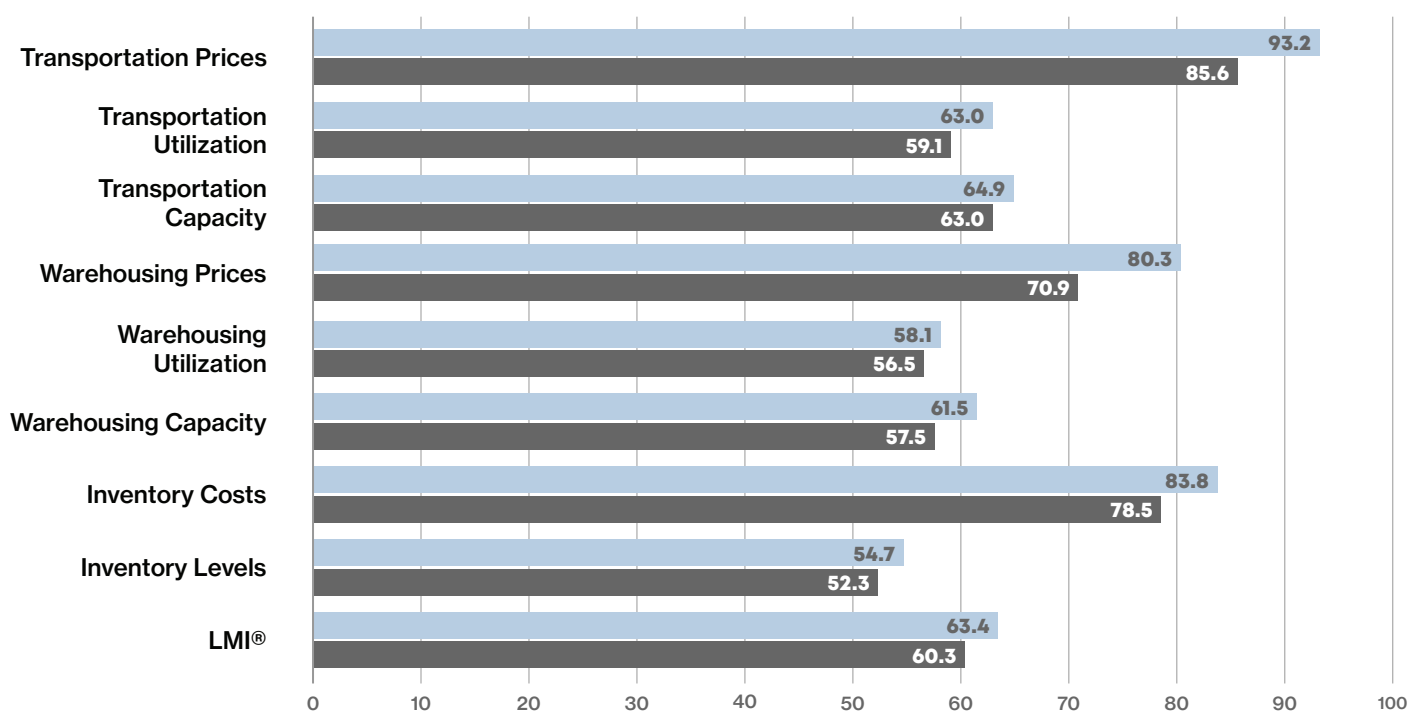





Table 4: Values for Manufacturing and Service Sectors – Q1 2024

| Values for Manufacturing and Service Sectors – Q1 2024   |                      |                |       |              |
|--|----------------------|----------------|-------|--------------|
| Index  | Manufacturing Values | Service Values | Delta | Significant? |
| LMI®   | 63.4                 | 60.3           | 3.1   | No           |
|  Inventory Levels             | 54.7                 | 52.3           | 2.4   | No           |
|  Inventory Costs              | 83.8                 | 78.5           | 5.3   | No           |
|  Warehousing Capacity         | 61.5                 | 57.5           | 4     | No           |
|  Warehousing Utilization      | 58.1                 | 56.5           | 1.6   | No           |
|  Warehousing Prices           | 80.3                 | 70.9           | 9.4   | No           |
|  Transportation Capacity      | 64.9                 | 63.0           | 1.9   | No           |
|  Transportation Utilization | 63                   | 59.1           | 3.9   | No           |
|  Transportation Prices      | 93.2                 | 85.6           | 7.6   | No           |

## PREDICTIONS

Respondents were asked to predict movement in the overall LMI and individual metrics, 12 months from now. The predictions made in this quarter are similar to what we saw in December but slightly more optimistic (as seen in **table 5**). The current LMI value is predicted to steadily rise slightly to 65.92 (up by 1.64) from last quarter's prediction of 64.28.

