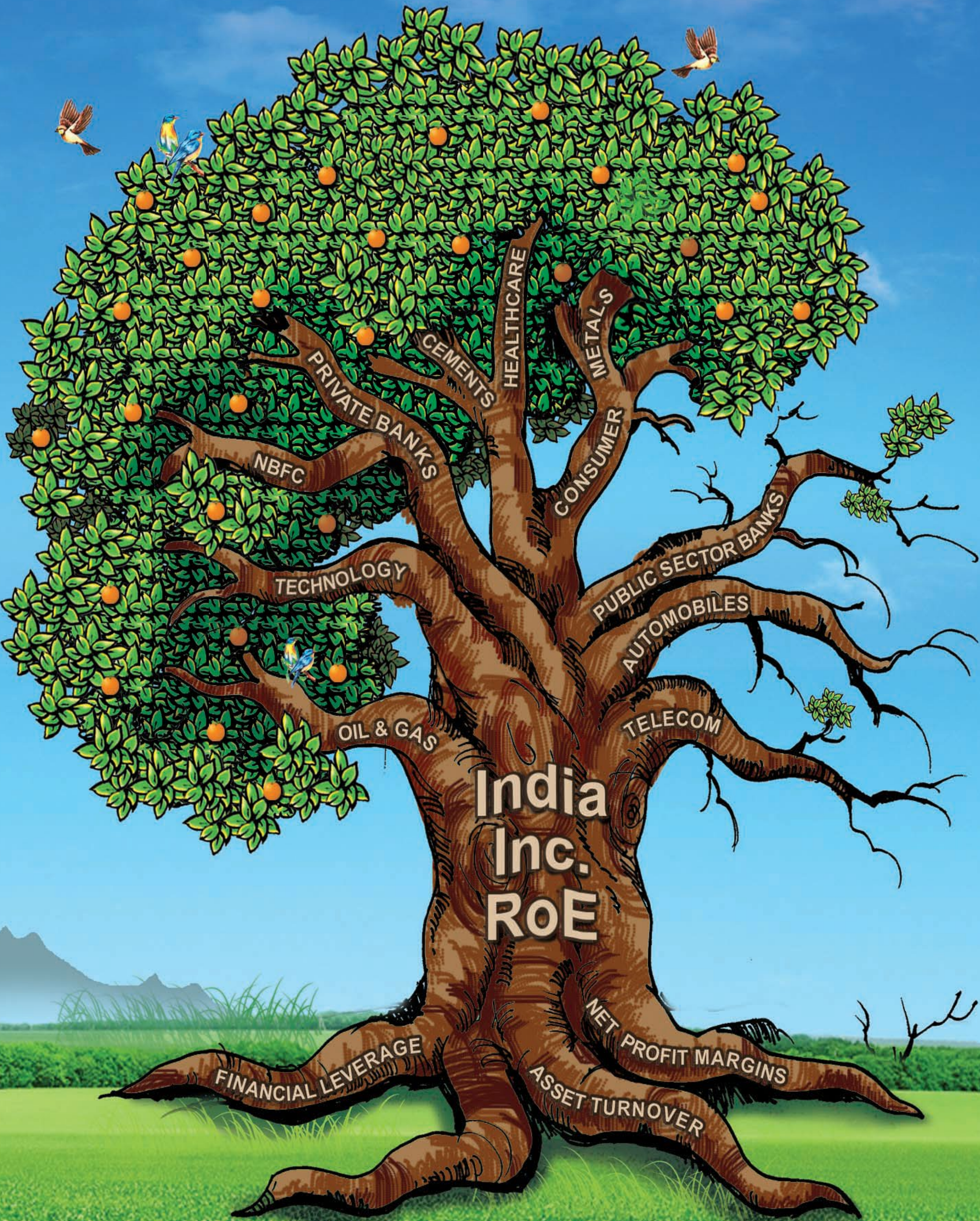
February 2020

Thematic - RoE



A Root and Branch Analysis

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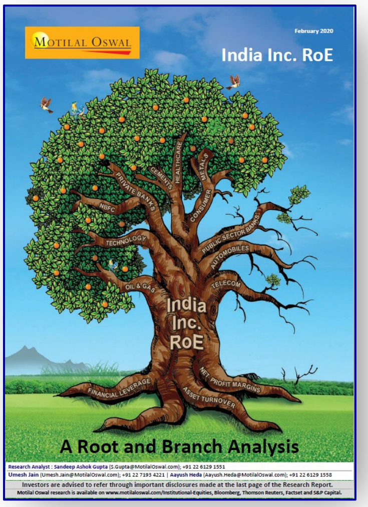
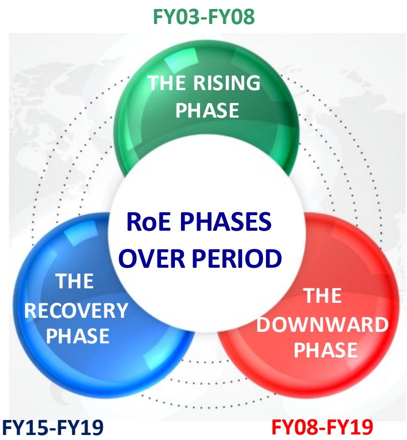




A Root and Branch Analysis

Return on equity (RoE) is one of the key strategic metrics used to evaluate the capital allocation efficiency of a company. In this report, we present a detailed study of how RoE has changed over time for India Inc, identify the factors driving this change and its role in market cap creation. As widely known, India Inc's RoE has undergone two phases over the last 16 years (FY03-19): (1) 'The Rising Phase' over FY03-08, where this ratio for BSE500 hit a high of 22.9% (in FY07) and (2) 'The Downward Phase' over FY08-19, where the ratio halved to its lowest level of 9.5%. That said, we note that RoEs of India Inc. – excluding public sector banks (PSBs), telecom and autos – have already showed signs of an improvement since FY15 (up 150bp to 14.0% in FY19 from a decade-low of 12.5% in FY15). This could further gain steam with a revival in PSBs/telecom/autos and realization of corporate tax rate cut benefits.

Our 'root and branch' study of India Inc RoE reveals some interesting insights: (a) Cyclical sectors are key drivers of India Inc. RoE. (b) PSUs' RoEs have remained at par with their private counterparts, but their valuation multiples have remained low. (c) A high RoE is desirable, but an improvement in it is key for market cap creation. (d) Mid-caps have a relatively low (v/s large-caps) but highly variable RoE, which leads to its outperformance versus large-caps. (e) Capital structure-led RoE improvement uplifts valuation multiple. (f) Improving RoE and earnings growth is a lethal combination for market cap creation.

Cyclical sectors – key driver of India Inc. RoE

- Cyclical sectors command a dominant weight in the index profit and net worth pool, with global cyclicals being the major contributor to index RoE in 11 of the last 16 years. As a result, RoEs have trended up/down in phases or rather cycles.
- Over FY03-19, the cyclical sectors of Oil & Gas/Metals contributed ~30% of the cumulative profit pool and ~24% of incremental net worth. However, annual contribution of these sectors to the overall profit pool has fluctuated in a wide range of 18%-42%.
- Our DuPont analysis suggests that since cyclical sectors are the key drivers to India Inc's RoE, over both the phases RoE was more sensitive to the NP margins (from 8.8% to 11.4% – 29.4% variance – in the rising phase, and from 11.4% to 5.5% – around 51.5% variance – in the downward phase) than asset turns (from 0.41x to 0.48x – 17.9% variance – in the rising phase, and from 0.48x to 0.35x – around 26.0% variance – in the downward phase).
- Financial leverage as commonly understood works in the reverse direction of the cycle (falls in the rising phase and increases in the downward phase).
- Average core RoE of India Inc (defensives) for the last 16 years stands at a robust 21.1%, mainly driven by the Consumer (average RoE: 30.9%) and Technology (30.6%) sectors.

PSU-private at par on RoE, but valuations vary

- RoE of PSUs (ex BFSI) has remained largely in line with that of their private sector counterparts (ex BFSI). It stood at 15.4% for PSUs and 12.7% for private sector in FY19.
- However, we note of a significant divergence between the P/E multiples of these sectors. As at end-FY19, PSUs (ex BFSI) traded at a P/E multiple of 9.4x, as against 28.6x for private sector (ex BFSI), marking a discount of ~67%.
- Apart from regulatory headwinds and continuous stake sale by the government through divestments, the other two factors driving this valuation divergence were: (i) the higher share of earnings contribution from cyclical businesses and (ii) the lower earnings growth expectation.

High RoE desirable but improving RoEs key for market cap creation

- Evidently, companies with high RoEs trade at premium valuations. However, we note that markets are usually quick to factor in such high RoEs in the price. This is corroborated by our analysis of BSE200 companies which revealed mixed performances in terms of market cap creation by high-RoE companies v/s low-RoE companies (outperformance/underperformance: CAGR of -1% to +4%) over the three tested cycles (FY03-08, FY08-13 and FY13-19).
- Interestingly, our analysis highlighted that the change in RoE has a material impact on market cap creation. Companies with improving RoE have significantly outperformed (CAGR of 7% to 17%) those with declining RoE over the three tested period.

Capital structure-led RoE improvement uplifts valuation multiples

- RoEs of companies can be improved either by accelerating earnings momentum (numerator) or employing a superior capital allocation strategy (denominator).
- Our hypothesis is that cash-rich companies can optimize their capital allocation by increasing payouts (of surplus cash) to shareholders and in turn achieve better RoEs/valuation multiples. This is confirmed by our case studies on TCS, ITC and Hindustan Zinc – these companies garnered better valuation multiples by improving RoE led by step-up in shareholder payouts (dividends/buybacks).

Midcaps: Lower RoE but outperformance to large caps

- The underperformance of midcaps vis-à-vis large caps since FY17 is well known. However, an analysis of the last 10-year performance reveals that the performance of both the Nifty and the Nifty Midcap 100 has been cyclical, with the latter outperforming from a longer-term perspective.
- Over the three tested cycles (FY03-08, FY08-13 and FY13-19), mid-cap companies (excl. BFSI) have outperformed large-caps in market cap creation (percentage wise) by a significant margin. This is despite lower RoEs of mid-caps than large-caps in all the three tested cycles. This, in our view, is primarily on account of higher earnings growth and thus higher variability (improvement) in RoEs for mid-caps.

