

Nifty India Manufacturing Index

Tracking India's manufacturing sector

December 2021

Introduction:

The manufacturing sector is a vital part of India's economy and accounts for approximately 17% of the country's GDP (source: MOSPI). Thanks to the 'Make in India' drive, India is increasingly becoming the hub for hi-tech manufacturing. Attracted by India's market of more than a billion consumers and increasing purchasing power, various global giants have either set up or are in process of setting up manufacturing plants in India. (source: ibef.org). Along with the international names setting up operations in India, there are several Indian manufacturing firms which have made their mark globally. Furthermore, the Indian manufacturing sector has rebounded after the Q1 2020 pandemic related slump, according to data from MOSPI.

Development of the manufacturing sector is beneficial to India for several reasons. Increasing manufacturing output results in higher levels of employment and productivity for the economy. A large domestic manufacturing industry can help reduce import dependency and potentially lead to increased exports, leading to increased self-reliance. The need for self-reliance has been felt more acutely due to Covid-19, as the world moves away from the 'just-in-time' supply chain model it followed over the previous decades, in order to become more resilient in the face of future unexpected supply shocks. Finally, adopting best practices and techniques in manufacturing allows India to move higher up along the global value chain.

About the Nifty India Manufacturing Index

In light of the large size and strategic importance of the domestic Indian manufacturing sector, NSE Indices Ltd. created the Nifty India Manufacturing Index. It allows investors to track the performance of companies selected from the combined universe of Nifty 100, Nifty Midcap 150

and Nifty Smallcap 50 Index based on 6 month average free-float market capitalization within the eligible basic industries that broadly represent the Indian manufacturing sector. The index has a base date of April 01, 2005, with a base value of 1000.



Eligible Combined Universe

Nifty 100 &
Nifty Midcap 150 &
Nifty Smallcap 50



Security Selection

Top companies that provide around 75% coverage of Free Float Market Cap of eligible stocks within each eligible basic industry of the combined universe

