

Economic Indicators

The Chinese economy has made a rebound in 2023, with major economic indicators seeing steady expansion, offering the latest evidence that the world's second-largest economy is set to secure a powerful recovery this year. Accordingly, the KIS Research Center aims to help investors understand by preparing reports that introduce major Chinese economic indicators. We hope that this report will be helpful in understanding global economic indicators centered on China

The Caixin PMI overview

Caixin PMI (Purchasing Managers' Index) is a monthly economic indicator released by Caixin Media and IHS Markit. It measures the economic activity of China's manufacturing sector by surveying purchasing managers from a representative sample of manufacturing companies.

Understanding of the Caixin PMI

There are three types of PMI listed as follows: The Caixin China Composite PMI, The Caixin China General Manufacturing PMI, and The Caixin China services PMI.

PMI above 50 indicates expansion in business activity. Anything below 50 denotes contraction. Therefore, higher the difference from this mid-point greater the expansion or contraction. The rate of expansion can also be judged by comparing the PMI with that of the previous month data. If the figure is higher than the previous month's then the economy is expanding at a faster rate. In the contrary, lower PMI compared with previous month then it is growing at a lower rate.

Why should we check it at this time?

Investors and economists pay special attention to PMI reading each month to get a pulse on the world's second-largest economy. For a country where the credibility of data is often being questioned, the Caixin PMI computed by private parties provides alternatives besides the official data from the National Bureau of Statistics (NBS).

Beyond the composite figure, sub-indices like new orders provide a sharper insight into China's growth picture, especially during the significant reduction in Western demand under tightening monetary policy. Employment and inventory data (from sub-indices) certainly add color, but new orders, which indicate the industry's demand expectation, are what really tell the tale.

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I. The Caixin PMI overview

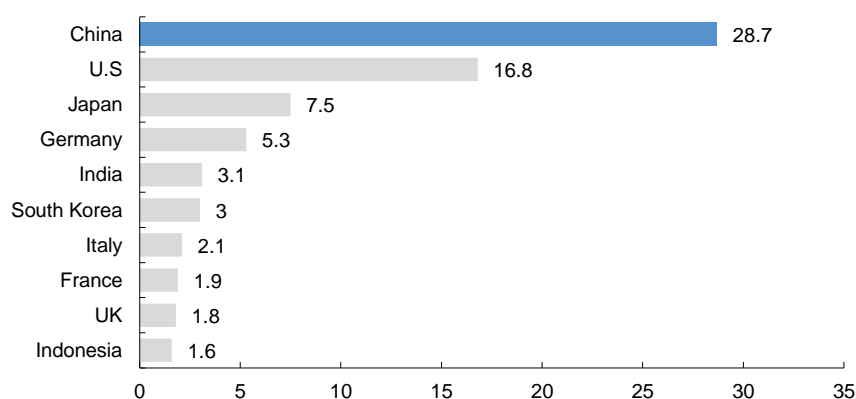
DEFINITION

- Caixin PMI (Purchasing Managers' Index) is a monthly economic indicator released by Caixin Media and IHS Markit. It measures the economic activity of China's manufacturing sector by surveying purchasing managers from a representative sample of manufacturing companies.
- The Caixin China General Manufacturing PMI™ is compiled by S&P Global from responses to questionnaires sent to purchasing managers in a panel of around 650 private and state-owned manufacturers.
- The survey queries consumers on their views of their own personal finances, as well as the short-term and long-term state of China economy.
- This indicator takes into account investor's feelings toward their current financial health, the health of the economy in the short term, and the prospects for longer-term economic growth.

WHY IT IS IMPORTANT

- According to the latest data of United Nations Statistics Division, China was listed as Top 1 in global manufacturing output.
- Understanding the Caixin PMI can provide insight into recent market conditions and identify future economic activities.
- China's manufacturing is on its way to comeback. Manufacturing output quickened following the lifting of the zero-COVID policy.
- The PMI is widely used to anticipate changing economic trends in official data such as GDP, or sometimes as an alternative gauge of economic performance and business conditions to official data, as the latter sometimes suffer from delays in publication, poor availability or data quality issues.

