



Nifty Microcap 250 Index

Expanding the coverage
of NSE's listed universe

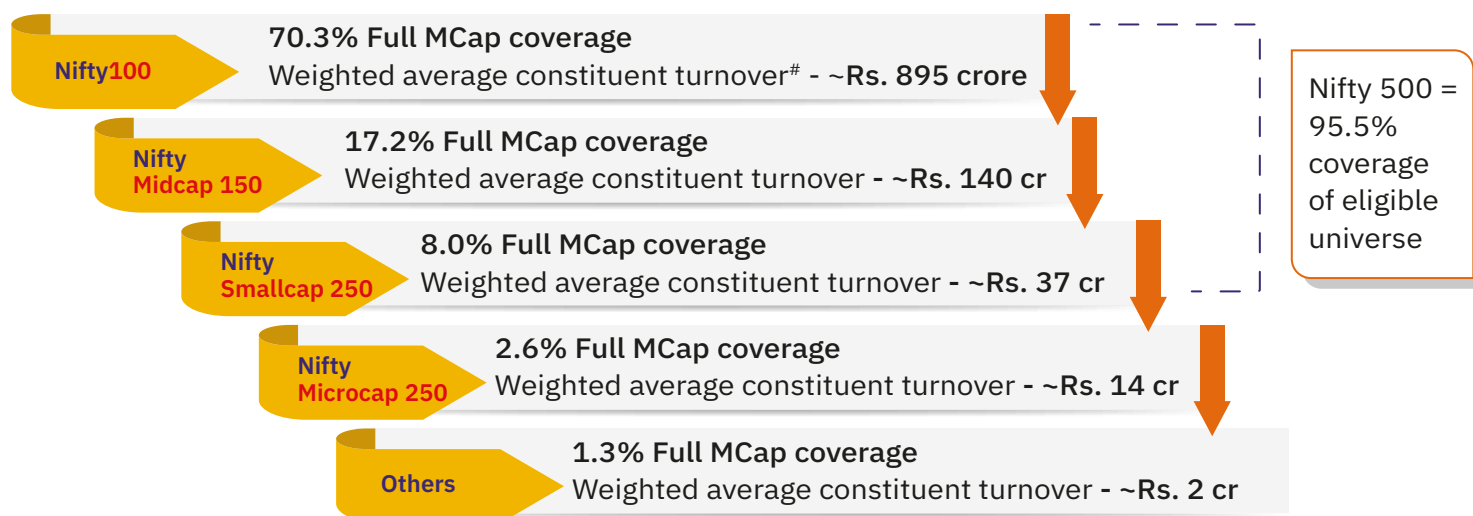
July 2021

Introduction

The listed stocks universe on NSE has grown considerably over time due to deepening of the capital markets resulting in more companies getting listed on stock exchanges. More than 1600 companies are listed on the Main Board of NSE as of June 30, 2021, compared to approximately 900 companies listed 15 years ago in 2006. These listed stocks can broadly be classified based on size of their market capitalization as Large cap, Mid cap, Small cap and Micro cap. Large cap, Mid cap and Small cap stocks have always been tracked and analyzed by market participants and stocks analysts and have also been covered by various equity indices that show the performance of these market segments across market phases. For instance, Nifty 100 covers large cap, Nifty Midcap 150 covers the midcap segment and Nifty Smallcap 250 covers the small cap segment, while Nifty 500 encompasses all three segments together. However, Micro cap stocks which are broadly defined as stocks with market capitalization smaller than those of small cap stocks, have unfortunately not received equal market attention nor are tracked through any popular index. Microcap companies (stocks beyond the Nifty 500 constituents) are crucial to the economy from both a growth and employment point of view, but often do not get the