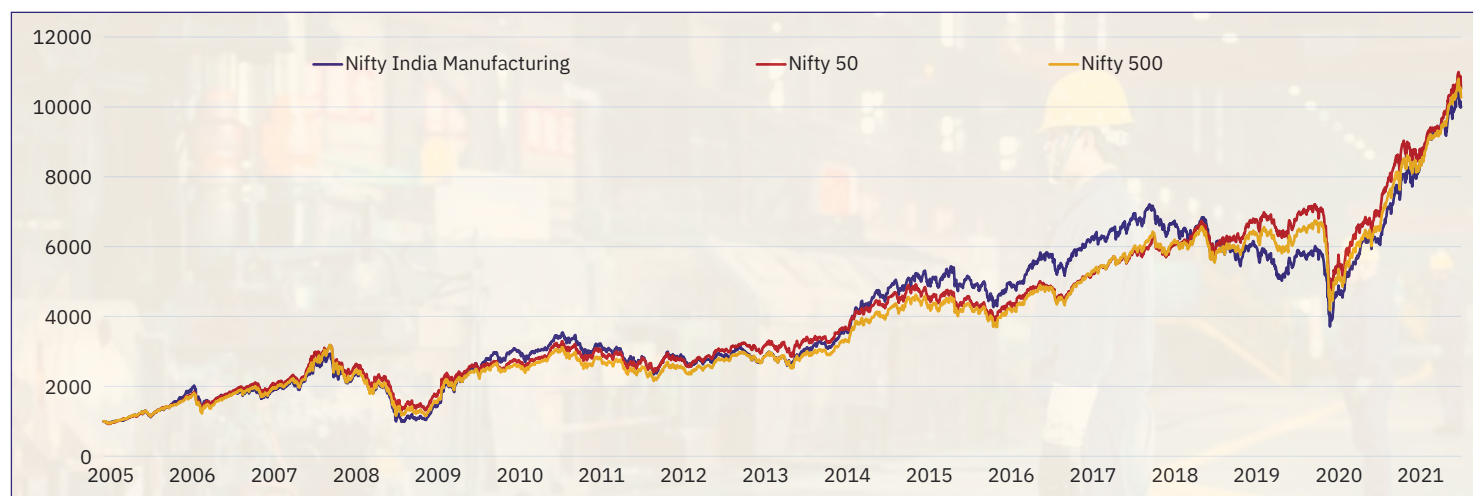


Nifty India Manufacturing

Weights based on free-float market cap
Reviewed semi-annually

The Nifty India Manufacturing Index has outperformed the Nifty 50 and Nifty 500 Index over the last 1 year and performed broadly in line with them over the long term

Exhibit 1: Nifty India Manufacturing, Nifty 50 and Nifty 500 Index performance



Source: NSE Indices. Data as of Nov 30, 2021

Exhibit 2: Nifty India Manufacturing, Nifty 50 and Nifty 500 Index performance table

Period	CAGR returns (%)			Volatility (%)			Return-risk		
	NiftyIndia Manufacturing	Nifty 50	Nifty 500	NiftyIndia Manufacturing	Nifty 50	Nifty 500	NiftyIndia Manufacturing	Nifty 50	Nifty 500
Since Inception*	14.5%	14.9%	14.8%	22.2%	22.3%	21.5%	0.65	0.67	0.69
15 years	11.7%	11.6%	11.8%	22.0%	22.2%	21.4%	0.53	0.52	0.55
10 years	14.2%	14.8%	15.7%	17.7%	17.0%	16.6%	0.80	0.87	0.95
7 years	9.7%	11.6%	12.6%	18.5%	17.5%	17.1%	0.52	0.66	0.74
5 years	11.9%	17.0%	17.0%	18.9%	18.2%	17.6%	0.63	0.94	0.97
3 years	16.4%	17.4%	18.5%	21.5%	21.7%	20.7%	0.76	0.80	0.89
1 year	40.8%	32.5%	38.1%	16.6%	15.4%	14.9%	2.46	2.11	2.55
6 months	6.1%	9.8%	11.5%	14.6%	11.1%	11.2%	0.42	0.88	1.02
3 months	-0.8%	-0.6%	0.9%	17.0%	13.0%	13.4%	-0.05	-0.05	0.07
YTD	31.5%	22.9%	28.5%	16.4%	15.5%	14.9%	1.92	1.47	1.91

Source: NSE Indices. Data as of Nov 30, 2021. * Based on inception date of Apr 1, 2005. Returns based on TRI values. YTD and 1-year returns are absolute returns. Returns for greater than one year are CAGR returns; daily standard deviation is annualized

The Nifty India Manufacturing Index has outperformed the Nifty 50 Index and Nifty 500 Index over the last 1 year. Between the period Nov 27, 2020 to Nov 30, 2021, the Nifty India Manufacturing Index returned 40.8%, compared to 32.5% for the Nifty 50 Index and 38.1% for the Nifty 500 Index. However, the relative performance of the Nifty India Manufacturing Index against the Nifty 50 Index and Nifty 500 has been mixed beyond the 1-year horizon.

Since inception, from April 01, 2005 to Nov 30, 2021, the Nifty India Manufacturing Index has slightly underperformed the Nifty 50 and Nifty 500 Index, returning 14.5% CAGR compared to 14.9% CAGR and 14.8% CAGR for the Nifty 50 and Nifty 500 Index respectively.

The Nifty India Manufacturing Index's historical volatility has been broadly in line with that of the Nifty 50 and Nifty 500 Index over various time horizons. For example, over the last 15 years, between Nov 30, 2006 and Nov 30, 2021, the Nifty India Manufacturing Index has had annualized

volatility of 22.0% versus 22.2% for the Nifty 50 Index and 21.4% for the Nifty 500 Index. Over the last 3 years, between Nov 30, 2018 to Nov 30, 2021, the Nifty India Manufacturing Index has had annualized volatility of 21.5% compared to 21.7% for the Nifty 50 Index and 20.7% for the Nifty 500 Index.