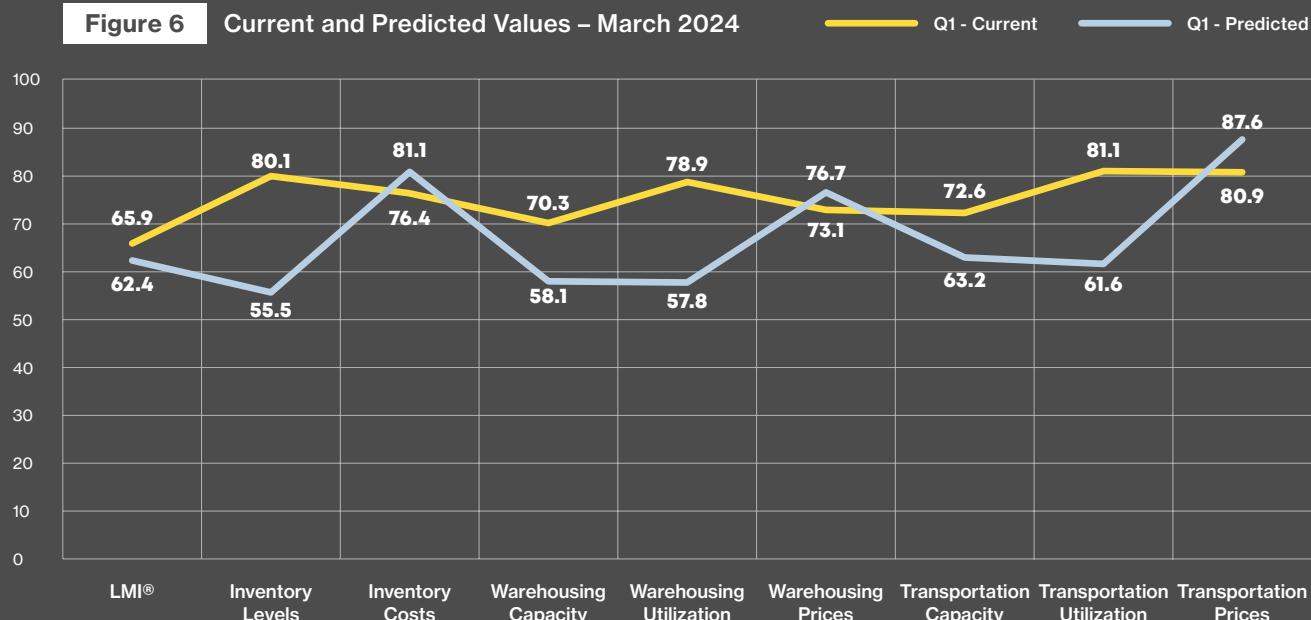
Similar to the fourth quarter of 2023, respondents expect inventory levels to build up to 80.0 and inventory costs to reduce to 76.4. Respondents also anticipate that warehousing capacity will rise to 70.3 while warehousing utilization will increase to 78.9 percent.

The warehouse price metric is predicted to decrease further to 73.1, while transport capacity increases to 72.6. Respondents expect transport utilization to increase to 81.1, while the transportation price metric is expected to drop to 80.9. Respondents keep hoping that the growth of the cost metrics (inventory cost, transportation price and warehouse price) will slow down over the next 12 months, while inventory levels and transport and warehousing utilization increase.









**Table 5** shows the predicted values for all eight metrics from this quarter's survey (March 2024).

**Figure 6** compares both current and predicted values for March 2024.

**Figure 6** Current and Predicted Values – March 2024



**Table 5: Predicted Values of the LMI – March 2024**









| LOGISTICS AT A GLANCE – Predicted Values (Q4 2023 and Q1 2024)  |                           |                        |
|---|---------------------------|------------------------|
| Index   | December 2023 – Predicted | March 2024 – Predicted |
| <b>LMI®</b>   | <b>64.3</b>               | <b>65.9</b>            |
|  <b>Inventory Levels</b>           | 78.2                      | 80.1                   |
|  <b>Inventory Costs</b>            | 71.8                      | 76.4                   |
|  <b>Warehousing Capacity</b>       | 68.4                      | 70.3                   |
|  <b>Warehousing Utilization</b>    | 79.4                      | 78.9                   |
|  <b>Warehousing Prices</b>         | 72.6                      | 73.1                   |
|  <b>Transportation Capacity</b>    | 76.2                      | 72.6                   |
|  <b>Transportation Utilization</b> | 81.4                      | 81.1                   |
|  <b>Transportation Prices</b>      | 75.4                      | 80.9                   |