same kind of representation as larger companies. For example, the Financial Services and IT sector which are vital to economic growth are well represented in the Nifty 500 accounting for substantial weight. However, other sectors including Industrial Manufacturing and Chemicals which are also critical for the economy, do not have the same degree of representation in the large, mid or small cap indices due to their small size. For example, the Industrial Manufacturing and Chemicals sector only account for ~3% and ~2% weight in the Nifty 500 Index. The Nifty Microcap 250 Index, recently launched by NSE Indices Ltd. provides investors a gauge to track this lesser represented segment by providing performance of NSE's listed micro cap stocks beyond the existing Large, Mid and Small cap segments. Building on the previous point, the weights of the Industrial Manufacturing and Chemicals sectors stand at ~14% and ~6% respectively in the Nifty Microcap 250 Index versus their relatively low weights in the Nifty 500 Index. Overall, the Nifty Microcap 250 Index has a more balanced distribution of sectors compared to the Nifty 500 Index. It plugs the current research gap, providing researchers and investors insights into how microcap stocks are performing across time.

Exhibit 1: Coverage of NSE's listed universe across broad market indices*



Source: NSE Indices. Data obtained between the period Jan 1, 2021 to June 30, 2021. The above image is representative only and has not been drawn to scale. *Stocks with listing history less than 3 months and stocks not classified in any index currently with overall 6-month average full market capitalization rank <= 350 have been excluded from the eligible universe for the calculations above. #Weighted average constituent turnover is obtained as the weighted average of 6-month ADT of constituents weighted by the constituent weights in the respective indices as on June 30, 2021

The exhibit above shows the split of the listed universe on NSE by broad market indices, the number of constituents and percent coverage of full market capitalization of the NSE listed universe. The stocks with listing history less than 3 months and stocks not classified in any index currently with 6-month average full market capitalization rank ≤ 350 have been

excluded from the eligible universe for the calculations above. The 250 stocks in the Nifty Microcap 250 Index account for incremental 2.6% coverage of the listed universe, resulting in cumulative coverage of 98.1% of the eligible listed universe across the Nifty 100, Nifty Midcap 150, Nifty Smallcap 250 and Nifty Microcap 250 Index.

About the Nifty Microcap 250 Index

The Nifty Microcap 250 index aims to track the performance of microcap stocks listed or permitted to trade on NSE. The index includes the top 250 companies beyond the Nifty 500 index constituents,

selected based on their average full market capitalization. A stock's weight is based on its free-float market capitalization.

The salient features of this index are:

- The index has a base date of April 01, 2005, with a base value of 1000
- The index includes the top 250 companies beyond the Nifty 500 index constituents, selected based on their average full market capitalization
- Stocks whose rank based on their average full market capitalization is within the top 350 of the eligible universe are excluded
- The weight of each stock in the index is based on its free float market capitalization
- A buffer based on full market capitalization is used to reduce portfolio churn
- The index is reviewed semi-annually

Exhibit 2: Distribution of stocks by size in the Nifty Microcap 250 Index

Stock attribute	By Avg. Full MCap (Rs. Cr.)	By Avg. Free MCap (Rs. Cr.)
Largest stock	4200	1517
Smallest stock	622	111
Median stock	1134	441