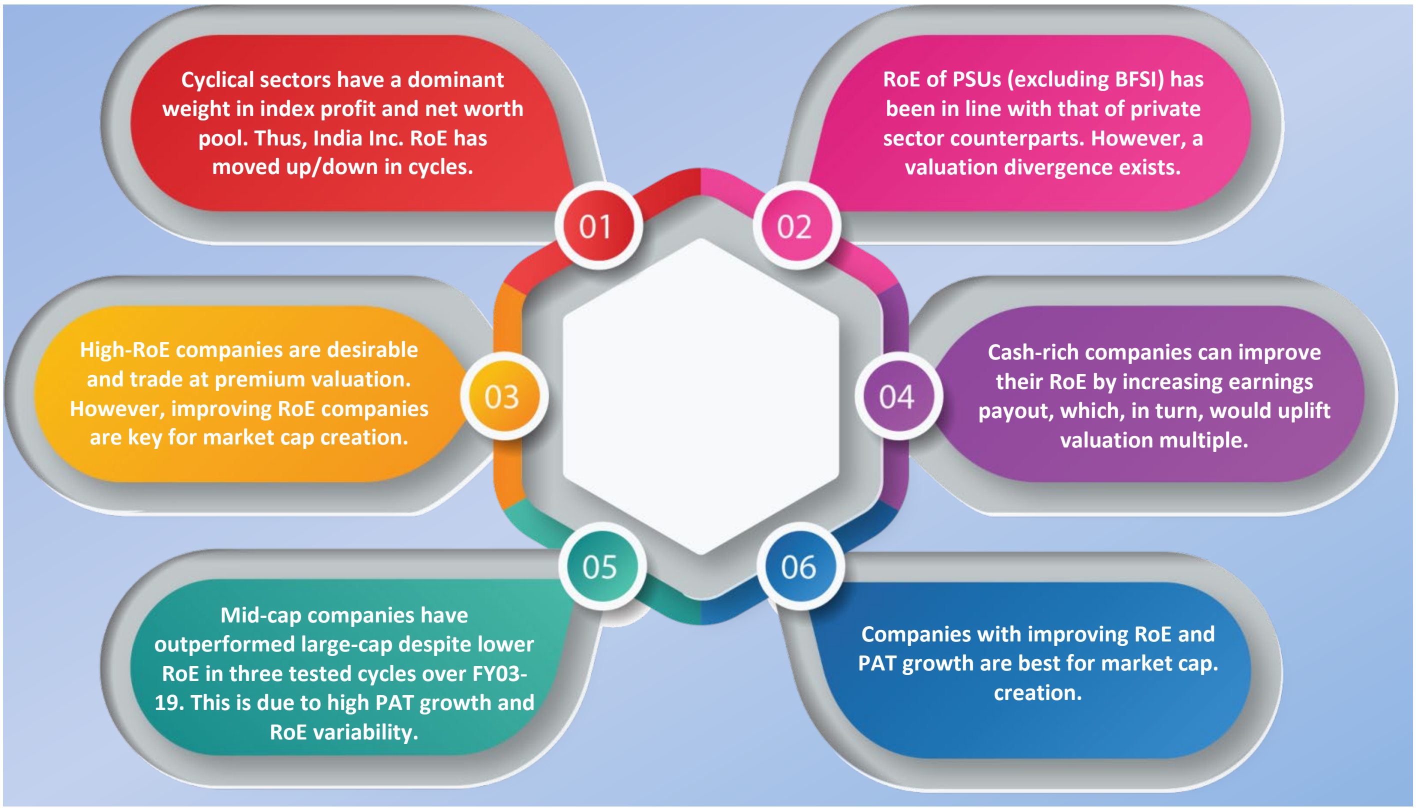
Improving RoE and PAT growth – a lethal combination

- Companies with 'improving RoE' and 'earnings growth' are the best for market cap creation. Our analysis of BSE500 companies over two phases (from FY08-13 and FY13-19) reveals that companies with both improving RoE and earnings are ideal for generating best returns, while those with declining RoE/earnings growth have delivered the weakest market cap returns.

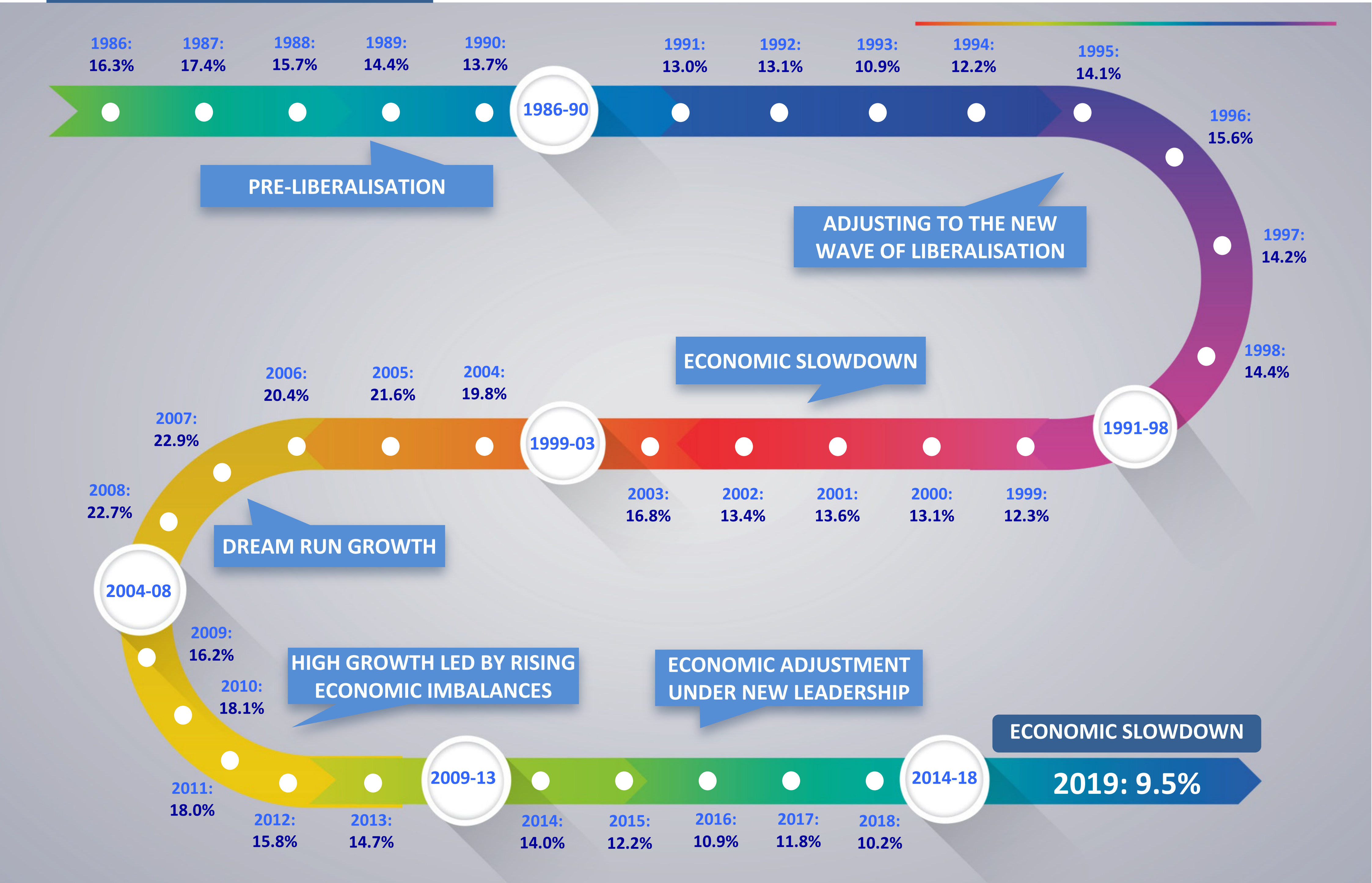
- Based on the above hypothesis, our top picks within the MOFSL coverage universe are:
  - **Large-caps:** Axis Bank, Bharti Airtel, Hindustan Unilever, Infosys and Ultratech Cement.
  - **Mid-caps:** Federal Bank, JSW Energy, Tata Global, Trent and Voltas.

  Note that we have taken an improvement of 20% in both RoE (estimated for FY22 over the median of FY16-20) and relative PAT growth (CAGR over FY20-22E v/s CAGR over FY16-20) as a threshold level.

KEY FINDINGS FROM THE STUDY



ROE JOURNEY OVER 34 YEARS



RoE – comprehensive 16-year trend

Signs of recovery post FY15

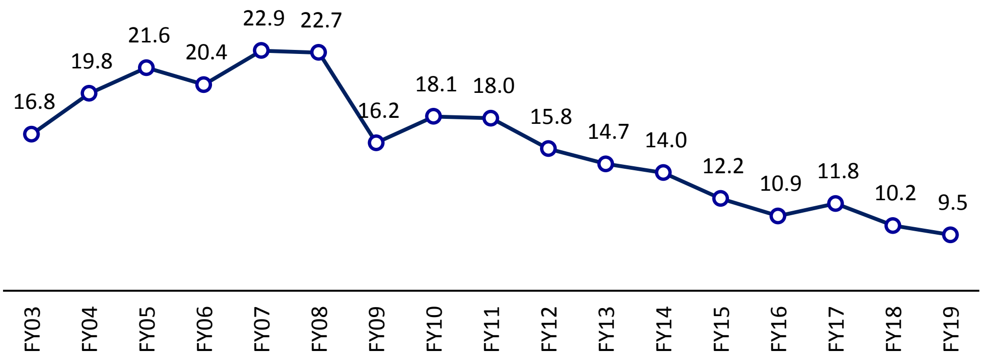
- **RoEs for India Inc. have undergone two phases over the last 16 years: (1) 'The Rising Phase' over FY03-08, where this ratio for BSE 500 companies hit a high of 22.9% (in FY07) and (2) 'The Downward Phase' over FY08-19, where the ratio halved to 9.5%.**
- **Our study reveals that the RoEs of Corporate India – excluding public sector banks (PSBs), Telecom and Autos – have already showed signs of an improvement from FY15 (up 150bp to 14.0% in FY19 from the decade's low of 12.5% in FY15).**
- **This could gain further steam as (a) PSBs begin reporting improved financials off a low base (which was created due to the cleaning up of their balance sheets by providing for NPAs), (b) the telecom sector gains strength led by easing competitive intensity and rising ARPUs, (c) auto sector sluggishness eases out post implementation of BS-VI norms and (d) the corporate tax cut announced in FY20 is also going to boost the earnings and hence RoEs for most companies.**

RoE of BSE500 companies at 16-year low

- RoE of BSE500 moved up from 16.8% in FY03 to a high of 22.9% in FY07 but trended down after the financial crisis of 2008 due to a slew of macro and microeconomic factors. It stood at 9.5% in FY19 – lowest in last 16 years.
- Our DuPont analysis reveals a decline in both profit margins (at 5.5% v/s 8.8% in FY03) and asset turns (at 0.35x v/s 0.41x in FY03). However, rising financial leverage multiples (4.88x v/s 4.17x in FY03) provided some support to RoE.