The Nifty India Manufacturing Index also has a similar risk return profile as the Nifty 50 and Nifty 500 Index since inception. The return-risk ratio for the Nifty India Manufacturing Index over the period Apr 1, 2005 and Nov 30, 2021 is 0.65 versus 0.67 for the Nifty 50 Index and 0.69 for the Nifty 500 Index over the same period. However, the return-risk ratio of the Nifty India Manufacturing Index is lower than the Nifty 50 and Nifty 500 Index over the intermediate 5-year horizon. From Nov 30, 2016 to Nov 30, 2021, the Nifty India Manufacturing Index had a return-risk ratio of 0.63 versus 0.94 and 0.97 for the Nifty 50 and Nifty 500 Index respectively.

The Nifty India Manufacturing Index has outperformed the Nifty 500 Index on a rolling return basis over horizons of 5, 7 and 10 years

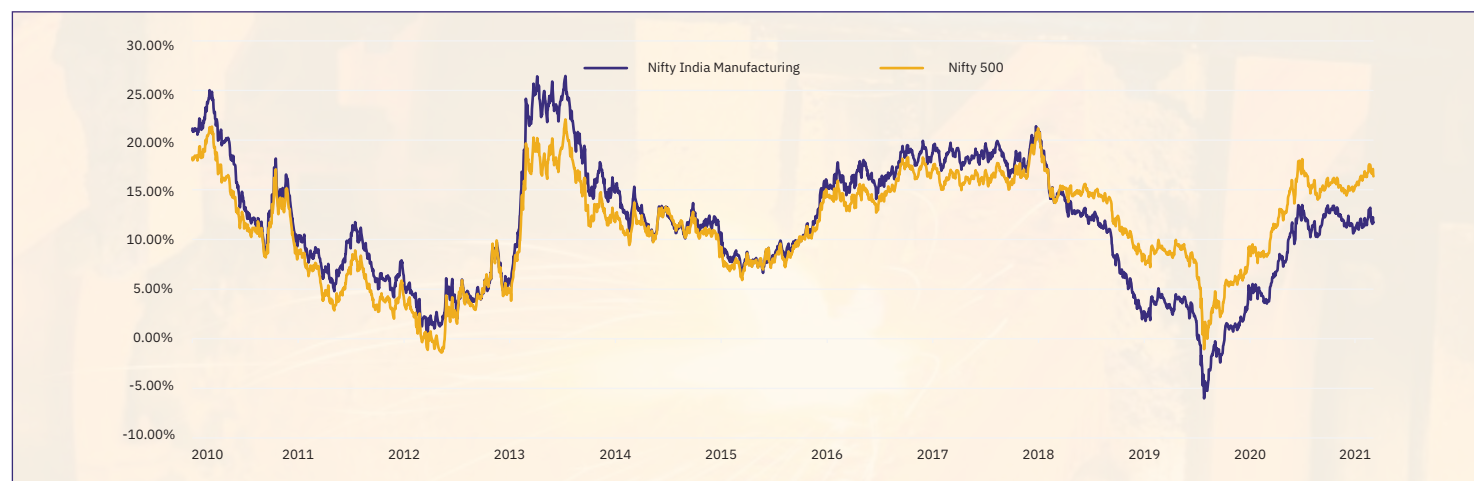
Exhibit 3: Instances of outperformance of Nifty India Manufacturing Index vs Nifty 500 Index on a daily rolling return basis