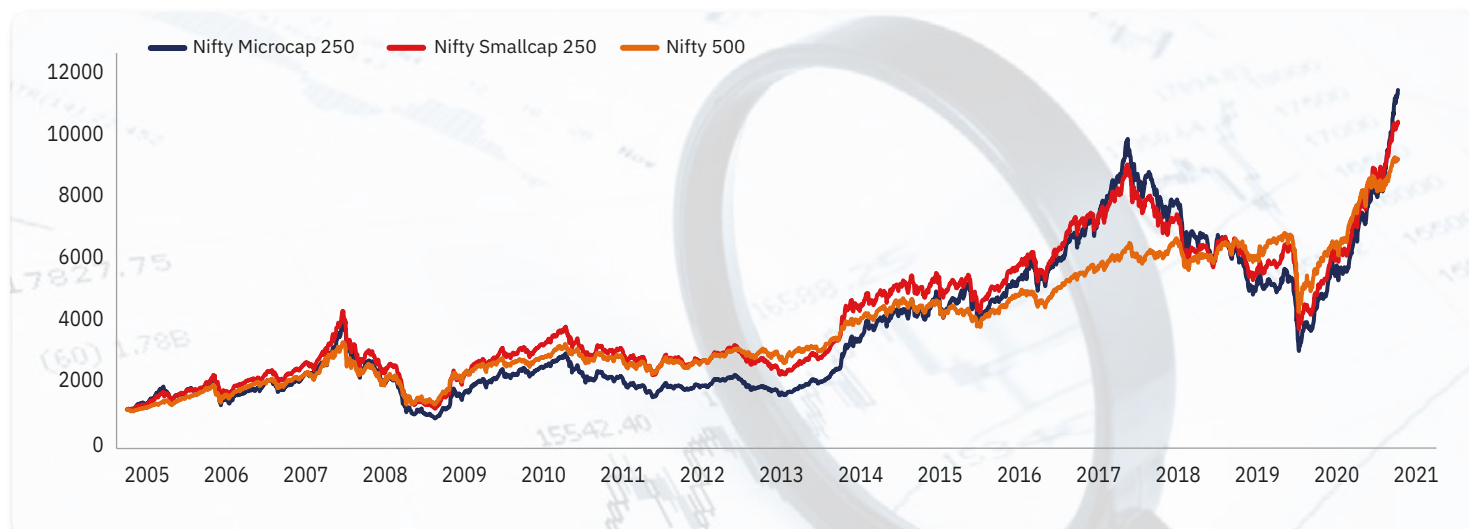
Source: NSE Indices. Data over the period Aug 3, 2020 to Jan 31, 2021 ie. cut-off period for the March rebalance

The exhibit above shows the largest, smallest and median stock by 6-month average full market capitalization and free float market capitalization in the Nifty Microcap 250 Index as of Jan 31, 2021. The

average full market capitalization varies from ~Rs. 622 – 4,200 crore and the average free float market capitalization varies from ~Rs. 111 – 1517 crore for the Nifty Microcap 250 Index.

The Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index over the short term and long term

Exhibit 3: Nifty Microcap 250, Nifty Smallcap 250 and Nifty 500 Index performance



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

Exhibit 4: Nifty Microcap 250, Nifty Smallcap 250 and Nifty 500 Index performance table

Period	CAGR Returns			Volatility			Return-Risk		
	Nifty Microcap 250	Nifty Smallcap 250	Nifty 500	Nifty Microcap 250	Nifty Smallcap 250	Nifty 500	Nifty Microcap 250	Nifty Smallcap 250	Nifty 500
Since Apr 01, '05	16.2%	15.5%	14.6%	23.7%	22.3%	21.7%	0.68	0.69	0.67
15 years	15.3%	13.3%	13.0%	23.1%	21.9%	21.5%	0.66	0.61	0.61
10 years	19.0%	13.6%	12.8%	20.2%	19.0%	17.0%	0.94	0.72	0.76
7 years	19.8%	12.9%	13.1%	21.7%	19.9%	17.2%	0.91	0.65	0.76
5 years	18.2%	14.1%	15.4%	21.4%	19.8%	17.8%	0.85	0.71	0.87
3 years	15.5%	14.7%	15.0%	23.1%	21.4%	20.9%	0.67	0.68	0.72
1 year	147.2%	109.4%	60.8%	20.4%	18.3%	16.0%	7.23	5.98	3.80
6 months	61.4%	39.5%	17.6%	19.6%	17.1%	17.0%	3.14	2.31	1.03
3 months	40.7%	21.7%	9.8%	21.0%	17.7%	14.2%	1.94	1.23	0.69

Source: NSE Indices. Data as of June 30, 2021. Returns based on TRI values

The Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index over the last 1 year. Over the period of June 30, 2020 to June 30, 2021, the Nifty Microcap 250 Index returned 147.2% against 109.4% for the Nifty Smallcap 250 Index. Since

inception, from April 01, 2005 to June 30, 2021, the Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index, returning 16.2% CAGR return against 15.5% CAGR for the Nifty Smallcap 250 Index.