Figure 1. Top 10 manufacturing countries (% share of global output)



Source: United Nations Statistic Divisions, KIS

According to data of United Nations Statistics Division, 28.7% of the world's industrial output comes from China. In 2019, this contributed roughly USD 4.0 trillion to the nation's overall economic output. Although the United States used to be the world's leading manufacturing center, China has now occupied that position for more than ten years. Furthermore, China has a comfortable 10 percent lead over the United States thanks to a sizable labor force, low costs and high production quality.

II. Understanding of the Caixin PMI

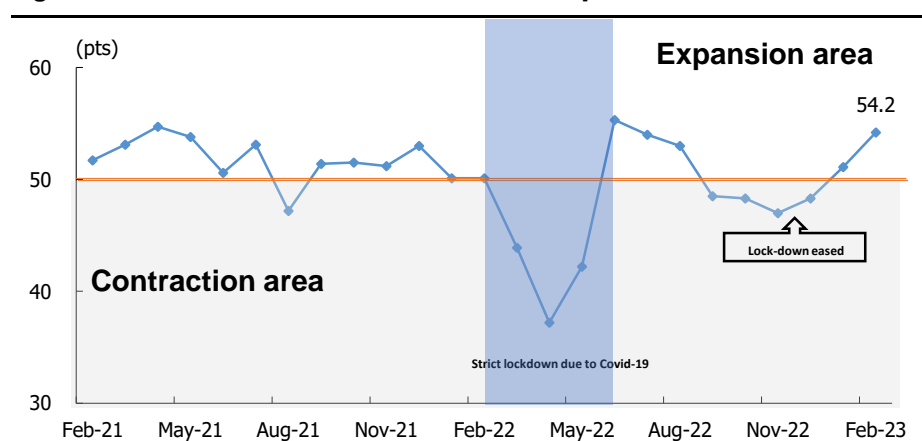
The survey covers various aspects of manufacturing activity, including production levels, new orders, employment, supplier deliveries, and inventories. The index is based on a scale of 0 to 100, with a reading above 50 indicating expansion in the manufacturing sector, while a reading below 50 indicates contraction.

There are three types of PMI listed as follows:

- **The Caixin China Composite PMI**

In China, the Caixin China Composite Output Index tracks business trends across private sector activity, based on data collected from a representative panel of around 400 companies. The index tracks variables such as sales, new orders, employment, inventories and prices.

Figure 2. Historical data of the Caixin China Composite PMI



Source: Trading economics, KIS

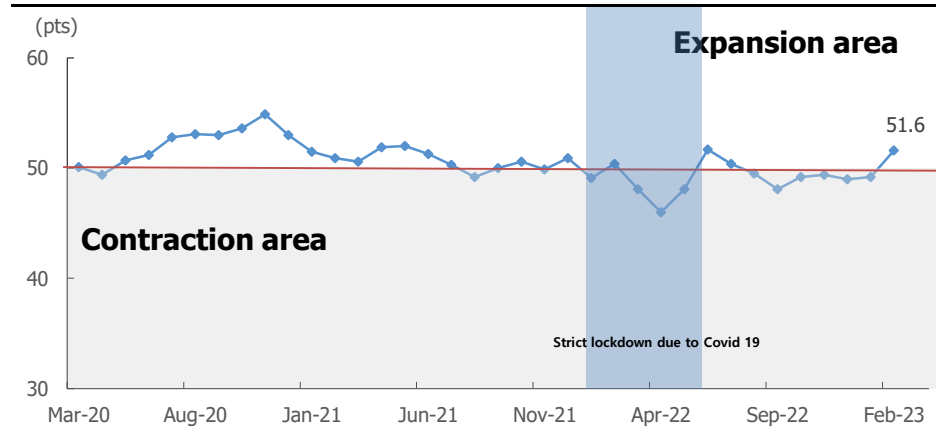
According to the latest data of Trading economics, the Caixin China General Composite PMI increased from 51.1 in January to 54.2 in February, signaling an expansion. It was the second successive period of growth in private sector activity that was the strongest since last June, buoyed by the removal of tough pandemic measures. The rise momentum was aided by both a renewed increase in manufacturing output and a sharper increase in service activity. New orders jumped significantly since May 2021, and foreign orders grew the most since November 2020. Furthermore, the employment rate was at a 27-month high, linked to renewed increases in staffing levels across both manufacturing and service sectors. On the price front, input costs and output charges advanced modestly. Finally, confidence was unchanged from January's decade high.