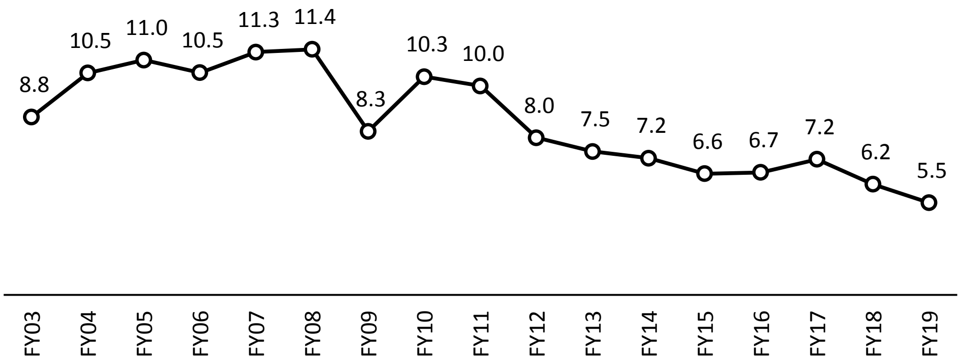
India Inc. RoE's have mimicked the NP margin trend over the last 16 years

Exhibit 1: BSE500 RoE at 16-year low (%)



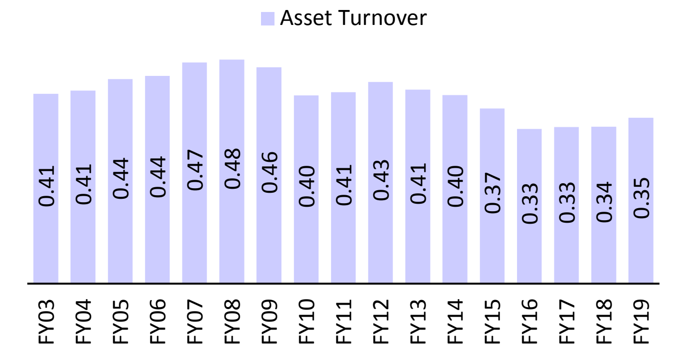
Source: Capitaline, MOFSL

Exhibit 2: NP margin of BSE500 companies contracts post FY08 (%)



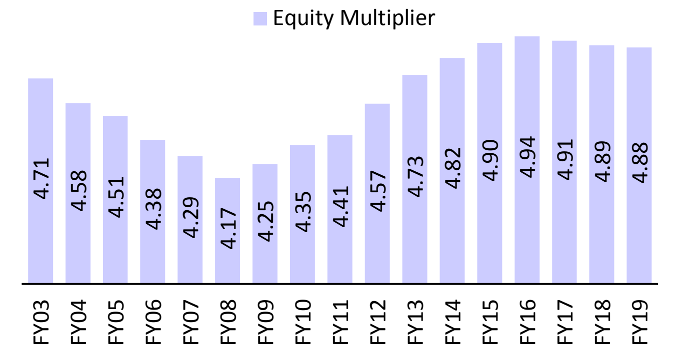
Source: Capitaline, MOFSL

Exhibit 3: Asset turns decline gradually after FY08 (x)



Source: Capitaline, MOFSL

Exhibit 4: Leverage shows inverse correlation to RoE (x)



Source: Capitaline, MOFSL

Understanding RoE cycles: Diverging sectoral RoE post FY15

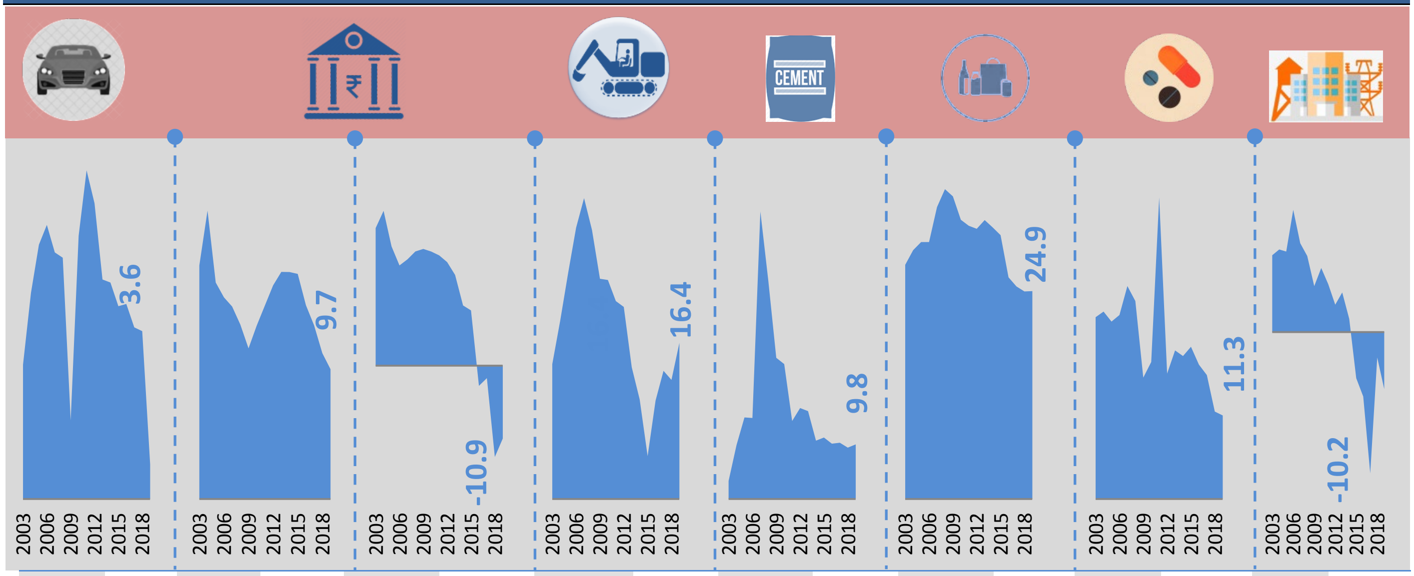
RoE of corporate India Inc. is at a 16-year low of 9.5%; however, India Inc. excluding PSBs, Telecom and Auto has already showed signs of improvement post FY15.

- RoE has trended up/down in cycles over the last 16 years. After moving up from FY03 to FY07 (+590bp to 22.9%), it has headed down post the financial crisis of 2008 (-1,320bp to 9.5% in FY19).
- In the recent past, RoE has been largely impacted by high NPA provisioning/write offs made by PSBs, intensifying competition in the telecom sector and shrinking margins in the auto sector. However, excluding PSBs, telecom and auto, the ratio has showed signs of a recovery in recent years (up 150bp to 14.0% in FY19 from a low of 12.5% in FY15; refer annexure no. 1 for details).
- To better understand RoE, we categorize the trend over the last 16 years into two separate periods: (i) the rising trend from FY03-08 and (II) the downward trend from FY08-19, albeit with signs of a recovery in a few sectors.

Based on 16-year trend of RoE, we draw following conclusions:

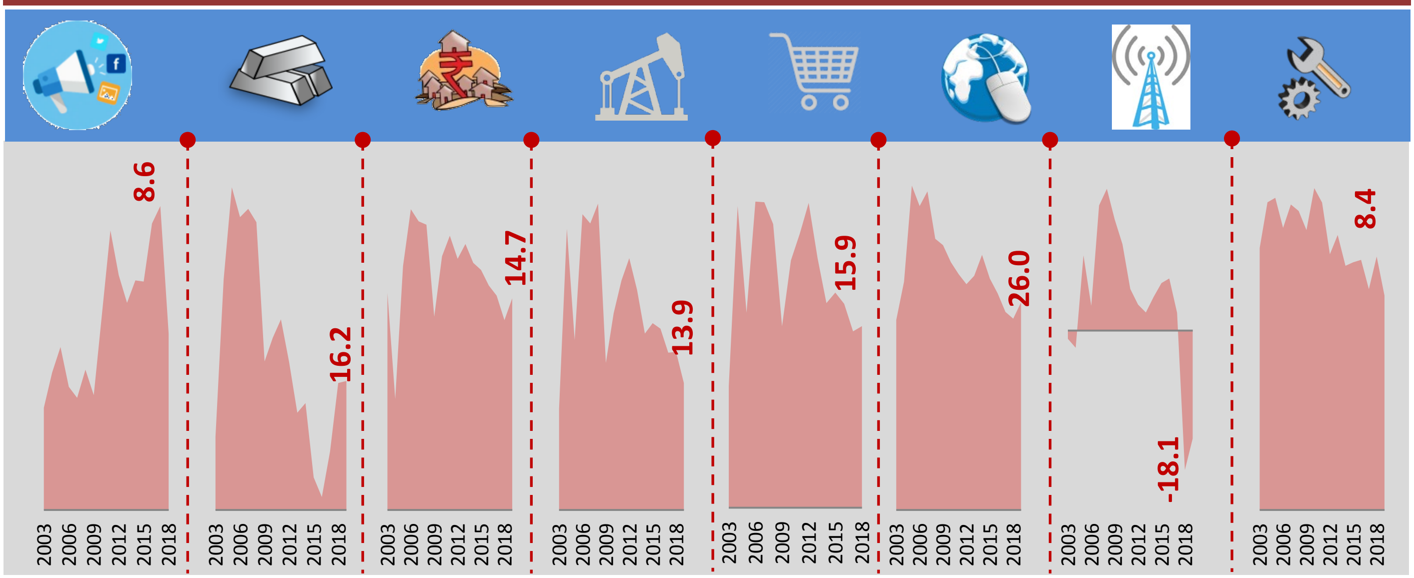
- Cyclical sectors – the key driver of India Inc. RoE
- PSU-private at par on RoE, but valuations vary
- High RoE desirable, but improving RoEs is the key for market cap creation
- Capital structure-led RoE improvement uplifts valuation multiples
- Mid-caps: Lower RoE but outperformance versus large-caps
- Improving RoE and PAT growth – a lethal combination for market cap creation

SECTORAL TREND OF ROE



AUTO	%	BANKS PVT	%	BANKS PSU	%	CAP GOODS	%	CEMENT	%	Consumer	%	PHARMA	%	INFRA	%
FY03	14.1	FY03	17.5	FY03	20.6	FY03	14.1	FY03	3.2	FY03	28.1	FY03	24.5	FY03	13.8
FY08	25.3	FY08	13.1	FY08	17.1	FY08	28.2	FY08	39.2	FY08	37.1	FY08	26.7	FY08	13.7
FY19	3.6	FY19	9.7	FY19	-10.9	FY19	16.4	FY19	9.8	FY19	24.9	FY19	11.3	FY19	-10.2