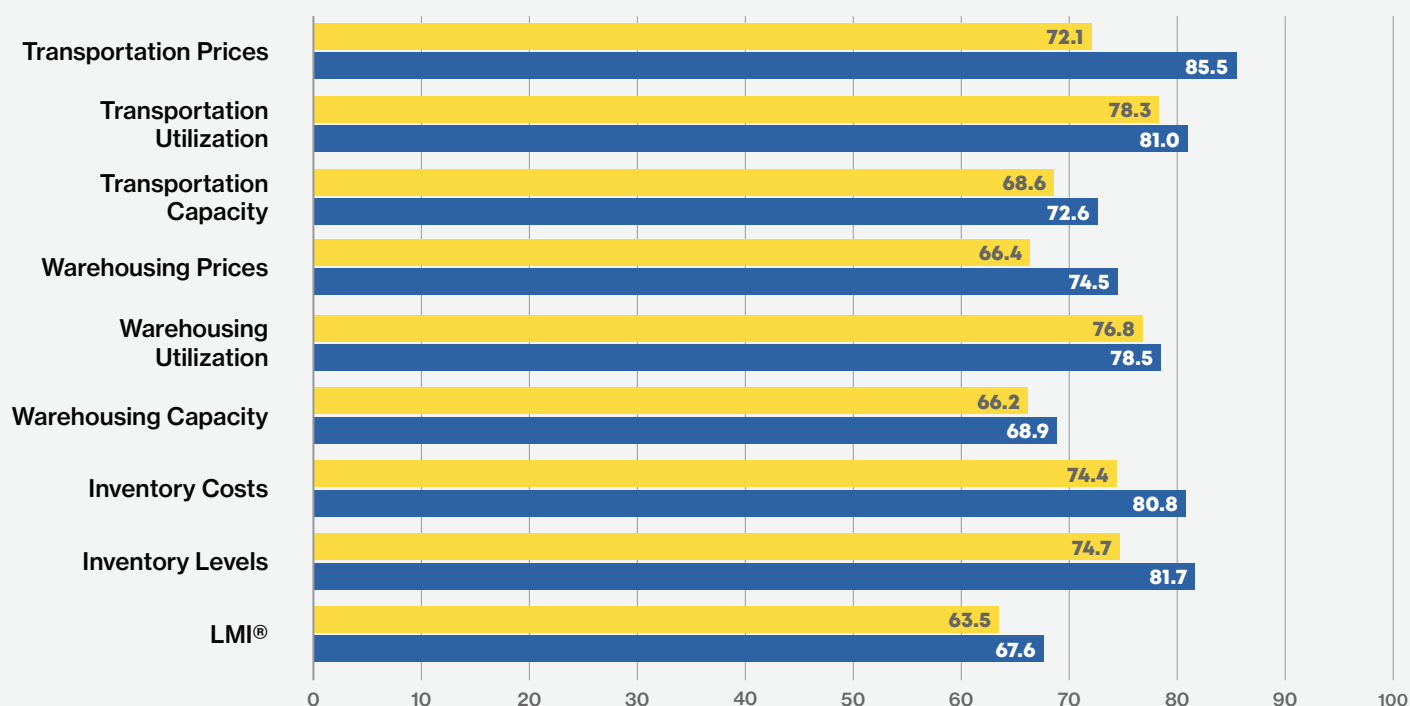
## Downstream and Upstream (Predicted)

Similar to the main observations, there was no significant difference in the predictions between downstream (gold bars) and upstream (blue bars) firms. While the difference is not significant, upstream firms in general expect to see slightly higher levels of growth in all the metrics.

Upstream firms expect to see inventory levels continue to build over the next 12 months, more than downstream firms. The same goes for transport prices, transport utilization, inventory cost, warehousing prices, warehousing utilization, and transport capacity (see **table 6**). Though most of the differences are insignificant, in the case of transportation prices there is a significant difference between predictions by upstream firms and downstream firms. Upstream firms expect greater growth (difference of 13.4).

**Table 6: Predicted Downstream and Upstream Values – March 2024**

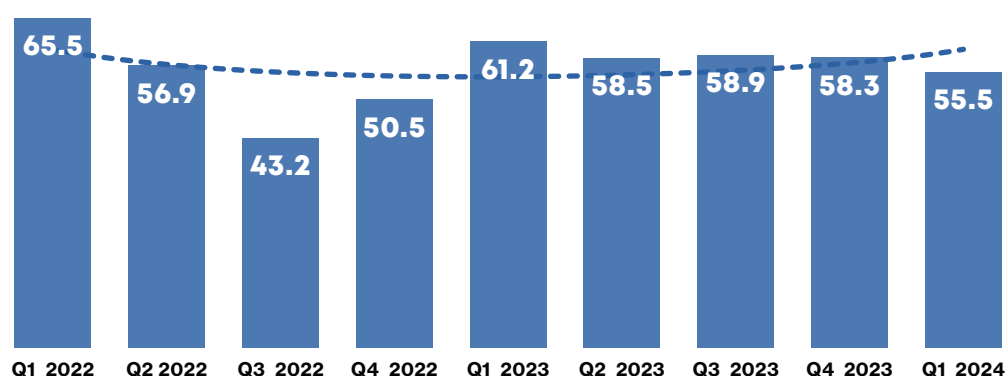
| Predicted Downstream and Upstream Values – Q1 2024   |                             |                           |       |              |
|--|-----------------------------|---------------------------|-------|--------------|
| Index  | Predicted Downstream Values | Predicted Upstream Values | Delta | Significant? |
| LMI®   | 63.5                        | 67.6                      | 4.1   | No           |
|  Inventory Levels             | 74.7                        | 81.7                      | 7.0   | No           |
|  Inventory Costs              | 74.4                        | 80.8                      | 6.4   | No           |
|  Warehousing Capacity       | 66.2                        | 68.9                      | 2.7   | No           |
|  Warehousing Utilization    | 76.8                        | 78.5                      | 1.7   | No           |
|  Warehousing Prices         | 66.4                        | 74.5                      | 8.1   | No           |
|  Transportation Capacity    | 68.6                        | 72.6                      | 4.0   | No           |
|  Transportation Utilization | 78.3                        | 81                        | 2.7   | No           |
|  Transportation Prices      | 72.1                        | 85.5                      | 13.4  | Marginal     |

**Figure 7** Predicted Downstream and Upstream Values – Q1 2024
■ Downstream
 ■ Upstream


## LMI COMPONENTS

### Inventory Levels

The inventory level for the first quarter of 2024 is 55.5, down 2.8 from the previous quarter's 58.25. This reading is 5.7 points lower than the same period last year. Downstream respondents reported higher levels of inventory growth (55.8) compared to upstream respondents (51.9). Respondents from the manufacturing sector reported slightly higher levels of inventory (54.7) than those from the service sector (52.3).