- **The Caixin China General Manufacturing PMI**

In China, the Caixin Manufacturing PMI Purchasing Managers' Index measures the performance of the manufacturing sector and is derived from a survey of private 430 industrial companies. The Manufacturing Purchasing Managers Index is based on five individual indexes with the following weights: New Orders

(30 percent), Output (25 percent), Employment (20 percent), Suppliers' Delivery Times (15 percent) and Stock of Items Purchased (10 percent), with the Delivery Times index inverted so that it moves in a comparable direction.

Figure 3. Historical data of the Caixin China manufacturing PMI



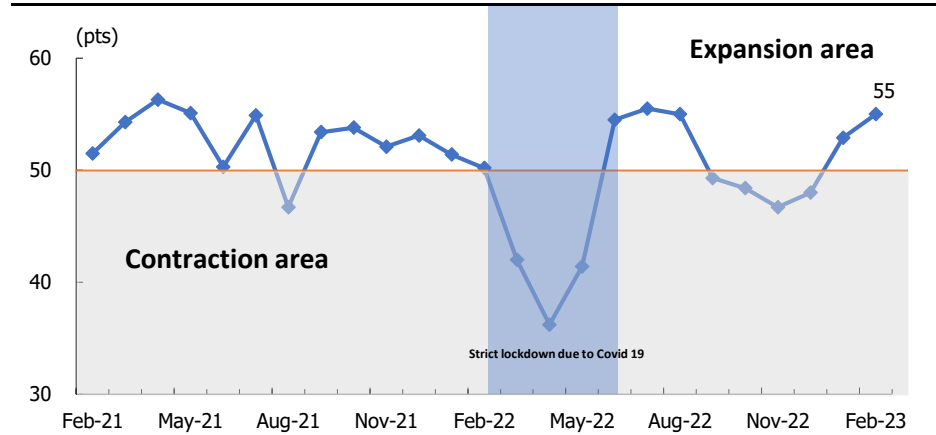
Source: Trading economics, KIS

The Caixin China General Manufacturing PMI increased to 51.6 in February, compared to 49.2 in January, beating the market consensus of 50.2. This was the highest record in 8 months, after a shift in COVID policy. Specifically, output grew for the first time after 6 months of contraction, with the rate of expansion the steepest since June 2022. Furthermore, employment climbed for the first time in 11 months, while backlogs of work increased at the quickest rate in 16 months. New orders also witnessed an expansion for the first time in 7 months, and at the fastest pace since May 2021. Furthermore, employment climbed for the first time in 11 months, while backlogs of work increased at the quickest rate in 16 months. Meanwhile, buying levels increased at the fastest pace since June 2021. Delivery times experienced an improvement and to the greatest extent in 8 years. On inflation, both input and output cost inflation accelerated. Finally, sentiment improved to a 23-month high, amid persistent improvement in consumer demand.

- **The Caixin China services PMI**

The Caixin China General Services PMI (Purchasing Managers' Index) is based on data compiled from monthly replies to questionnaires sent to purchasing executives in over 400 private service sector companies. The index tracks variables such as sales, employment, inventories and prices.