SECTORAL TREND OF ROE



MEDIA	%	METALS	%	NBFC	%	OIL & GAS	%	RETAIL	%	IT	%	TELE-COM	%	UTILITIES	%
FY03	7.2	FY03	9.1	FY03	15.1	FY03	26.1	FY03	12.7	FY03	23.8	FY03	-1.4	FY03	10.2
FY08	8.4	FY08	36.1	FY08	19.9	FY08	24.1	FY08	38.4	FY08	34.0	FY08	23.7	FY08	11.7
FY19	8.6	FY19	16.2	FY19	14.7	FY19	13.9	FY19	15.9	FY19	26.0	FY19	-18.1	FY19	8.4

CONCLUSION 1

Cyclical sectors – key driver of India Inc. RoE

High aggregate profit pool of cyclical sectors drives variability

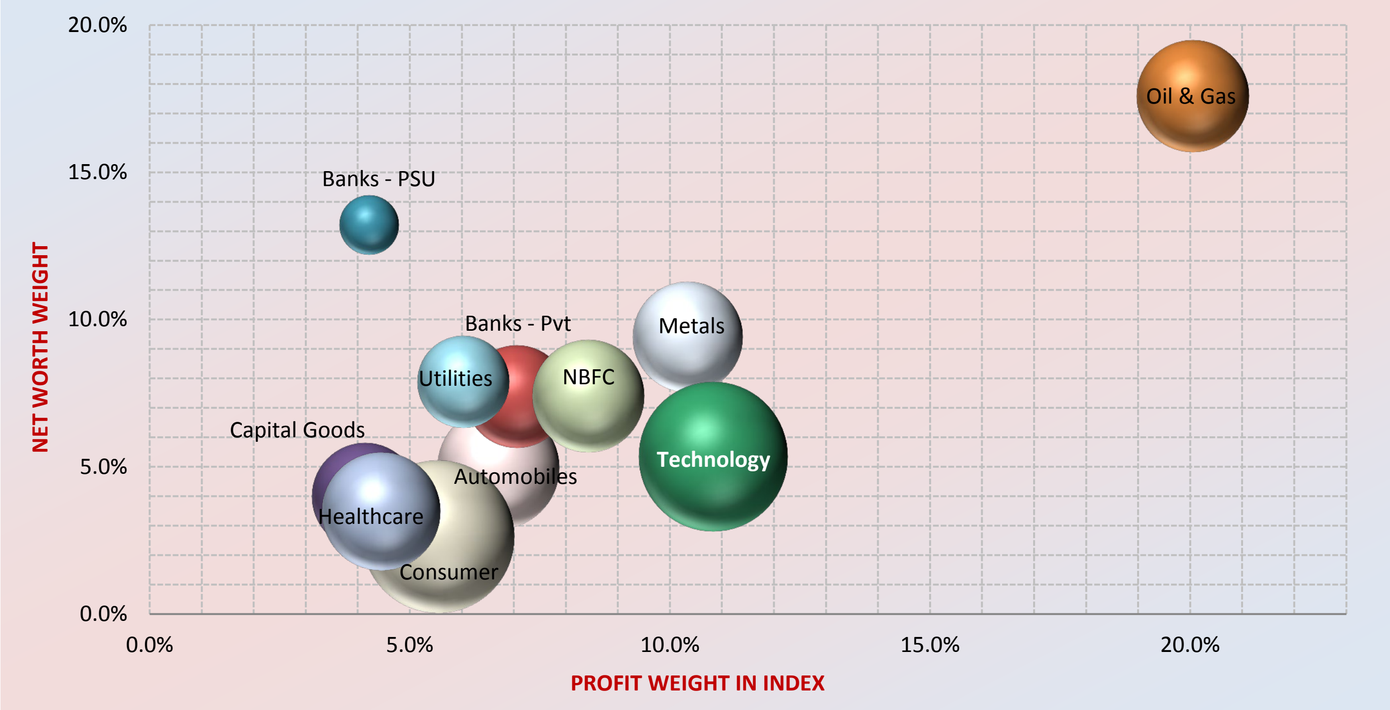
- **Cyclical sectors command a dominant weight in the index profit and net worth pool, with global cyclicals being the major contributor to index RoE in 11 of the last 16 years. As a result, RoEs have trended up/down in phases or rather cycles.**
- **Over FY03-19, the cyclical sectors of Oil & Gas/Metals contributed ~30% of the cumulative profit pool and ~24% of incremental net worth. However, annual contribution of these sectors to the overall profit pool has fluctuated in a wide range of 18%-42%.**
- **Our DuPont analysis suggests that since cyclical sectors are key drivers to India Inc's RoE, over both the phases RoE was more sensitive to the NP margins (from 8.8% to 11.4% – 29.4% variance – in the rising phase, and from 11.4% to 5.5% – around 51.5% variance – in the downward phase) than asset turns (from 0.41x to 0.48x – 17.9% variance – in the rising phase, and from 0.48x to 0.35x – around 26.0% variance – in the downward phase).**
- **Financial leverage as commonly understood works in the reverse direction of the cycle (falls in the rising phase and increases in the downward phase).**
- **Average core RoE of India Inc (defensives) for the last 16 years stands at a robust 21.1%, mainly driven by the Consumer (average RoE: 30.9%) and Technology (30.6%) sectors.**

Consumer/Tech – highest RoE but low contribution to aggregate profit pool

Over FY03-19, Consumer/Tech companies' average index profit contribution remained low at 5.5%/10.9%; Oil & Gas was an outlier with profit contribution of 20.0%

- We have attempted to plot the sectors' 16-year average profit and net worth weights on the x- and y-axis, and their RoEs on the z-axis of the bubble chart in order to obtain relative insight into the sectors' RoE and their contribution to overall index RoE.
- Consumer and technology companies command high RoE, given their asset-light model and consequent low capital intensity. Despite this, their contribution to index RoE has remained low.
- On the other hand, lower-RoE sectors such as oil & gas, PSBs, metals and utilities contribute significantly to index RoE. Oil & gas contributed the highest at 20% of the cumulative profit pool and 16% of net worth accretion. Separately, metals contributed 10% of the cumulative profit pool and 8% of net worth accretion. We note that sectors with a higher contribution to the profit pool than to net worth accretion have led to their positive RoE contribution.
- In the recent past, BFSI has contributed significantly to net worth accretion. However, the sector's contribution to the profit pool has come down due to balance sheet clean-up (higher among PSBs), dragging down overall index RoE.

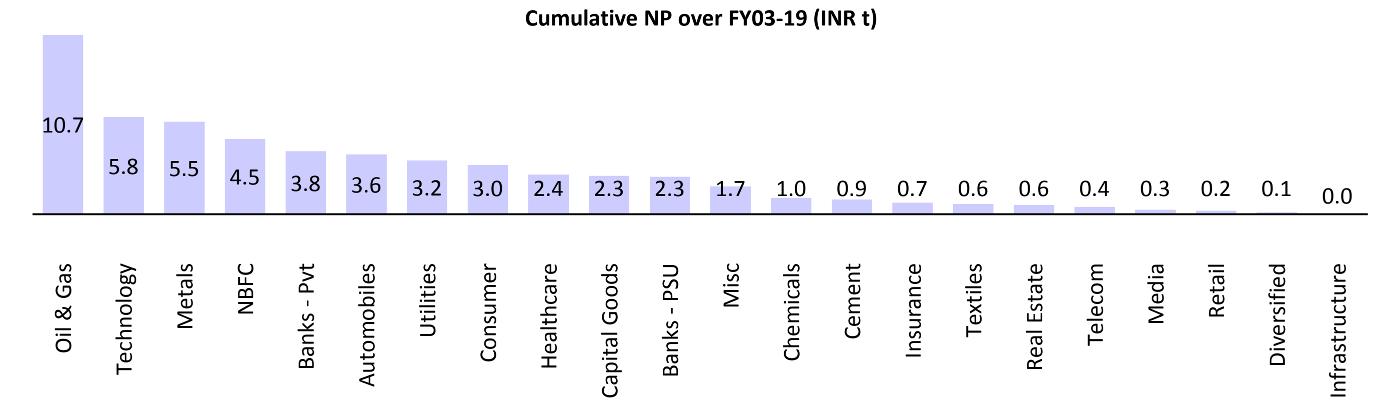
Exhibit 5: Oil & Gas – biggest contributor to index profit/net worth pool (avg. RoE: FY03-19)