**Figure 8** Values for **Inventory Levels** from March (Q1) 2022 to March (Q1) 2024

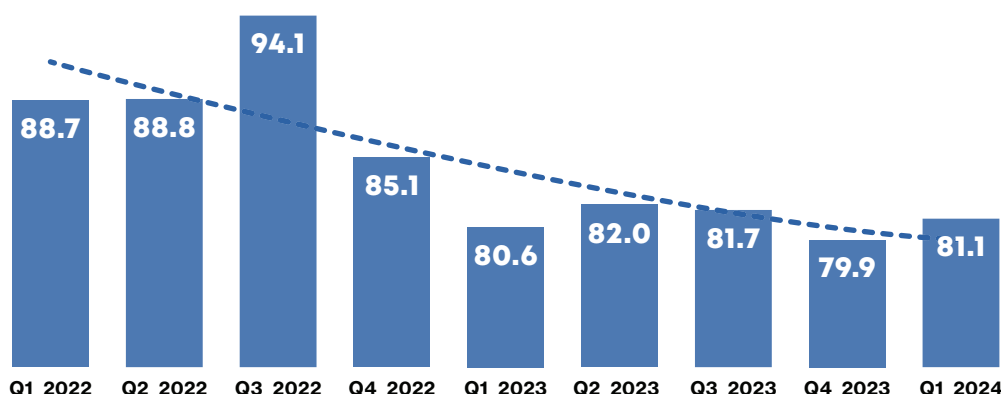
When asked to predict what conditions would be like 12 months from now, upstream respondents were quite optimistic, predicting inventory levels of 81.7, while downstream respondents predicted inventory levels of 74.7. We observe that inventory levels are high in the first quarter, often due to late arrivals of December orders and begin to decline in the second quarter. However, this expectation was not met in 2024, as inventory levels remained low in Q1 compared to the previous quarter.

## Inventory Costs

The current inventory cost index reads in at 81.1, up by 1.2 from the previous quarter's 79.9. The value is up by 0.5 from the 2023 value for the same quarter. The difference between the inventory cost metric for upstream and downstream firms was marginal, with upstream firms recording 80.9 and downstream firms recording 75.4.

Manufacturing firms reported a slightly higher inventory cost value of 83.8, while service firms reported a value of 78.5. While downstream firms predicted a lowering of inventory cost at 74.4, upstream firms predicted a slight increase of 80.08.

**Figure 9** Values for **Inventory Cost** from March (Q1) 2022 to March (Q1) 2024

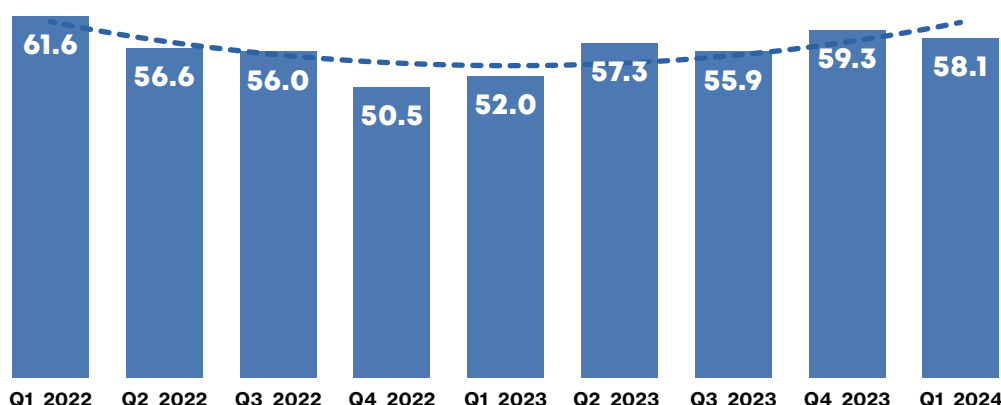


## Warehousing Capacity

The first quarter 2024 warehousing capacity index registered a value of 58.1, reflecting a decrease of 1.2 from the fourth quarter's value of 59.3. The difference between the warehousing capacity of service firms (57.5) and manufacturing firms (61.5) was not significant.

Upstream firms reported an index of 59.3 while downstream firms reported a value of 55.6. Future predictions suggest that capacity will continue to grow over the next year, as respondents are expecting an expansion to 70.3. Upstream firms predicted a future value of 59.3 while downstream firms predicted a value of 55.6.