Figure 4. Historical data of The Caixin China services PMI



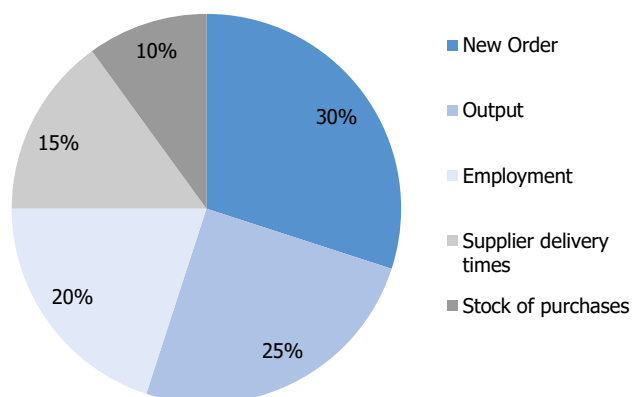
Source: Trading economics, KIS

As can be observed that the Caixin China General Services PMI climbed to 55.0 in February 2023, up from 52.9 in the previous month, signaling the fastest pace of expansion in activity since last August. In addition, new business rose the most since April 2021, and new export growth hit a nearly four-year high, as the relaxation of COVID-19 restrictions helped lift customer numbers and demand. Besides, employment levels also witnessed an increase for the first time in four months. On the price front, both input costs and prices charged jumped slightly. Finally, business sentiment remained high, despite the degree of optimism slipping from January's near 12-year high

The Caixin PMI measurement

The Caixin PMI (Purchasing Managers' Index) is a composite index made up of several components, which provide information on different aspects of China's manufacturing sector. The components of the Caixin PMI survey typically include:

Figure 5. Historical data of The Caixin China services PMI



Source: Caixin Global, KIS

New orders (30%): The amount of new orders received by manufacturing companies during the survey period.

Output (25%): The level of manufacturing output during the survey period.

Employment (20%): The level of employment in the manufacturing sector during the survey period.

Supplier delivery times (15%): The length of time it takes for suppliers to deliver materials and components to manufacturing companies.

Stock of purchases (10%): The quantity of materials and components purchased by manufacturing companies.

The data collected from these components are used to calculate the overall Caixin PMI index, which is used as a barometer of the health of China's manufacturing sector. For each of those five survey variables, it is converted into a single-figure "diffusion index" according to the following formula:

The PMI is calculated as:

Where:

P1 = percentage of answers reporting an improvement

P2 = percentage of answers reporting no change

P3 = percentage of answers reporting a deterioration

$$INDEX = (P1 * 1) + (P2 * 0.5) + (P3 * 0)$$

After all, the five sub-indices are compiled into a sector PMI index regarding their weights. The indices vary between 0 and 100, with a reading above 50 indicating an overall increase compared to the previous month regarding business conditions, and below 50 an overall decrease. The rate of expansion/contraction can also be judged by comparing the PMI with that of the previous period to acknowledge the pace of changes.

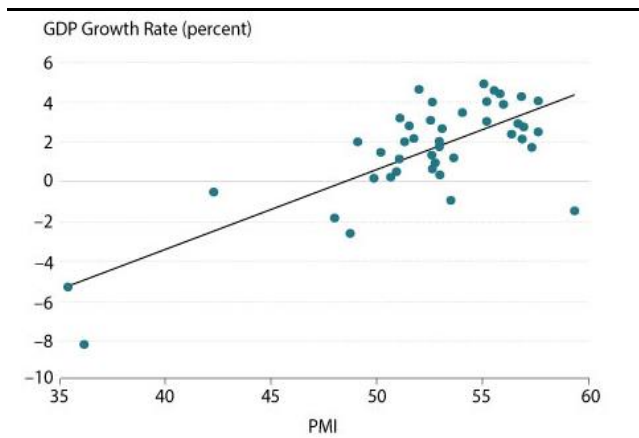
III. How is the Caixin PMI used?