The Nifty Microcap 250 Index has been more volatile than the Nifty Smallcap 250 Index over various time horizons considered in the Exhibit above. For example over the last 10 years, between June 30, 2011 and June 30, 2021, the Nifty Microcap 250 Index has had annualized volatility of 20.2% versus 19.0% for the Nifty Smallcap 250 Index.

Similarly over the last 1 year, between June 30, 2020 to June 31, 2021, the Nifty Microcap 250 Index has delivered higher returns than the Nifty Smallcap 250 Index, but with higher annualized volatility of 20.4% compared to 18.3% for the Nifty Smallcap 250 Index.

Despite the higher volatility of the Nifty Microcap 250 Index versus the Nifty Smallcap 250 Index, the Nifty Microcap 250 Index has higher return-risk ratio over certain time horizons relative to the Nifty Smallcap 250 Index. For example, the return-risk ratio for the Nifty Microcap 250 Index over the 10-year period from June 30, 2011 and June 30, 2021 is 0.94 compared to 0.72 for the Nifty Smallcap 250 Index over the same period. Similarly, the Nifty Microcap 250 Index has a return risk of ratio of 7.23 versus 5.98 for the Nifty Smallcap 250 Index over the last 1-year period from June 30, 2020 to June 30, 2021.

Exhibit 5: Betas and correlations of Nifty Microcap 250 Index with Nifty Smallcap 250 Index by calendar year

	Beta relative to Nifty Smallcap 250	Correlation with Nifty Smallcap 250
	Nifty Microcap 250	Nifty Microcap 250
2005	1.13	0.96
2006	1.02	0.97
2007	1.04	0.95
2008	0.98	0.97
2009	1.01	0.97
2010	1.07	0.97
2011	1.02	0.97
2012	0.87	0.94
2013	0.87	0.94
2014	1.01	0.96
2015	1.07	0.97
2016	1.11	0.97
2017	0.98	0.95
2018	1.01	0.96
2019	1.04	0.95
2020	1.03	0.96
2021*	1.08	0.94

Source: NSE Indices. Data as of June 30, 2021. Returns based on TRI values. The benchmark for beta and correlation calculation is Nifty Smallcap 250 Index. Data for 2005 is from Apr 1, 2005 to December 30, 2005. *YTD

The Nifty Microcap 250 Index has had beta greater than 1 for most calendar years using the Nifty Smallcap 250 Index as benchmark. However, the beta of the Nifty Microcap 250 Index relative to the Nifty Smallcap 250 Index was ~0.87 in 2012 and 2013. The Nifty Microcap 250 Index outperformed the Nifty

Smallcap 250 Index in both these calendar years. The Nifty Microcap 250 Index returned 44% in 2012 (vs. 40.4% for the Nifty Smallcap 250 Index) and -5.2% in 2013 (vs. -6.4% for Nifty Smallcap 250 Index). The beta has remained marginally greater than 1 in each calendar year from 2018 onwards.

The Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index on a rolling return basis over long term horizons

Exhibit 6: Instances of outperformance of Nifty Microcap 250 Index vs Nifty Smallcap 250 Index on a daily rolling return basis

Percentage of total instances of Outperformance and Underperformance vs Nifty Smallcap 250 on daily rolling return basis					
Investment Horizon	Nifty Microcap 250				
	Instances of Underperformance vs Nifty Smallcap 250	Instances of Outperformance vs Nifty Smallcap 250			
	Excess Return <0% CAGR	Excess Return ≥0% CAGR	Excess Return (0-2% CAGR)	Excess Return (2-4% CAGR)	Excess Return (>4% CAGR)
10 years	18.1%	81.9%	43.3%	28.7%	9.8%
7 years	35.2%	64.8%	2.9%	17.5%	44.4%
5 years	39.0%	61.0%	16.6%	11.2%	33.2%
3 years	60.2%	39.8%	3.0%	2.9%	33.9%
2 years	53.2%	46.8%	6.7%	7.2%	32.9%
1 year	43.0%	57.0%	6.4%	6.7%	43.9%