**Figure 10** Values for **Warehousing Capacity** from March (Q1) 2022 to March (Q1) 2024





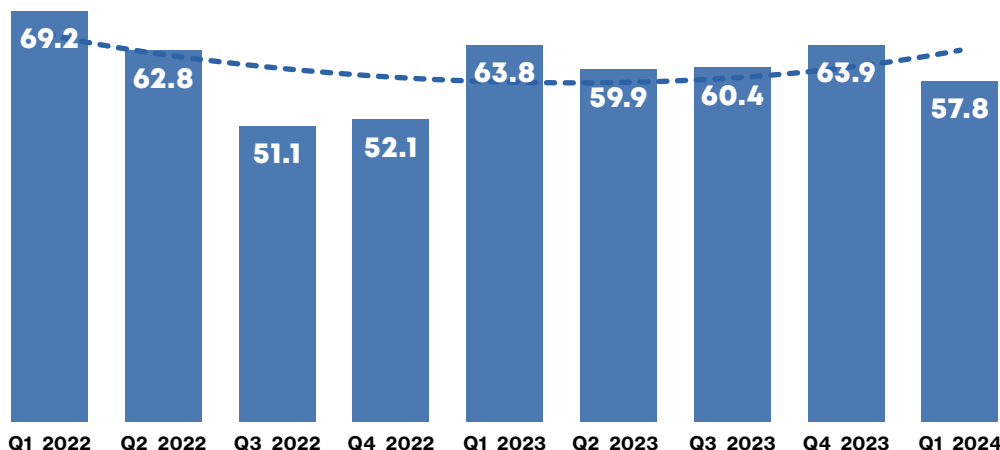
## Warehousing Utilization

Warehouse utilization reads in at 57.8, which is down by 6.0 points from the previous quarter's reading of 63.84. Firms upstream registered a value of 56.7 while firms downstream registered 57.9. Utilization continues to see a slight increase in growth among downstream entities (e.g., retailers), whereas for the upstream entities (manufacturers) growth is slower in this metric.

Manufacturing firms continued to register a higher utilization, with a value of 58.1, while service firms registered a value of 56.5. Respondents predict an improvement in utilization in the next 12 months, with a predicted value of 78.9. Upstream firms predict a slightly higher growth of 78.5, while downstream firms predict a growth of 76.8.

**Figure 11**

Values for **Warehousing Utilization** from March (Q1) 2022 to March (Q1) 2024



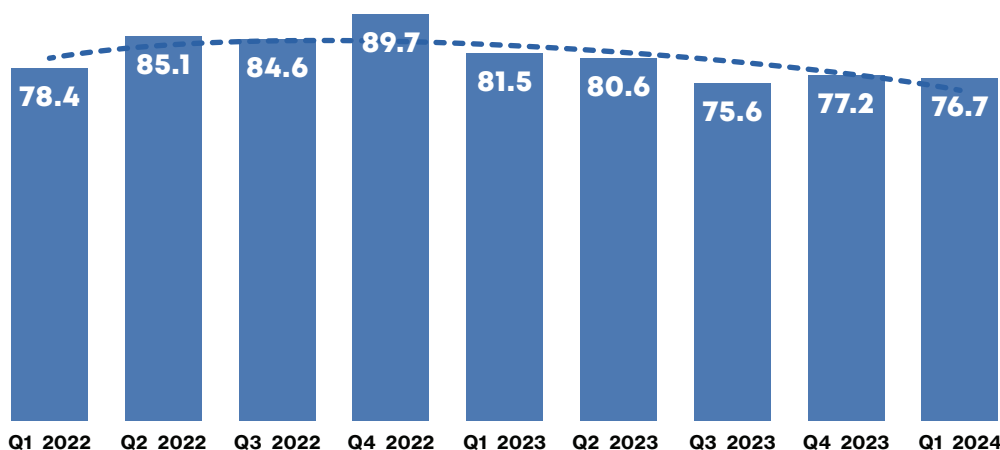
## Warehousing Prices

Warehouse prices read in at 76.7, which is down by 0.46 from the fourth quarter reading of 77.16. This reading is also down by 4.8 from the 2023 reading for the same quarter. Exploring the difference between upstream (74.4) and downstream (66.2) firms reveals a difference of 8.2 points. Though marginal, this difference indicates that for upstream entities, the warehouse prices are higher than for downstream entities.

The difference between manufacturers and service firms is not so significant, with manufacturing firms registering a value of 80.3 while service firms registered 70.9 for this metric. Respondents predict a reduction in this metric in the next 12 months, with a predicted value of 73.1. Upstream firms predict a value of 74.4 for this metric, while downstream firms predict a value of 66.2.

**Figure 12**

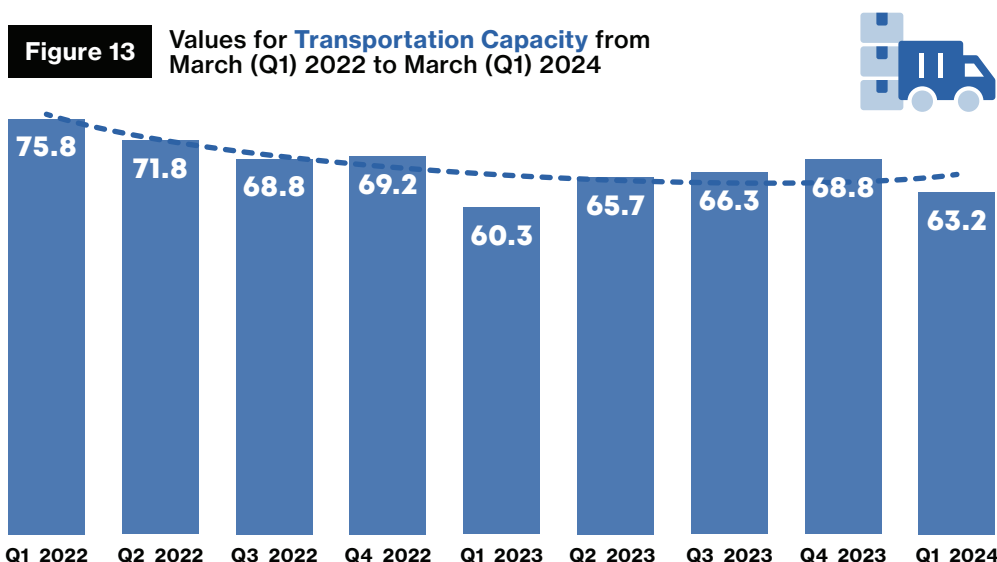
Values for **Warehousing Prices** from March (Q1) 2022 to March (Q1) 2024



## Transportation Capacity

The transportation capacity index registered 63.2 this quarter. This represents a steady decline from the previous quarter's reading of 68.8 (down by 5.6). The upstream transportation capacity index registered at 63.8, while the downstream index registered at 62.7. The difference between upstream and downstream transportation capacity is insignificant.