Size of bubble represents average RoE over FY03-19

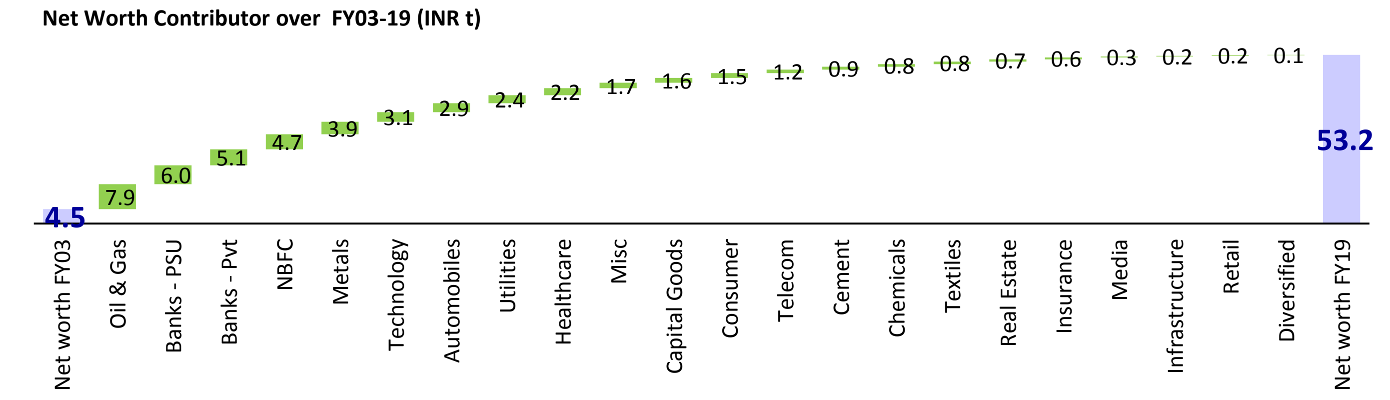
Source: Capitaline, MOFSL

Exhibit 6: Cyclical sectors contribute significantly to profit pool of BSE500



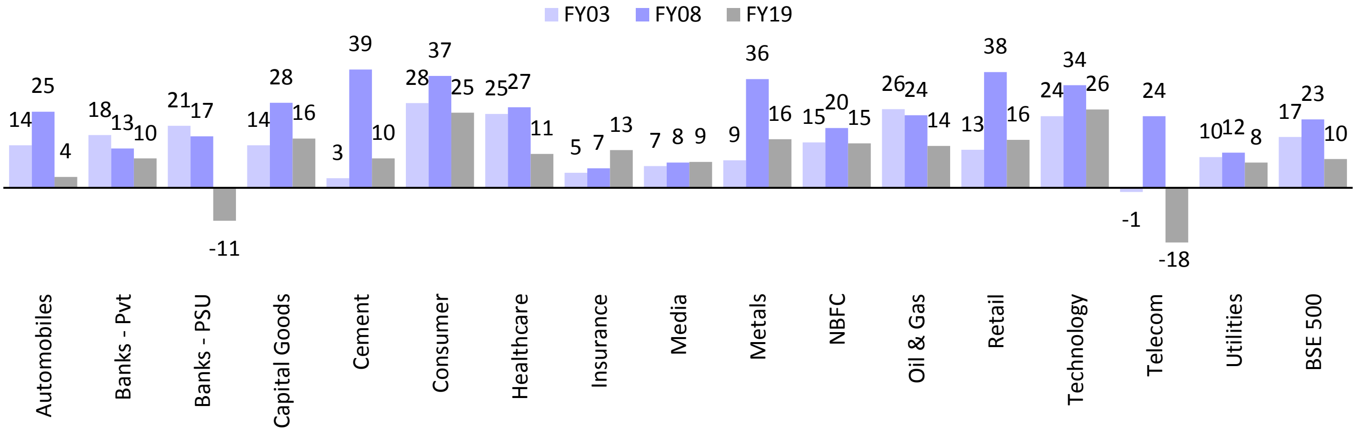
Source: Capitaline, MOFSL

Exhibit 7: Low relative addition of net worth by global cyclicals



Source: Capitaline, MOFSL

Exhibit 8: Most sectors achieved high RoE in FY08 (%)



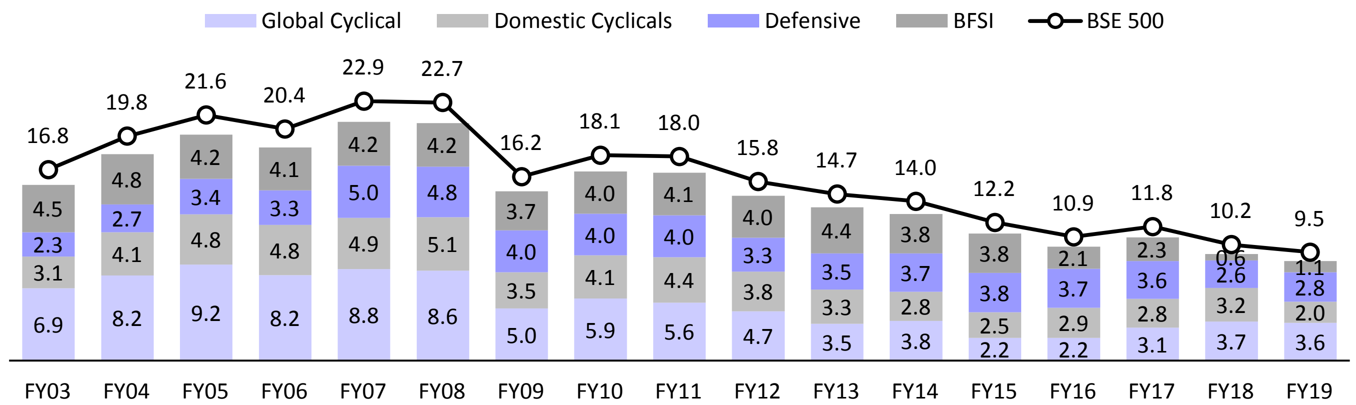
Source: Capitaline, MOFSL

Cyclicals – key RoE determinant across phases

Cyclical sectors continue driving index RoE; global cyclicals were the biggest contributor to index RoE in 11 of the last 16 years.

- Over FY03-19, the index RoE exhibited two phases – rising from 16.8% in FY03 to 22.7% in FY08 and thereafter declining to 9.5% in FY19. This trend was primarily driven by the underlying heavyweight sectors of global cyclicals – oil & gas and metals. (refer annexure 2 for details)
- Cyclical sectors continue driving the trend of index RoE – global cyclicals (oil & gas and metals) dominated with a contribution of ~30% of BSE500 RoE over FY03-19 and a 90% RoE co-relation with BSE500. Domestic cyclicals (ex. BFSI) also contributed a significant ~26% of BSE500 RoE with an 85% co-relation.
- Global cyclicals were the biggest contributor to index RoE for 11 of the 16 years under study. Also, they were the primary factor behind: (a) the sharp decline in RoE in FY09 and (b) the recovery in RoE (excluding PSBs, auto and telecom) post FY15.
- BFSI contributed the highest to index RoE for three (FY13-15) of the 16 years under study. However, asset quality review took a toll on earnings of PSBs in FY16.
- The obvious analogy for this is derived from the fact that global cyclicals (oil & gas and metals) contributed the highest to the BSE500 cumulative profit pool and net worth accumulation.

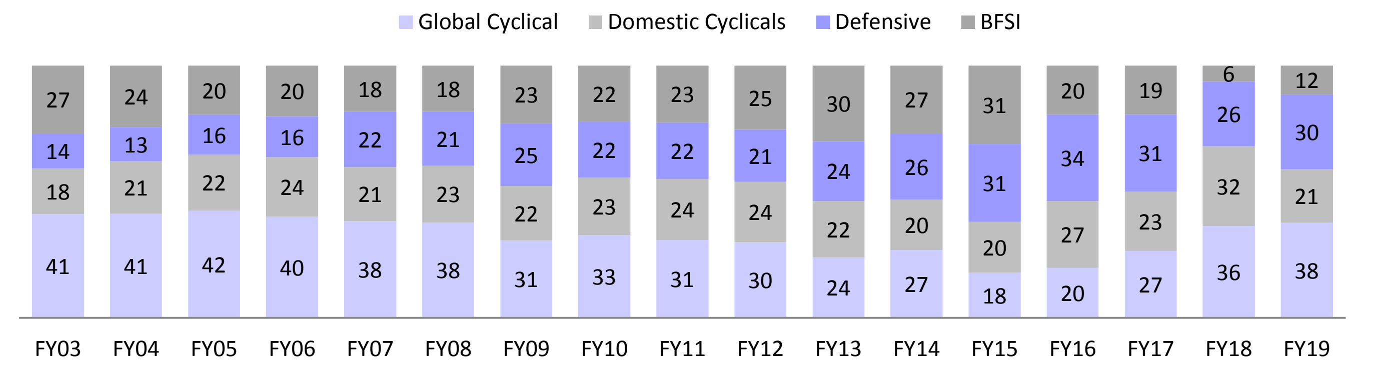
Exhibit 9: Index RoE mimics trend of global cyclicals (%)



*Domestic cyclical excludes BFSI

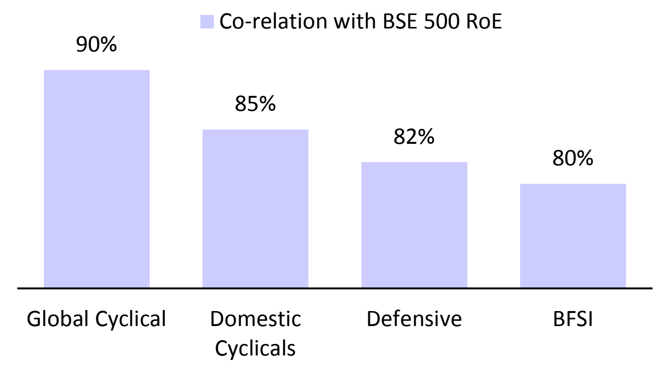
Source: Capitaline, MOFSL

Exhibit 10: Global cyclicals – major RoE contributor in 11 of 16 years



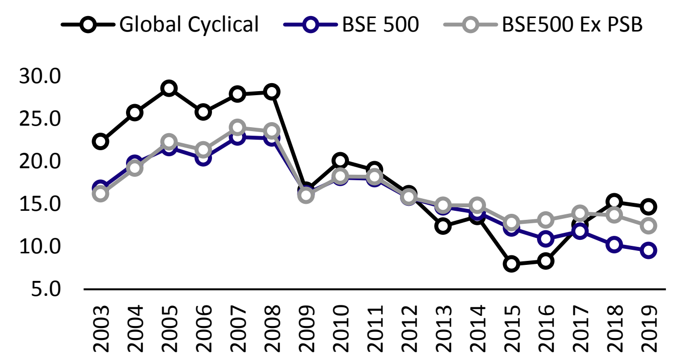
Source: Capitaline, MOFSL

Exhibit 11: Global cyclicals' RoE exhibits high correlation…



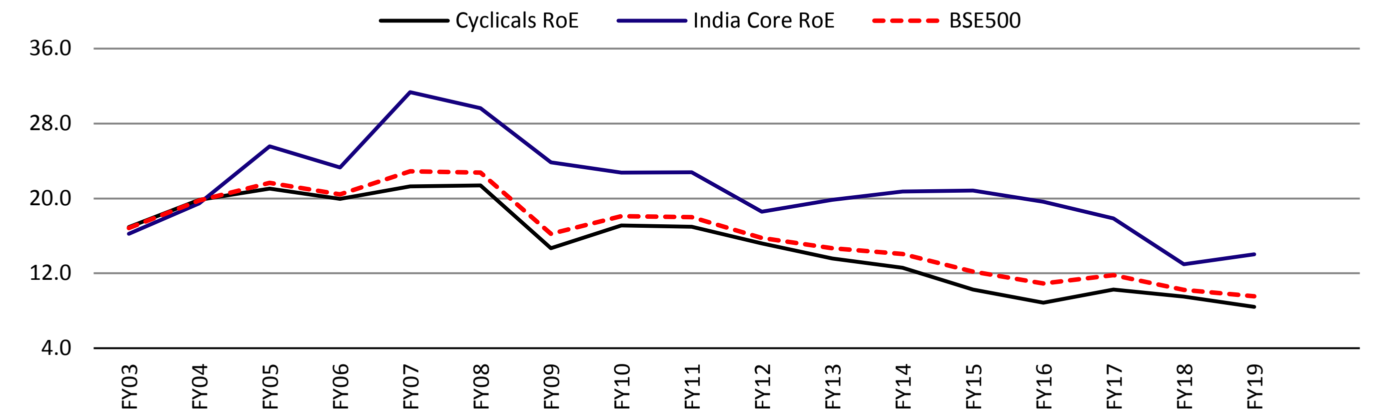
Source: Capitaline, MOFSL

Exhibit 12: …with index RoE (%)



Source: Capitaline, MOFSL

Exhibit 13: India core RoE 16-year average robust at 21.1%



*Cyclical includes BFSI
Source: Capitaline, MOFSL

RoE = PAT/Revenue*Revenue/Asset*Asset/Net worth

RoE is highly sensitive to NP margin followed by asset turnover.