Source: NSE Indices. Instances of outperformance or underperformance calculated using daily rolling returns. Data as of June 30, 2021

The Nifty Microcap 250 Index has more often outperformed the Nifty Smallcap 250 Index over rolling return horizons greater than 5 years. From the table above, based on daily rolling returns, for a 7-year investment horizon, the Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index 64.8% of the time. The frequency of outperformance rises to 81.9% when we consider longer time horizon of 10 years. However, owing to the Nifty Microcap 250 Index's higher volatility, the rolling return performance vs the Nifty Smallcap 250 Index is more mixed over shorter time frames of 3 years and below. For example, based on daily rolling returns, for a 3-year investment horizon, the Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index only 39.8% of the time, but this figure rises to 57.0%

for a 1-year investment horizon.

For the 7-year investment horizon, based on daily rolling return analysis, the excess return of the Nifty Microcap 250 Index was in the range of 0-2% per annum for 2.9% of the instances, excess return ranged between 2-4% per annum for 17.5% of the instances, and excess return exceeded 4% per annum over the Nifty Smallcap 250 Index in 44.4% of the instances, leading to cumulative 64.8% instances of outperformance over the Nifty Smallcap 250 Index.

The Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index in 9 out of the last 16 calendar years

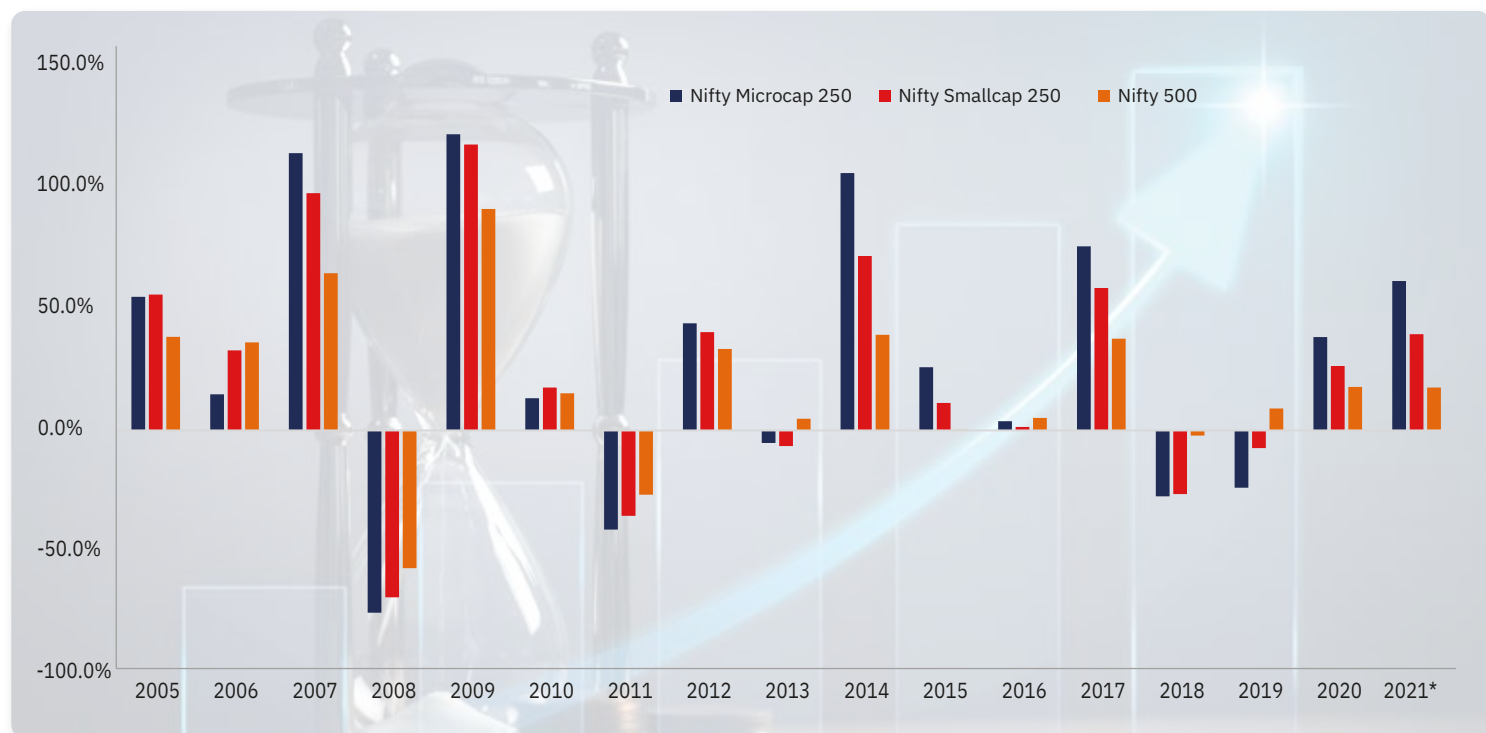
The Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index in 9 out of the last 16 calendar years from 2005 onward. The Nifty Microcap 250 Index had its most consistent run of outperformance against the Nifty Smallcap 250 Index between 2012-2017, when it outperformed the Nifty Smallcap 250 Index for 6 consecutive years. The Nifty Microcap 250 Index tends to underperform the Nifty Smallcap 250 Index in weak markets. Since 2005, the Nifty Microcap 250 Index has underperformed the Nifty Smallcap 250 Index in 4 out of the 5 years when the Nifty Smallcap 250 Index had negative returns.