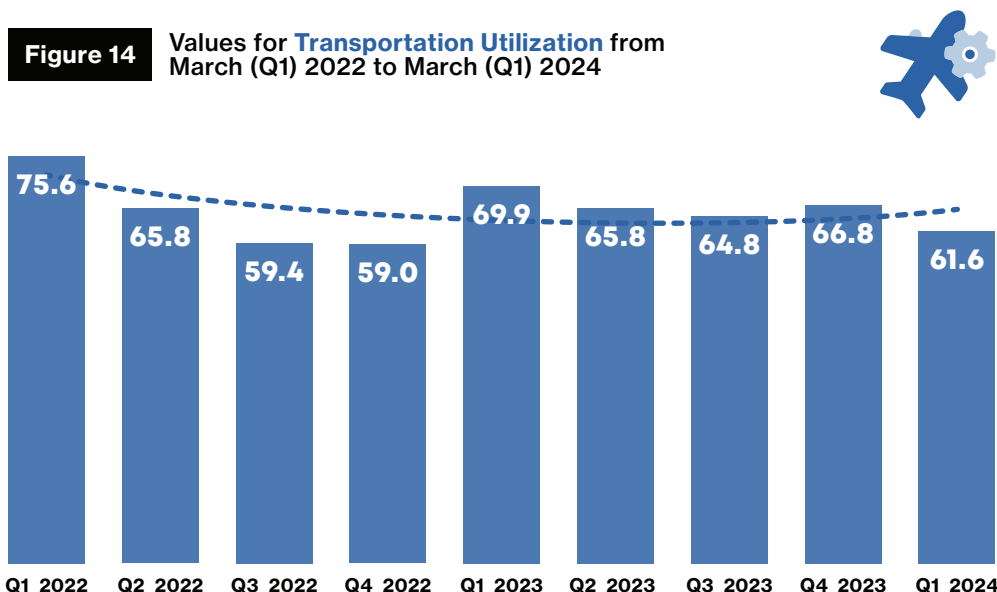
The future transportation capacity index is at 72.6, a decrease of 3.6 from December's prediction of 76.2. This indicates expectations of slight expansion over the next 12 months. While both upstream and downstream firms are expecting growth, downstream firms predict an expansion rate of 62.7 compared to the prediction by upstream firms of 63.8.



## Transportation Utilization

The transportation utilization index registered a value of 61.6, reflecting a decline from the previous value of 66.8 (a drop of 5.2). Upstream firms registered a lower capacity (59.7) than downstream firms (62.8).

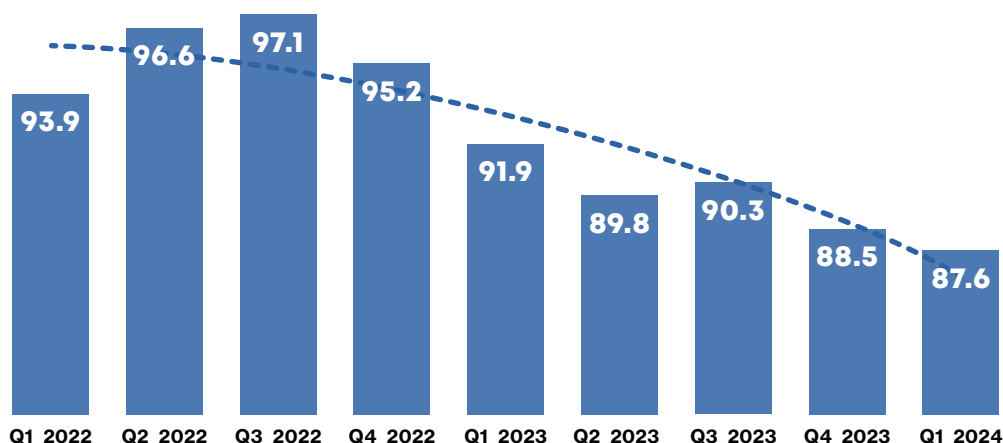
The difference between manufacturing firms and service firms was marginal (manufacturing at 63.0 and service at 59.1), with manufacturing firms reporting slightly higher levels of transportation utilization. Future predictions suggest that transport utilization will continue to increase over the next year, as respondents are expecting an expansion to 81.1. Both upstream and downstream firms are expecting growth, predicting expansion rates of 81.0 and 78.3, respectively.



## Transportation Prices

The transportation price index registered a value of 87.6, reflecting a decrease of 0.9 points from the previous quarter's value of 88.5. It is interesting to note that this is the third time the transportation price metric has recorded a value below 90, and this also happens to be the all-time lowest value of the metric. The value for the previous year's first quarter was 91.9, reflecting the consistent but slowed decrease in transportation prices over the 12-month period.