RoE shows highest sensitivity to NP margins

- Since cyclicals drive the index level RoEs, India Inc.'s RoE is most sensitive to NP margins, followed by asset turns.
- According to our DuPont analysis, the three primary drivers of RoE are better asset turnover, improved margins and higher debt levels.
- Our analysis reveals that profit margin variability was a major factor driving the RoE trend in both the phases. During the rising phase of 2003-08 when RoE increased by 590bp to 22.7%, the NP margin improved by 260bp to 11.4%.

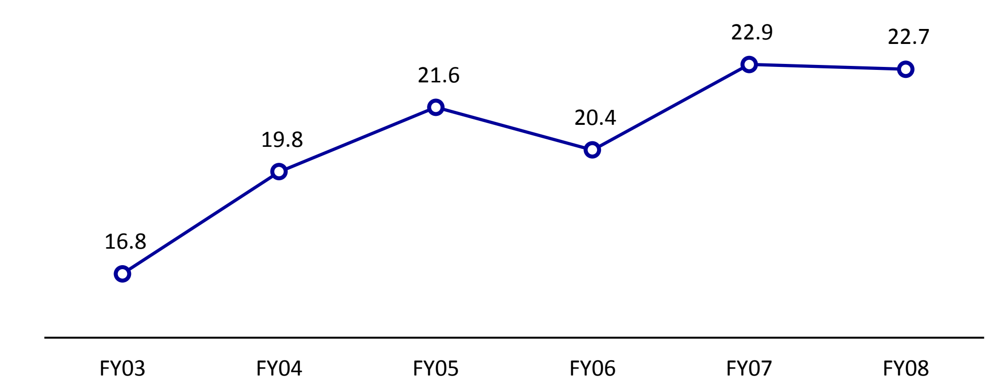
Similarly, during the downcycle of 2008-19 when RoE declined to 9.5% (FY08: 22.7%), the NP margin shrank to 5.5% (FY08: 11.4%). In order to gain more insights, we have delved further into each RoE cycle.

Rising Era: 2003-2008 – NP margin expansion drives RoE improvement

BSE 500 RoE increased by 590bp to 22.7% in FY08, led by expansion in NP margin (11.4% in FY08 v/s 8.8% in FY03).

- BSE500 RoE increased from 16.8% in FY03 to 22.7% in FY08, led by expansion in the NP margin (11.4% in FY08 v/s 8.8% in FY03) and asset turns (0.48x in FY08 v/s 0.41x in FY03). Rising profitability and asset turns led to a decline in debt, leading to a reduction in financial leverage from 4.71x in FY03 to 4.17x in FY08.
- Under our DuPont analysis, the three parameters are measured in different terms – i.e. NP margins (%) and asset turn and financial leverage (x times) – and are thus not comparable. We have attempted to standardize the three factors of DuPont in percentage terms to facilitate comparability.
- During FY03-08, the NP margin improved by 29.4% to 11.4% in FY08 (FY03: 8.8%); while the asset turnover improved by 17.9% to0.48x (FY03: 0.41x), leading to healthy free cash flow generation & facilitating deleveraging. The financial leverage declined by 11.4% to 4.17x (FY03: 4.71x).

Exhibit 14: RoE up 590bp over FY03-08 (%)



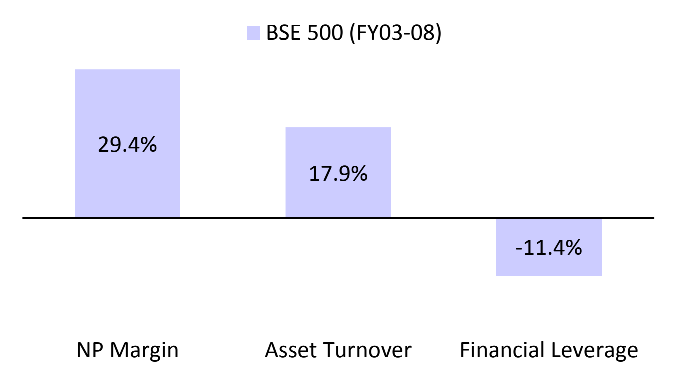
Source: Capitaline, MOFSL

Exhibit 15: NP margins drive RoE improvement

Du-Pont	FY03	FY04	FY05	FY06	FY07	FY08
NP Margin %)	8.8	10.5	11.0	10.5	11.3	11.4
Asset Turn (x)	0.41	0.41	0.44	0.44	0.47	0.48
Financial Lev (x)	4.71	4.58	4.51	4.38	4.29	4.17
ROE (%)	16.8	19.8	21.6	20.4	22.9	22.7

Source: Capitaline, MOFSL

Exhibit 16: DuPont - three matrix performance



Source: Capitaline, MOFSL

- We performed a sensitivity analysis to understand the factors driving a significant increase/decrease in RoE. Our sensitivity analysis reveals that a change in the net profit margin has the greatest impact on RoE.

Over FY03-08, of the 22 broad sectors 19 witnessed RoE improvement. Amongst them, RoE of 8 sectors improved due to NP margins & 3 due to improving asset turnover. RoE of remaining sectors improved due to combination of multiple factors.

Exhibit 17: RoE most sensitive to NP margins

	FY03-08			
Sector	ROE	NP Margin	Asset turn.	Fin. Leverage
Automobiles	↑	↑	↑	↔
Banks - Private Sector	↓	↔	↔	↓
Banks - Pubilc Sector	↓	↔	↓	↓
Capital Goods	↑	↑	↑	↔
Cement	↑	↑↑	↑↑	↓↓
Chemicals	↑	↑↑	↑	↓
Consumer	↑	↑	↔	↔
Diversified	↑	↑↑	↓	↓
Healthcare	↑	↑	↓↓	↔
Infrastrcture	↑	↑↑	↓↓	↑
Insurance	↑	↑	↓	↔
Media	↑	↓	↑	↔
Metals	↑	↑↑	↑↑	↓
Misc	↑	↑	↑	↔
NBFC	↑	↑	↔	↔
Oil & Gas	↓	↓	↔	↔
Real Estate	↑	↑↑	↓	↓↓
Retail	↑	↑	↑↑	↔
Technology	↑	↔	↑	↑
Telecom	↑	↑↑	↑	↑
Textiles	↑	↑↑	↔	↑
Utilities	↑	↔	↔	↔

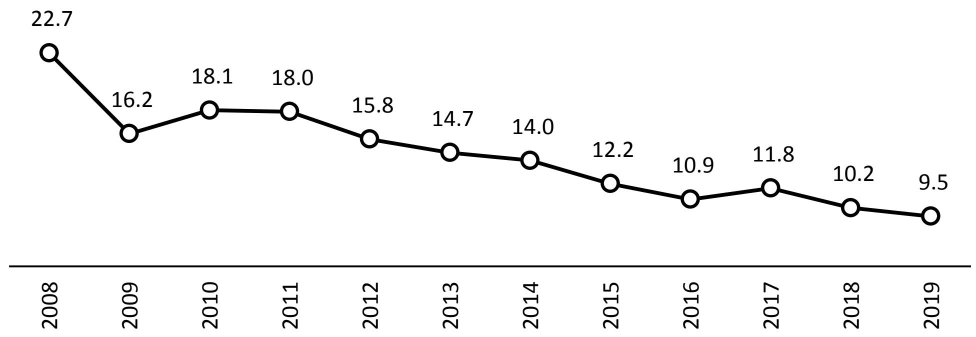
Source: Capitaline, MOFSL

Change in RoE due to the factor by specified percentage:
↔ - Neutral – positive and negative by less than 2%
↑ - Increase – Positive by more than 2% and less than 10%
↓ - Decrease – Negative by more than 2% and less than 10%
↑↑ - Factor leading the uptrend – Positive by more than 10%
↓↓ - Factor leading the downtrend – Negative by more than 10%

Downtrend Era: 2008-2019 – NP margin contraction impacts RoE

- Index RoE declined to a decadal low of 9.5% in FY19 from 22.7% in FY08. Our analysis attributes this to a contraction in the profit margin (at 5.5% in FY19 v/s 11.4% in FY08) and asset turns (at 0.35x v/s 0.48x in FY08). However, rising financial leverage multiples (at 4.88x v/s 4.17x in FY08) provided some support to RoE.
- Contracting profit margin was the major factor impacting RoE. Over FY08-19, NP margin declined by 51.5% (to 5.5% in FY19), asset turns were down by 26.0% (to 0.35x in FY19) and financial leverage increased by 17.0% (to 4.88x in FY19).

Exhibit 18: BSE500 RoE declines to decade low (%)...



Source: Capitaline, MOFSL

Exhibit 19: ...led by margin contraction (%)...

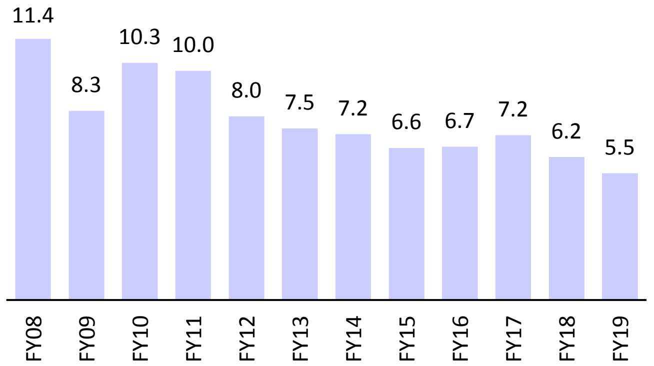


Exhibit 20: ...and falling asset turns (x)