For financial markets, investors and the bond markets actively monitor the PMI providing signals of corporate earnings, stockpile demand, and foreign currency flow to the economy. A strong reading enhances the attractiveness of the economy versus other competing countries. For example, if the PMI of sub-component “new orders” rose, FDI enterprises specializing in this sector could pour more international funds into that country for raw material restocking.

Regarding the economy, PMI movements could precede changes in major economic activities. Specifically, the PMI is usually released on the 24th of the current month, much sooner than most of the official data on industrial output, manufacturing, GDP growth, and employment become available. Therefore, PMI is considered a good leading economic indicator to make forecasts of industrial production, employment, and other economic activities.

As confirmed the by Federal Reserve Bank of St.Louis, the PMI has a strong correlation with quarterly GDP growth rate and serves as a forecasting indicator as PMI is timelier than official GDP data, which are released with a longer delay. The correlations between PMI and GDP growth rate are strongly positive, standing at 0.75 and 0.73 for U.S. and China, respectively.

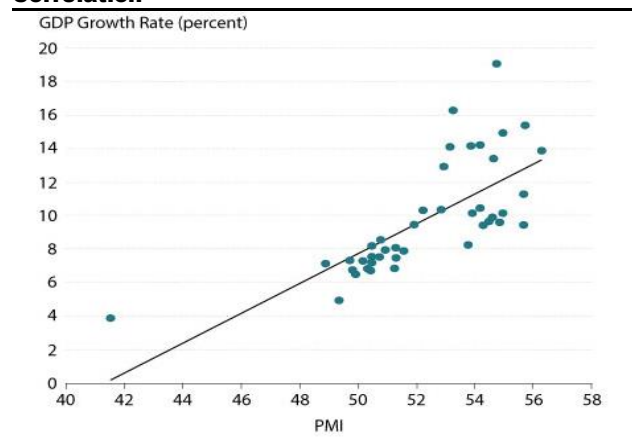
Figure 6. The quarter U.S. GDP and PMI: Correlation



Source: Fed St.Louis, BEA, ISM, KIS

Note: The quarter PMI is an average of monthly PMIs. The GDP growth rate is annualized.

Figure 7. The quarter China GDP and PMI: Correlation



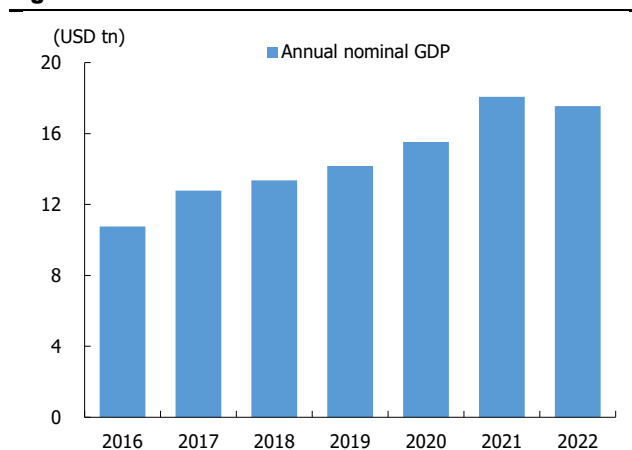
Source: Fed St.Louis, China Federation of Logistics and Purchasing, NBS, KIS

IV. Why should we check it at this time?

Investors and economists pay special attention to PMI reading each month to get a pulse on the world's second-largest economy. For a country where the credibility of data is often being questioned, the Caixin PMI computed by private parties provides alternatives besides the official data from the National Bureau of Statistics (NBS). In contrast to NBS PMI focusing on large state-owned companies (SOEs) as well as small and medium-sized private manufacturers, Caixin focused on small and medium-sized manufacturers in the private sector, especially private exporters. This provides a true look at actual economic health as SOEs are heavily subsidized.