The Nifty Microcap 250 Index has outperformed the Nifty 500 Index in 8 out of the last 16 calendar years from 2005 onward. The Nifty Microcap 250 Index tends to outperform the Nifty 500 Index during strong bull market years and recoveries after a market crash. Since 2005, the Nifty 500 Index has returned greater than 35% in 6 calendar years and the Nifty Microcap 250 Index has outperformed the Nifty 500 Index in 5

out these 6 calendar years (outperformed in 2005, 2007, 2014 and 2017). However, the Nifty Microcap 250 Index has underperformed the Nifty 500 Index in bear markets when the Nifty 500 lost more than -20% in a calendar year (2008 and 2011). More recently, the Nifty Microcap 250 Index underperformed the Nifty 500 Index in 2018 and 2019 despite these being moderate return years for the Nifty 500 Index. The Nifty Microcap 250 Index returned -27% and -24% in 2018 and 2019 respectively, compared with -2% and 9% for the Nifty 500 Index over the same period.

All 3 indices suffered their maximum drawdown since inception during the GFC (Global Financial Crisis) of 2008-09. The maximum drawdown for the Nifty Microcap 250 Index was -78.9% compared to -72.8% and -63.7% for the Nifty Smallcap 250 Index and Nifty 500 Index respectively.

Exhibit 7: Performance of Nifty Microcap 250, Nifty Smallcap 250 and Nifty 500 Index by calendar year



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

The Nifty Microcap 250 Index is currently overweight Power and Industrial Manufacturing sectors and underweight Services, Financial Services and IT sectors relative to the Nifty Smallcap 250 Index

Exhibit 8: Comparison of sector exposure between the Nifty Microcap 250 Index and Nifty Smallcap 250 Index (%) on June 30, 2021