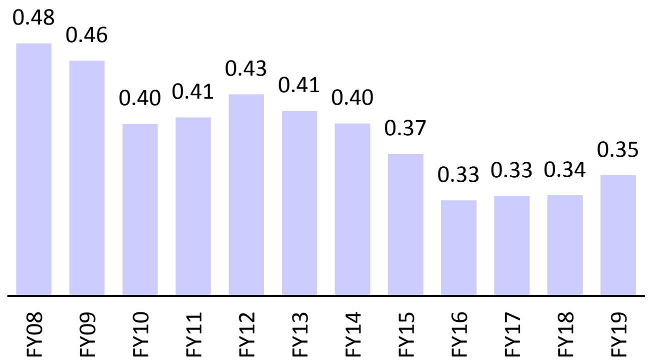
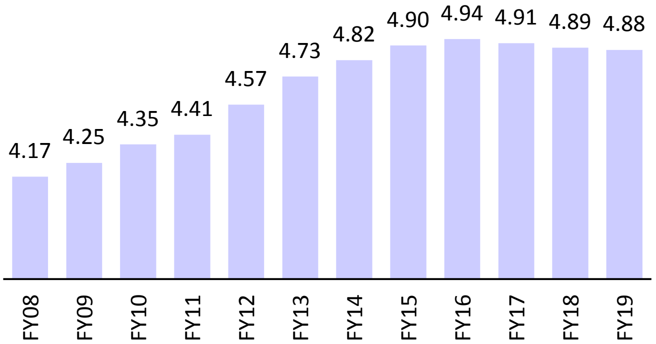
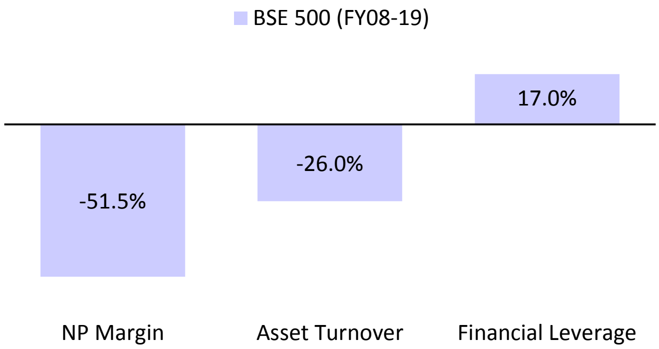


Exhibit 21: Rising financial leverage supports RoE (x)



Source: Capitaline, MOFSL

Exhibit 22: DuPont - three matrix performance over a decade



Source: Capitaline, MOFSL

- We performed a similar sensitivity analysis for the last 11 years. It reveals a similar phenomenon where a change in the net profit margin had the greatest impact on RoE.

Over FY08-19, of the 22 broad sectors, 20 witnessed an improvement in RoE. Among these sectors, RoE of 11 sectors declined due to deteriorating NP margin and that of four sectors on account of a rise in asset turns. RoE of the remaining sectors improved because of a combination of multiple factors.

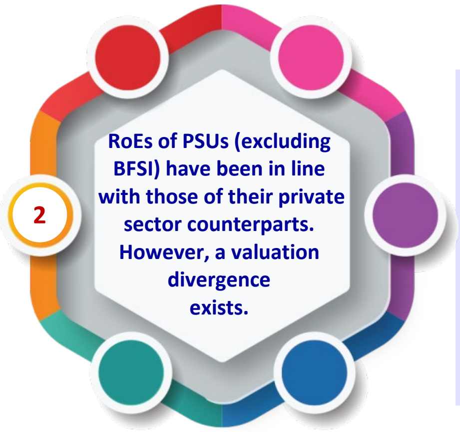
Exhibit 23: RoE declines across sectors, led by NP margins

	FY08-19			
Sector	ROE	NP Margin	Asset turn.	Fin. Leverage
Automobiles	↓	↓	↔	↔
Banks – PVT	↓	↔	↔	↔
Banks - PSU	↓	↓↓	↑	↔
Capital Goods	↓	↓	↓↓	↑
Cement	↓	↓↓	↓	↔
Chemicals	↓	↔	↓	↔
Consumer	↓	↔	↓	↓
Diversified	↓	↓	↓↓	↔
Healthcare	↓	↓	↓	↔
Infrastructure	↓	↓↓	↔	↔
Insurance	↑	↓↓	↔	↑↑
Media	↑	↔	↔	↔
Metals	↓	↓↓	↓↓	↑
Misc	↓	↔	↔	↔
NBFC	↓	↓	↔	↑
Oil & Gas	↓	↓	↓	↔
Real Estate	↓	↓↓	↓	↔
Retail	↓	↓↓	↑	↓↓
Technology	↓	↓	↓	↔
Telecom	↓	↓↓	↑↑	↓
Textiles	↓	↓↓	↓	↑
Utilities	↓	↓	↔	↑

Source: Capitaline, MOFSL

Change in ROE due to the factor by specified percentage:
↔ - Neutral – Positive and negative by less than 2%
↑ - Increase – Positive by more than 2% and less than 10%
↓ - Decrease – Negative by more than 2% and less than 10%
↑↑ - Factor leading the uptrend – positive by more than 10%
↓↓ - Factor leading the downtrend – negative by more than 10%

CONCLUSION 2:



PSU-private RoE at par but valuations vary

Higher earnings from cyclicals | Lower growth outlook for PSUs

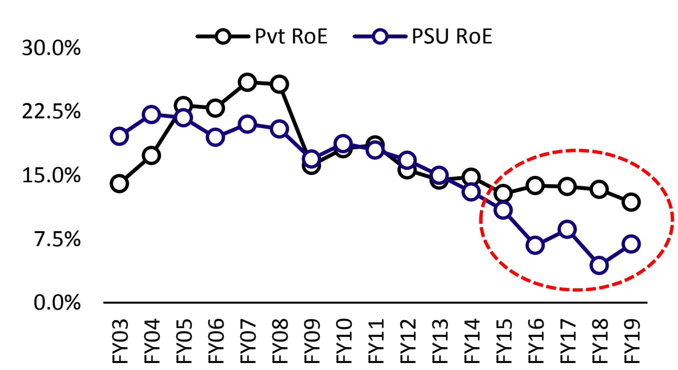
- **RoE of PSUs (ex BFSI) has remained largely in line with that of their private sector counterparts (ex BFSI). It stood at 15.4% for PSUs and 12.7% for private sector in FY19.**
- **However, we note of a significant divergence between the P/E multiples of these sectors. As at end-FY19, PSUs (excl. BFSI) traded at a P/E multiple of 9.4x, as against 28.6x for private (excl. BFSI), marking a discount of ~67%.**
- **Apart from regulatory headwinds and continuous stake sale by government through divestments, the other two factors driving this valuation divergence were: (i) the higher earnings contribution from cyclical businesses and (ii) the lower earnings growth expectation.**

RoE of PSUs (ex-BFSI) in line with private counterparts

Over the past few years, the RoE of PSUs (excluding BFSI) has converged with that of their private sector counterparts.

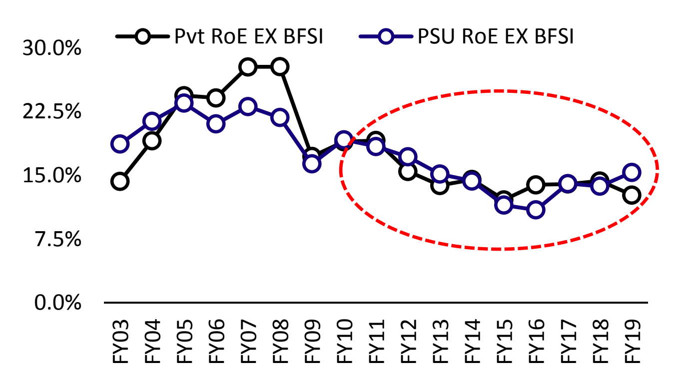
- Over FY03-19, RoE of PSUs primarily trailed that of their private counterparts, except for a few years when a cyclical trend boosted the RoE of PSUs quite significantly.
- Over the past few years, the gap between the RoEs of PSUs and their private counterparts has widened significantly, with the difference in their RoEs (private RoE minus PSU RoE) shooting up from 2 percentage point in FY15 (private RoE: 12.9%, PSU RoE: 10.9%) to more than double at 4.9 percentage point in FY19 (private RoE: 11.8%, PSU RoE: 6.9%). This widening of the gap was mainly due to the underperformance of PSU banks.
- However, if we look at the RoE excluding the BFSI segment, the trend is quite in contrast to the prevailing general thesis.
- Over the past few years (Exhibit 25), the RoE of PSUs (excluding BFSI) has converged with that of their private sector counterparts. However, in FY19, PSU RoE was higher at 15.4% compared with the private sector (12.7%).

Exhibit 24: PSU banks pull down PSU RoE in FY18/19



Source: Capitaline, MOFSL

Exhibit 25: Ex BFSI, PSU RoE in line with private



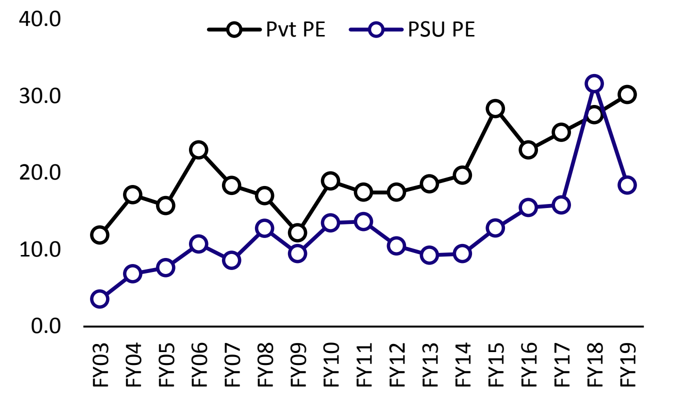
Source: Capitaline, MOFSL

Significant P/E divergence due to cyclical business and lower growth

Over FY03-18, average P/E discount of PSUs v/s private counterparts has remained at 40%.

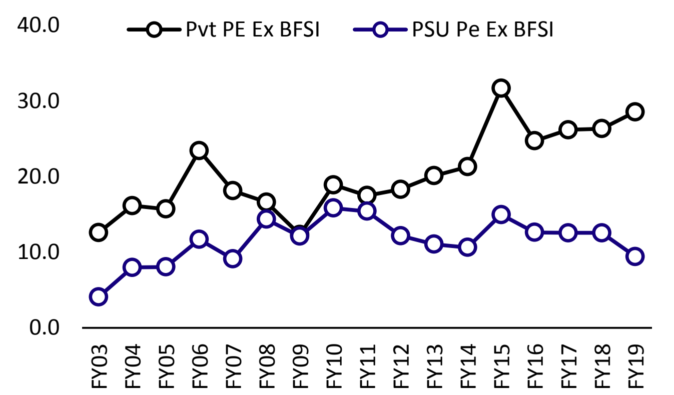
- PSU companies continue trading at a lower P/E multiple than their private counterparts, primarily because: (a) most of the material PSU sector companies have cyclical businesses, (b) lower expectation of growth, (c) regulatory risk and (d) continuous divestments by government.
- As on FY19, the PSU sector (excluding BFSI) traded at a P/E multiple of 9.4x as against the private sector (excluding BFSI) at 28.6x, marking a discount of ~67%.
- Average P/E discount of PSU companies was at 40% over FY03-19. Ex-BFSI, it stood at 42%.
- P/E discount over the years is partially attributable to the higher profit contribution from cyclical businesses for PSU companies (78% over FY03-19) than private counterparts (42%).
- Profit CAGR for PSU companies was at 6.6% (Ex BFSI: 10.9%) over FY03-19 – lower than 20.1% (ex BFSI: 19.6%) for private companies. This could be the reason for a discount in the P/E multiples.