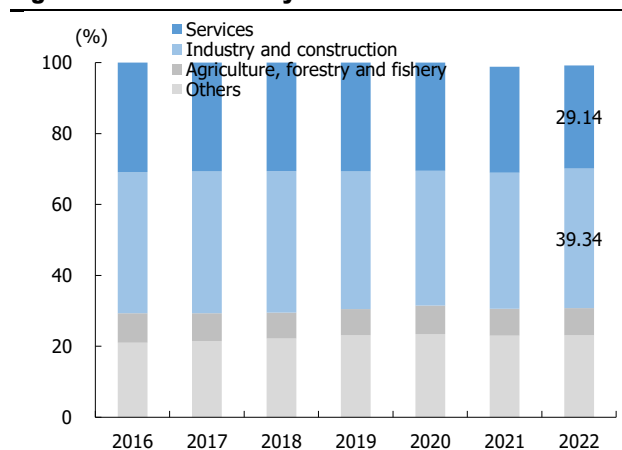
The coverage of both manufacturing and services sectors gives readers a comprehensive view of China's economy in the context they contributed nearly three fourth to the GDP. Specifically, the year 2022 witnessed a 39.34% contribution of the industry and construction to GDP while services accounted for 29.14%.

Figure 8. China's annual nominal GDP



Source: Bloomberg, KIS

Figure 9. China's GDP by sector contributions



Source: Bloomberg, KIS

In addition to providing clues on business expectations, services PMI track the real estate market, playing as an important indicator for this sector tracking, especially during the recent debt crisis related to the giant Evergrande.

Beyond the composite figure, sub-indices like new orders provide a sharper insight into China's growth picture, especially during the significant reduction in Western demand under tightening monetary policy. Employment and inventory data (from sub-indices) certainly add color, but new orders, which indicate the industry's demand expectation, are what really tell the tale. Overall, looking through Chinese economic data may be overwhelming, particularly given that market observer frequently questions its authenticity. Hence, the Caixin PMI computed by a reputational private party – S&P Global provides a reliable source of data.

Macro scorecard

	22-Oct	22-Nov	22-Dec	23-Jan	23-Feb	1Q22	2Q22	3Q22	4Q22	2019	2020	2021	2022
Real GDP growth (%)						5.03	7.72	13.67	5.92	7.03	2.91	2.58	8.02
Registered FDI (USD bn)	2.05	2.67	2.58	1.66	1.41	8.91	5.12	4.67	8.96	38.02	28.53	31.15	27.72
GDP per capita (USD)										3,398	3,521	3,725	
Unemployment rate (%)										2.25	2.48	3.22	
Export (USD bn)	30.27	29.50	29.66	25.08	25.88	86.01	96.83	96.48	89.50	263.6	282.7	335.7	371.85
Import (USD bn)	28.00	30.00	29.16	21.48	23.58	87.45	97.58	90.71	85.07	254.4	263	331.1	360.65
Export growth (%)	4.54	(7.40)	(13.96)	(21.28)	10.97	13.43	21.02	17.22	(6.07)	8.16	7.02	18.74	10.61
Import growth (%)	7.08	(2.04)	(8.14)	(28.92)	(6.65)	15.17	15.72	8.12	(3.90)	7.41	3.81	25.9	8.35
Inflation (%)	4.30	4.37	4.55	4.89	4.31	1.92	2.96	3.32	4.41	2.79	3.24	1.84	3.15
USD/VND	24,839	24,800	23,658	23,449	23,780	22,837	23,139	23,712	23,658	23,173	23,126	22,790	23,650
Credit growth (%)	11.50	11.50	12.87	NA	0.31	4.13	8.51	10.47	12.87	13.75	12.17	12.97	12.87
10Y gov't bond (%)	4.95	4.91	5.08	4.59	4.39	2.40	3.38	4.39	5.08	3.37	2.01	2.11	5.08

Source: GSO, Bloomberg, FIA, IMF

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