Sector	Nifty Microcap 250	Nifty Smallcap 250	Nifty 500
INDUSTRIAL MANUFACTURING 	14.7	12.1	2.5
CONSUMER GOODS 	13.1	12.3	11.9
FINANCIAL SERVICES 	11.6	14.3	31.2
CONSTRUCTION 	6.8	5.4	2.7
IT 	6.6	8.8	13.3
POWER 	6.6	1.4	2.5
CHEMICALS 	6.3	6.5	1.7
METALS 	6.0	5.0	4.0
PHARMA 	4.9	5.6	5.2
AUTOMOBILE 	4.3	2.8	5.2
SERVICES 	3.3	6.4	1.4
TELECOM 	2.8	1.4	1.7
TEXTILES 	2.5	3.6	0.4
CONSUMER SERVICES 	2.3	3.7	1.8
OIL & GAS 	2.0	0.3	9.3
CEMENT & CEMENT PRODUCTS 	2.0	2.0	2.6
PAPER AND JUTE 	1.0	0.7	0.0
FERTILISERS & PESTICIDES 	1.0	2.4	1.0
MEDIA, ENTERTAINMENT & PUBLICATION 	0.8	2.0	0.4
HEALTHCARE SERVICES 	0.7	1.8	0.9
UTILITIES 	0.6	0.0	0.0

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

The Industrial Manufacturing sector is the largest sector in the Nifty Microcap 250 Index with 14.7% weight, followed by the Consumer Goods sector with 13.1% weight as of June 30, 2021. The Nifty Microcap 250 Index is overweight the Power and Industrial Manufacturing sectors by 5.2% and 2.6% respectively compared to the Nifty Smallcap 250 Index, while it is under-weight the Services, Financial Services and IT sector by -3.1%, -2.7% and -2.1% respectively relative to the Nifty Smallcap 250 Index. When we compare the sector weight deviations between the

Nifty Microcap 250 Index and the Nifty 500 Index, we find the Nifty Microcap 250 Index is overweight the Industrial Manufacturing sector by 12.2% and the Chemicals sector by 4.5% compared to the Nifty 500 Index. The Nifty Microcap 250 Index is under-weight the Financials sector by -19.6% and the Oil & Gas sector by -7.2% relative to the Nifty 500 Index. Overall, the standard deviation of sector weight differences between the Nifty Microcap 250 Index and the Nifty Smallcap 250 Index is 1.9 versus 5.8 for the Nifty 500 Index.

The Nifty Microcap 250 Index is slightly less diversified when compared to Nifty Smallcap 250 Index but more diversified than the Nifty 500 Index. It has a HHI (Herfindahl-Hirschman Index) value of

816.1 compared to 804.0 and 1489.8 for the Nifty Smallcap 250 and Nifty 500 Index respectively as of June 30, 2021. Lower HHI values indicate a more diversified portfolio.

Exhibit 9: Cumulative weight of stocks across the Nifty Microcap 250, Nifty Smallcap 250 and Nifty 500 Index (%)

Cumulative weight of stocks	Nifty Microcap 250	Nifty Smallcap 250	Nifty 500
Top 10	14.1	11.3	39.2
Top 50	43.4	39.9	67.2
Top 100	65.4	65.0	79.3

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

The greater diversification of the Nifty Microcap 250 Index versus the Nifty 500 Index is also visible from the table above. For example, we observe that the top 10 stocks account for 14.1% weight of the Nifty

Microcap 250 Index compared to 39.2% for the Nifty 500 Index. Similarly, the top 100 stocks account for 65.4% weight of the Nifty Microcap 250 Index compared to 79.3% for the Nifty 500 Index.

Signing off



The Nifty Microcap 250 index aims to track the performance of microcap stocks listed or permitted to trade on NSE. The index includes the top 250 companies beyond the Nifty 500 index constituents, selected based on their average full market capitalization



Since April 01, 2005 till June 30, 2021, the Nifty Microcap 250 Index has returned 16.2% p.a. return vs 15.5% p.a. return of the Nifty Smallcap 250 Index



The Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index on a rolling return basis over long-term horizons - the Nifty Microcap 250 Index has outperformed the Nifty Smallcap 250 Index 64.8% and 81.9% of times on a rolling return basis using daily returns over 7-year and 10-year periods respectively



The Nifty Microcap 250 Index has a HHI value of 816.1 versus 804.0 for the Nifty Smallcap 250 Index indicating broadly similar level of diversification. The Nifty Microcap 250 Index is more diversified than the Nifty 500 Index which has a HHI value of 1489.8.

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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