Percentage of total instances of Outperformance and Underperformance vs Nifty 500 on daily rolling return basis							
Investment Horizon	Nifty India Manufacturing Index						
	Instances of Underperformance vs Nifty 500	Instances of Outperformance vs Nifty 500					
		Excess Return frequency <0% CAGR	Average Underperformance	Excess Return frequency >=0% CAGR	Excess Return (0-2% CAGR)	Excess Return (2-4% CAGR)	Excess Return (>4% CAGR)
10 years	38.7%	-1.8%	61.3%	43.8%	17.5%	0.0%	1.6%
7 years	49.3%	-1.6%	50.7%	27.8%	18.1%	4.8%	2.1%
5 years	30.6%	-3.6%	69.4%	38.3%	27.3%	3.8%	1.9%
3 years	51.9%	-4.5%	48.1%	11.9%	6.6%	29.6%	4.5%
2 years	58.0%	-4.9%	42.0%	5.8%	7.2%	28.9%	7.1%
1 year	51.4%	-7.0%	48.6%	7.4%	8.7%	32.6%	11.0%

Source: NSE Indices. Instances of outperformance or underperformance calculated using daily rolling returns. Data as Nov 30, 2021 * Average underperformance is calculated as the simple average of periodic returns for all periodic returns lower than 0%. ^ Average outperformance is calculated as the simple average of periodic returns for all periodic returns of at least 0%.

The Nifty India Manufacturing Index has outperformed the Nifty 500 Index more than 50% of the times over rolling return horizons of 5, 7 and 10 years, as shown in the exhibit above.

Exhibit 4: Rolling returns of Nifty India Manufacturing and Nifty 500 Index on a daily rolling return basis with a 5-year investment horizon



Source: NSE Indices. Dates on the chart refer to end date of each respective rolling window. Data as Nov 30, 2021

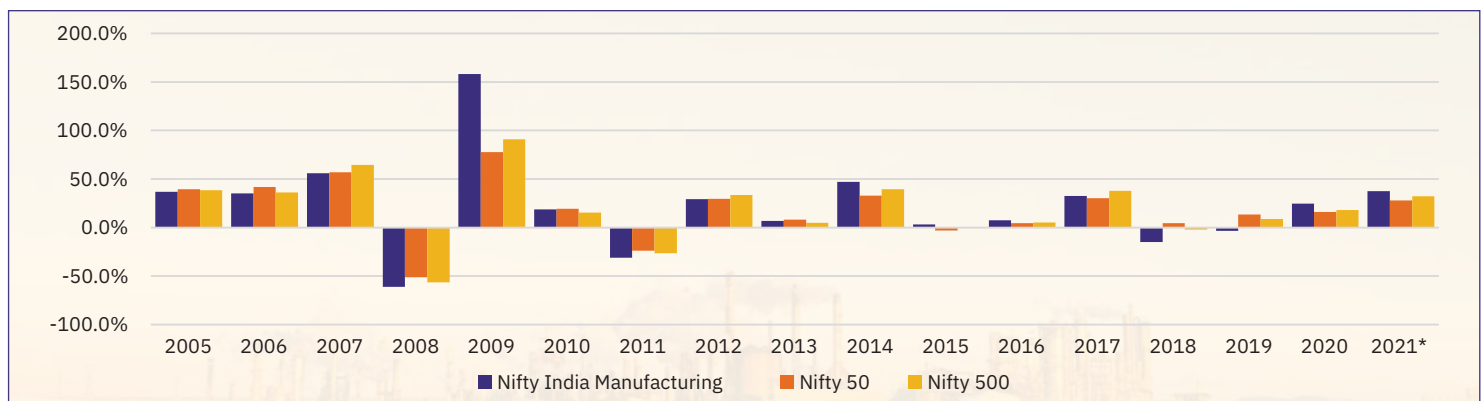
From exhibit 3 above, based on daily rolling returns, for a 5-year investment horizon, the Nifty India Manufacturing Index has outperformed the Nifty 500 Index 69.4% of the time. The average outperformance over rolling 5-year investment horizons has been 1.9% per annum. However over shorter time frames of 1, 2 and 3 years, the frequency of outperformance of the Nifty India Manufacturing Index over the Nifty 500 Index dips below the 50% threshold. For example, based on daily rolling returns, for a 1-year investment horizon, the Nifty India Manufacturing Index has outperformed the Nifty 500 Index 48.6% of the time, which drops to 42.0% for a 2-year investment horizon.