**Figure 15** Values for **Transportation Prices** from March (Q1) 2022 to March (Q1) 2024



Downstream firms recorded a higher value of 90.1 while upstream firms recorded 85.9. The difference between manufacturing firms and service firms was not significant, with manufacturing registering at 93.2 while service registered at 85.6. Future predictions suggest that transport prices will continue to decrease over the next 12 months, to a value of 80.9.

Both upstream and downstream firms were optimistic in their predictions of a sustained decrease in transportation prices to 85.5 (upstream) and 72.1 (downstream). The drop in transportation prices that began in Q4 2023 reflected the general reduction in global oil prices in December 2023, with crude oil selling slightly below 75 (USD/Bbl)<sup>12</sup>. This price reduction has been maintained at the global level, hence the slight decline in the transport metric.

12. [blogs.worldbank.org/en/opendata/oil-prices-remain-volatile-amid-uncertainty-arising-geopolitical-conflict](https://blogs.worldbank.org/en/opendata/oil-prices-remain-volatile-amid-uncertainty-arising-geopolitical-conflict)

## What Logistics Managers Are Saying

# SUPPLY AND DEMAND CHALLENGES

As part of the study, we sought the views of logistics managers on factors that affect demand and supply within their various industries. In general, the consistent depreciation of the cedi against major foreign currencies (especially the dollar) has been quite alarming and has affected the ability of many companies to procure new supplies. Companies are cutting down on material inflows (especially imported materials).

Some respondents bemoaned the rising port clearance duties and associated tax, which make it expensive to clear goods. The cost of clearing goods seems to have tripled over the last year. According to one respondent from the manufacturing industry, “The instability of prices and the steady depreciation of the cedi against the dollar makes it extremely difficult to meet purchasing plans. We have less purchasing power, and this is the key reason why our inventory levels are low.”

High taxation and surging inflation were stated as having debilitating effects on operational activities, another consistent issue.

“Inflation is quite high, and as a result the cost of doing business is also high, from the cost of goods to transportation and even the taxes, which are numerous and quite high,” a respondent from the retail sector stated.

Another respondent from the pharmaceutical industry stated, “Because of the high cost of doing business,

cheaper inferior and substitute good have flooded the market, and this is changing the nature of market demand for existing goods.”

The inability to clear goods from the ports due to escalating port duties has become burdensome, according to respondents. In a recent interview, the director general of the Ghana Ports and Harbours Authority (GPHA) admitted that there are 22 taxes and levies on port clearing, which is a financial burden on importers<sup>13</sup>.

More common supply and demand challenges included the lack of funds and credit opportunities, seasonality of demand and supply in some industries (especially the agro-industries), global supply chain challenges, influx of foreign competitors with higher liquidity, cost of transportation, high cost of living leading to low demand and lack of funds to diversify.

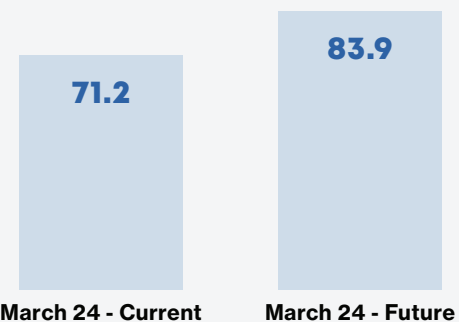
It was interesting to note that even though the transportation price metric for the first quarter (March) 2024 recorded an all-time low (over the past nine quarters), respondents were of the view that the cost of transportation is still high. This was expected, as transportation has consistently been the metric with the highest value and, together with inventory cost, is the metric most closely aligned to national macro-economic changes.

## ELECTRONIC PAYMENT SYSTEMS INDEX

**The Electronic Payment Systems Index (EPI),** measures the usage of electronic payment systems. Introduced in the second quarter of 2022, the EPI has a threshold of 50% and is also developed as a diffusion index. Respondents were asked about their company's use of mobile money and e-payment platforms in terms of their decline, steady state or increase. Respondents were also asked about the extent to which their organization utilizes mobile money transactions and e-payment systems when dealing with customers and/or suppliers.

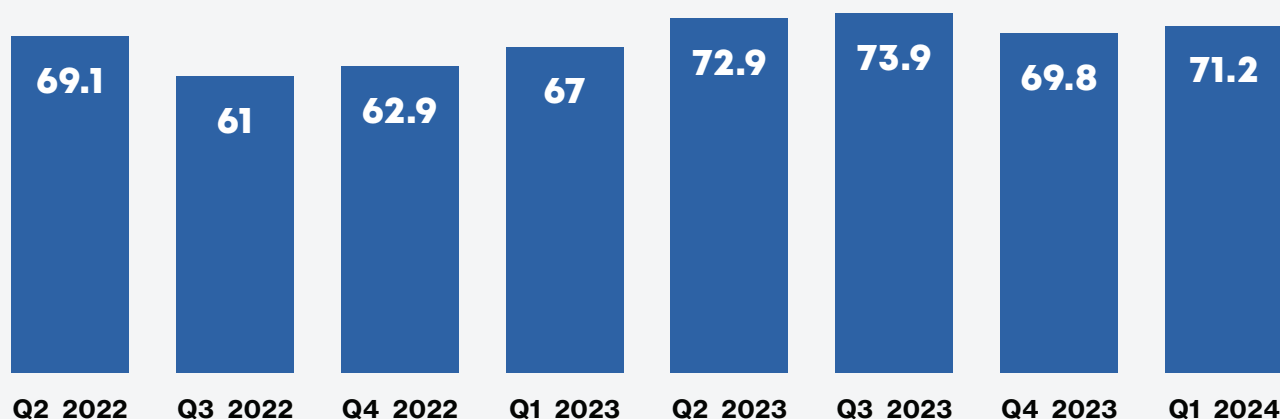
The EPI for the first quarter of 2024 registered a value of 71.2 (an increase of 1.4 from the previous quarter's value of 69.8), as indicated in **figures 16 and 17**.