When the Nifty Manufacturing Index has outperformed the Nifty 500 Index on a daily rolling return basis over 5, 7 and

10-year horizons, the average outperformance has been in the range of 1.6-2.1% per annum. For the 5-year investment horizon, based on daily rolling return analysis, the excess return of the Nifty India Manufacturing Index was in the range of 0-2% per annum for 38.3% of the instances, excess return ranged between 2-4% per annum for 27.3% of the instances, and excess return exceeded 4% per annum over the Nifty 500 Index in 3.8% of the instances, leading to cumulative 69.4% instances of outperformance over the Nifty 500 Index. The Nifty India Manufacturing Index outperformed the Nifty 500 Index by 2.1% per annum on average for 7-year investment horizons and 1.6% per annum on average for 10-year investment horizons.

The Nifty India Manufacturing Index has outperformed the Nifty 500 Index in 7 out of the last 16 calendar years

Exhibit 5: Performance of the Nifty India Manufacturing, Nifty 50 and Nifty 500 Index by calendar year



Source: NSE Indices. Data as of Nov 30, 2021. Data for the year 2005 is from April 01, 2005 to December 30, 2005. * YTD data

The Nifty India Manufacturing Index has outperformed the Nifty 500 Index in 7 out of the last 16 calendar years from CY2005-20. The Nifty India Manufacturing Index tends to outperform the Nifty 500 Index in the recovery period after a market crash. The Nifty India Manufacturing Index outperformed in 2009 and 2010 as it recovered from the steep fall in 2008 caused by the Global Financial Crisis (GFC). Similarly, the Index also outperformed the Nifty 50 and Nifty 500 Index in 2020 after

the pandemic-induced sell off in Q1 2020. The Nifty India Manufacturing Index outperformed the Nifty 500 Index for 4 consecutive calendar years from 2013-2016, due to optimism about the growth and reform outlook for the Indian economy. However, due to its exposure to economically-sensitive cyclical companies, the Nifty India Manufacturing Index underperformed the Nifty 500 Index in 2018 and 2019 as the Indian economy faced a broad economic slowdown.

Exhibit 6: Betas and correlations of Nifty India Manufacturing with Nifty 500 Index by calendar year

	Beta relative to Nifty 500	Correlation with Nifty 500
	Nifty India Manufacturing	
2005	0.99	0.95
2006	1.10	0.97
2007	0.97	0.97
2008	0.91	0.97
2009	1.00	0.96
2010	1.06	0.95
2011	0.98	0.97
2012	0.98	0.94
2013	0.88	0.91
2014	1.04	0.93
2015	1.04	0.95
2016	1.06	0.95
2017	1.14	0.92
2018	1.13	0.93
2019	1.17	0.92
2020	0.91	0.95
2021*	0.97	0.88

Source: NSE Indices. Data as of Nov 30, 2021. Data for the year 2005 is from April 01, 2005 to December 30, 2005. * YTD data

The beta of the Nifty Manufacturing Index relative to the Nifty 500 Index has ranged between 0.91-1.17 since 2005. The Nifty India Manufacturing Index underperformed the

Nifty 500 Index by more than -10% in CY2018 and CY2019. In both these years, the beta of the Nifty Manufacturing Index was greater than 1.10.

The largest sectors in the Nifty India Manufacturing Index are the Automobile, Industrial Manufacturing, Pharma and Metals sectors

Exhibit 7: Comparison of sector exposure between the Nifty India Manufacturing, Nifty 50 and Nifty 500 Index (%) on Nov 30, 2021

Sector	Nifty India Manufacturing	Nifty 50	Nifty 500
 AUTOMOBILE	20.4	4.9	5.0
 INDUSTRIAL MANUFACTURING	20.2	0.0	2.6
 PHARMA	17.7	3.4	4.6
 METALS	14.4	3.2	3.7
 OIL & GAS	9.3	12.2	9.4
 CONSUMER GOODS	6.9	10.8	11.6
 CHEMICALS	6.4	0.0	1.8
 FERTILISERS & PESTICIDES	3.6	0.5	0.9
 TEXTILES	1.1	0.0	0.5
 TELECOM	0.0	2.3	2.1
 PAPER AND JUTE	0.0	0.0	0.0
 CONSUMER SERVICES	0.0	0.0	2.0
 HEALTHCARE SERVICES	0.0	0.0	1.1
 CEMENT & CEMENT PRODUCTS	0.0	2.5	2.5
 POWER	0.0	1.8	2.8
 SERVICES	0.0	0.7	1.4
 MEDIA, ENTERTAINMENT & PUBLICATION	0.0	0.0	0.5
 FINANCIAL SERVICES	0.0	37.0	30.4
 CONSTRUCTION	0.0	2.9	3.1
 IT	0.0	17.8	14.0

Source: NSE Indices. Data as of Nov 30, 2021

The largest sectors in the Nifty India Manufacturing Index are the Automobile, Industrial Manufacturing, Pharma and Metals sectors. These sectors have a considerably higher weight in the Nifty India Manufacturing Index compared to their weights in the Nifty 50 and Nifty 500 Index. For example, the Metals sector has 14.4% weight in the Nifty India Manufacturing Index compared to 3.2% and 3.7% weight respectively in the Nifty 50 and Nifty 500 Index.

Similarly, the Industrial Manufacturing sector has a weight of 20.2% in the Nifty India Manufacturing Index compared to no representation in the Nifty 50 Index and 2.6% weight in the Nifty 500 Index. Note the weight of the Industrial Manufacturing and Automobile sector is floored at 20% in the Nifty India Manufacturing Index to ensure adequate representation of the manufacturing theme.

Signing off...

The Nifty India Manufacturing Index includes companies from the Nifty 100, Nifty Midcap 150 and Nifty Smallcap 50 Index from eligible basic industries per AMFI Industry Classification that broadly represent the manufacturing sector



Since inception on April 01, 2005 till Nov 30, 2021, the Nifty India Manufacturing Index has returned 14.5% CAGR vs 14.9% CAGR of the Nifty 50 Index and 14.8% CAGR of the Nifty 500 Index



The Nifty India Manufacturing Index has outperformed the Nifty 500 Index in 7 out of the last 16 calendar years from CY2005-20



The Nifty India Manufacturing Index has outperformed the Nifty 500 Index on a rolling return basis over long-term horizons - the Nifty India Manufacturing Index has outperformed the Nifty 500 Index 69.4%, 50.7% and 61.3% of times on a rolling return basis using daily returns over 5-year, 7-year and 10-year periods respectively



The Nifty India Manufacturing Index offers larger exposure to sectors including Automobile, Industrial Manufacturing, Pharma, Metals and Chemicals compared to the Nifty 50 and Nifty 500 Index



For more information on the Index methodology and factsheet, please visit us at www.nseindia.com

About NSE Indices Limited

NSE Indices Limited (formerly known as India Index Services & Products Ltd. - IISL), a subsidiary of NSE, provides a variety of indices and index related services for the capital markets. The company focuses on the index as a core product. The company owns and manages a portfolio of indices under the NIFTY brand of NSE, including the flagship index, the NIFTY 50. NIFTY equity indices comprises of broad-based benchmark indices, sectoral indices, strategy indices, thematic indices and customised indices. NSE Indices Limited also maintains fixed income indices based on Government of India securities, corporate bonds, money market instruments and hybrid indices. Many investment products based on NIFTY indices have been developed within India and abroad. These include index based derivatives traded on NSE, NSE IFSC and Singapore Exchange Ltd. (SGX) and a number of index funds and exchange traded funds. The flagship 'NIFTY 50' index is widely tracked and traded as the benchmark for Indian Capital Markets.

For more information, please visit: www.niftyindices.com

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