**Figure 16** Current and predicted values for the EPI for March (Q1) 2024



13. [ghanaweb.com/GhanaHomePage/business/Blame-the-22-taxes-levies-for-hefty-port-charges-not-us-GPHA-boss-1924043](https://ghanaweb.com/GhanaHomePage/business/Blame-the-22-taxes-levies-for-hefty-port-charges-not-us-GPHA-boss-1924043)

**Figure 17** EPI values for June (Q2) 2022 to March (Q1) 2024



This index is picking up after a brief dip in the previous quarter. Respondents predict that the usage of electronic payment systems will grow to a value of 83.9 over the next 12 months. The EPI reached an all-time high of 73.9 in September 2023 and seems to be slowing down. The lowest value of the index was in the second quarter of 2023 when it reached a value of 61.0. In general, the EPI results give a positive snapshot of e-payment usage in relation to logistics activities and transactions.

## ABOUT THIS REPORT

The Logistics Managers Index (LMI) is a tool developed by researchers at the Centre for Applied Research and Innovation in Supply Chain – Africa (CARISCA), based at Kwame Nkrumah University of Science and Technology (KNUST), for Ghanaian businesses and policymakers. The LMI reports are based on quarterly surveys conducted with industry leaders in Ghana. The study is led by Emmanuel Kweku Quansah (PhD), Nathaniel Boso (PhD) and Abdul Samed Muntaka (PhD).

CARISCA wishes to acknowledge the support of the Chartered Institute of Logistics and Transport (CILT) and the Chartered Institute of Procurement and Supply (CIPS) in disseminating the report.

The calculated LMI for Ghana, along with the accompanying analysis of its components, provides useful insights for the government of Ghana, business decision-makers, market analysts and investors, as it offers a predictive indication of overall economic activity in the country.

The LMI report is made available quarterly at [carisca.knust.edu.gh/LMI](https://carisca.knust.edu.gh/LMI).



Senior supply chain (including logistics, operations and procurement) managers of businesses in Ghana are invited to participate in the quarterly LMI surveys by visiting:

[surveymonkey.com/r/Q2-24-LMI](https://surveymonkey.com/r/Q2-24-LMI)

The LMI measures the growth or decline of Ghana's logistics industry along three components: inventory, warehousing and transportation activities. The LMI for Ghana study utilizes eight metrics across the three components to capture Ghana's logistics activities. The index measures combinations of inventory, warehouse and transportation activities and tracks the relationship between these variables to make inferences about their effects on the broader Ghanaian economy.

An index score is calculated for each of the eight components, and an overall index score (i.e., an LMI value) is then calculated as a composite of these components.

This approach is an effective and a reliable way to identify prevailing trends in logistics activities. Due to its predictive nature, the LMI is also a useful tool for forecasting future trends in a modern economy (Rogers et al., 2019).



## Data and Methodology

Data for the Logistics Managers Index for Ghana are collected in quarterly surveys. Respondents for the study include senior logistics, supply chain and procurement executives and managers in the formal sector of the Ghanaian economy. Senior executives and managers are most likely to have macro-level information on inventory, warehousing and transportation trends in their organizations.

Data is also collected from professional members of the Chartered Institute of Logistics and Transport (CILT) and the Chartered Institute of Procurement and Supply (CIPS). Members of these professional bodies in Ghana tend to hold senior management positions in their organizations.

## The Diffusion Index

The LMI for Ghana is calculated using the diffusion index. The diffusion index is used to calculate other widely accepted indexes, such as the Purchasing Managers Index (PMI) and the USA LMI. This index gives an indication of whether the metric being evaluated is contracting or growing. Values below 50.0 suggest a contraction, while values above 50.0 suggest growth in an activity (Getz and Ulmer, 1990).

Diffusion indexes are used to measure how widely a variable is spread across a group. The Institute for Supply Management (ISM) has been using the diffusion

To ensure that the LMI value for Ghana is a true reflection of logistics activities in the Ghanaian economy, the respondents for this study were required to be working for organizations that operate in Ghana. Multiple industries were represented in the respondent pool: automobile and parts, telecommunications, shipping and transport, agriculture and agriculture business, manufacturing, mining, pharmaceuticals, industrial services, oil and gas/petroleum, and machinery and equipment.

**A total of 373 valid responses were used for the Q1 2024 report.**

index to compute the Purchasing Managers Index since 1948. In keeping with the approach by Rogers, et al. (2018) and ISM, we computed the diffusion index as follows:

$$DI: 0.0 * PD + 0.5 * PU + 1.0 * PI$$

Where PD = % of respondents saying a category is declining, PU = % of respondents saying a category is unchanged, and PI = % of respondents saying a category is increasing.

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The Logistics Managers Index (LMI) for Ghana makes no representation other than that stated in this release regarding the individual company data-collection procedures. The data should be compared to all other economic data sources when used in decision-making.

To participate in the LMI survey, go to [surveymonkey.com/r/Q2-24-LMI](https://surveymonkey.com/r/Q2-24-LMI)

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