Exhibit 26: Losses of PSBs make P/E look optically high in FY18



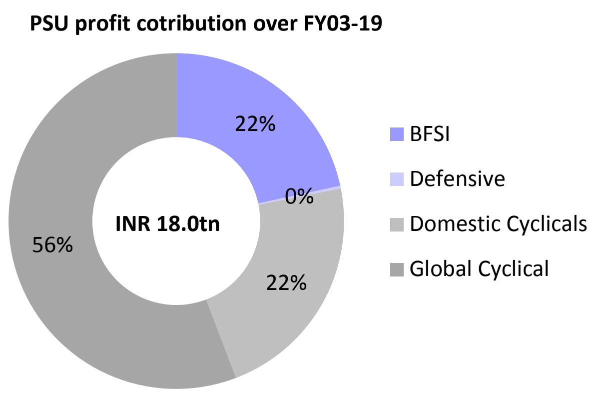
Source: Capitaline, MOFSL

Exhibit 27: Ex BFSI, PSU P/E at avg. ~42% discount to private



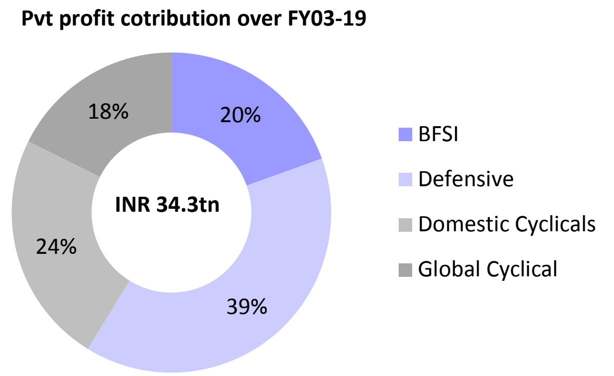
Source: Capitaline, MOFSL

Exhibit 28: ~78% of profit contributed by cyclicals for PSUs…



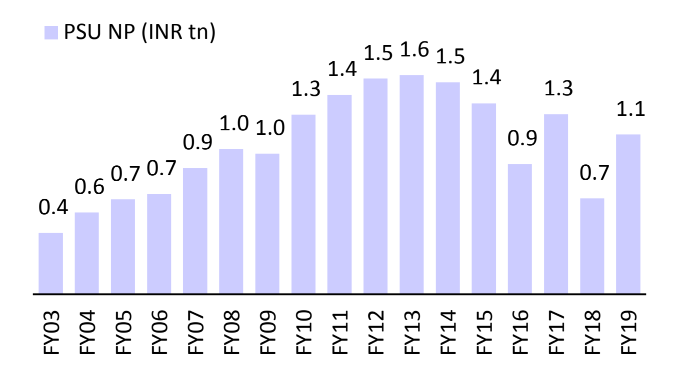
Source: Capitaline, MOFSL

Exhibit 29: …while cyclical profit share for pvt. at 42%



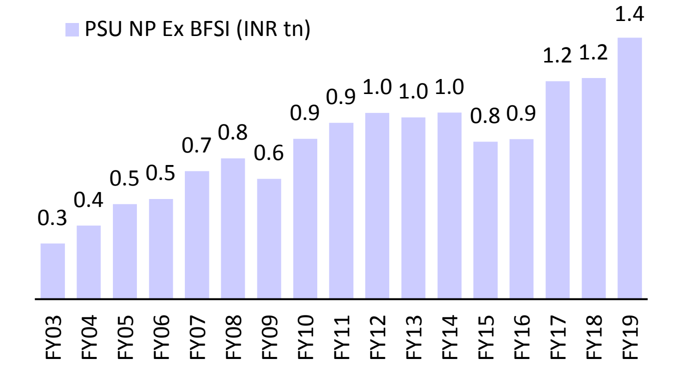
Source: Capitaline, MOFSL

Exhibit 30: PSU net profit CAGR of 6.6%



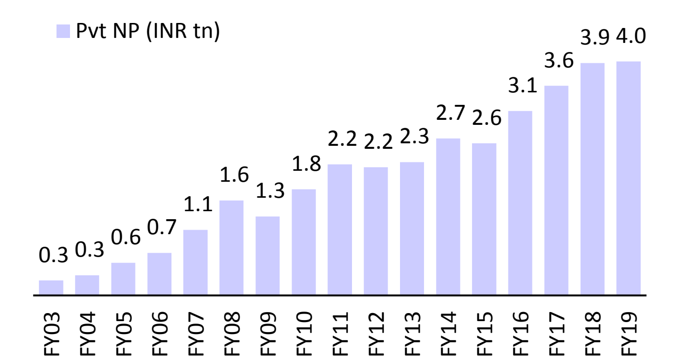
Source: Capitaline, MOFSL

Exhibit 31: Ex BFSI, PSU net profit CAGR of 10.9%



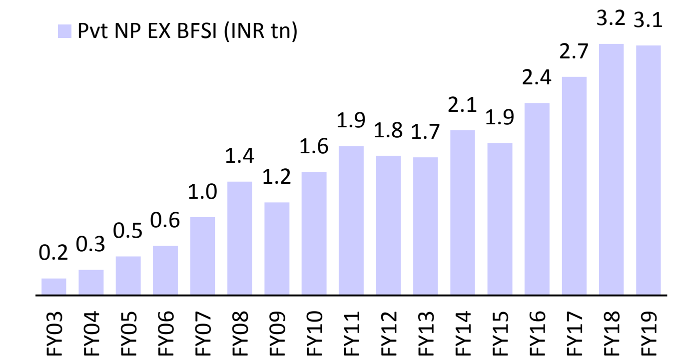
Source: Capitaline, MOFSL

Exhibit 32: Private net profit CAGR of 20.1%



Source: Capitaline, MOFSL

Exhibit 33: Ex BFSI, private net profit CAGR of 19.6%



Source: Capitaline, MOFSL

CONCLUSION 3

High RoE desirable; improving RoEs key for market cap creation

Leads to rerating of valuation multiples

- **Evidently, companies with high RoEs trade at premium valuations. However, we note that markets are usually quick to factor in such high RoEs in the price. This is corroborated by our analysis of BSE200 companies which revealed mixed performances in terms of market cap creation by high-RoE companies v/s low-RoE companies (outperformance/underperformance: CAGR of -1% to +4%) over the three tested cycles (FY03-08, FY08-13 and FY13-19).**
- **Interestingly, our analysis highlighted that the change in RoE has a material impact on market cap creation. Companies with improving RoE have significantly outperformed (CAGR of 7% to 17%) than companies with declining RoEs over the tested period.**

High RoE desirable but improving RoE key for market cap creation

- One key question while looking at RoE from a longer-term perspective is: which company is best for higher wealth creation – one with a (absolute) high level of RoE or one in the improving phase of RoE?
- We believe that RoE of a company is one of the quantitative representations of its competitive advantage (economic moat. A high RoE (v/s sector peers) thus represents a significant competitive advantage and its relative weakening/strengthening (v/s peers) represents weakening/strengthening of the competitive advantage.
- RoEs of companies vary materially within the sector they operate in. Thus, comparing RoE of a company operating in one sector with that of a company from another sector (say a consumer facing company that enjoys RoE in excess of 50% v/s banks with RoE of 15-20%) may not bring out the right picture. In order to classify a company as one with high or low RoE, we compare RoE of that company with the sectorial average for that year. To perform our hypothesis, we have classified companies into a homogeneous group with at least two players in industry.

Companies with high RoEs trade at premium valuations. However, markets are usually quick to factor in such high RoEs in the price.

- Our analysis of BSE 200 companies (current constituents – where data is consistently available from FY03 (125 companies)and can be further classified into homogenous groups (103 companies) over the last three cycles (FY03-FY08, FY08-FY13 and FY13-FY19) highlights that while high-RoE companies (where yearly RoE is higher than average sector RoE in more than 50% of times over chosen tested phase) trade at rich valuation multiples, they do not materially outperform the sector peers.
- High-RoE companies outperformed peers by a material difference (aggregate MC CAGR of 17% v/s 14% for low-RoE companies) in one cycle (FY13-19). In the other two phases, the difference in MC CAGR of high- and low-RoE companies was marginal. For example, over FY03-08, MC CAGR was 42% for high-RoE companies and 42% for low-RoE companies. Over FY08-13, low-RoE companies (MC CAGR of 9%) marginally outpaced high-RoE companies (MC CAGR of 8%).
- Sectorally, the breadth of outperformance by high-RoE companies v/s low-RoE companies in all three time cycles is also marginal. We believe that since the markets are efficient, high RoEs (read as current competitive advantages) are clearly understood and well factored in the price.

Exhibit 34: High-RoE companies marginally outperformed low-RoE companies over FY03-08

	High RoE		Low ROE		Sector	
Industry	**MC CAGR %**	**Cos.**	**MC CAGR %**	**Cos.**	**MC CAGR %**	**Cos.**
Auto Ancillaries - Batteries	83	1	82	1	83	2
Auto Ancillaries - Tyres	45	2	36	1	41	3
Automobiles - 2W	30	1	7	2	26	3
Automobiles - CV	37	1	32	1	36	2
Banks	49	9	58	5	52	14
Cements	48	2	68	2	50	4
Chemicals	21	3	73	4	46	7
Consumer electronics	103	1	25	1	78	2
Diamond / Jewellery	86	1	108	1	90	2
Engineering	86	2	79	1	80	3
Finance	56	2	21	5	45	7
FMCG	15	5	37	5	24	10
IT Software	25	1	19	4	22	5
Metals	98	6	45	3	80	9
Oil & Gas	33	1	41	1	34	2
Paints	40	1	50	2	42	3
Personal Products	23	1	26	1	25	2
Pharmaceutical	46	7	28	11	38	18
Refineries	24	1	45	4	41	5
Grand Total	**42**	**48**	**42**	**55**	**42**	**103**

Source: Capitaline, MOFSL

High RoE companies do not generate material outperformance.

Exhibit 35: Low-RoE companies marginally outperformed high-RoE companies over FY08-13

	High RoE		Low ROE		Sector	
Industry	**MC CAGR %**	**Cos.**	**MC CAGR %**	**Cos.**	**MC CAGR %**	**Cos.**
Auto Ancillaries - Batteries	34	1	15	1	19	2
Auto Ancillaries - Tyres	23	2	16	1	20	3
Automobiles - 2W	17	1	41	2	21	3
Automobiles - CV	27	1	4	1	25	2
Banks	16	10	8	4	14	14
Cements	21	2	7	2	11	4
Chemicals	34	3	6	4	16	7
Consumer electronics	38	1	-16	1	-4	2
Diamond / Jewellery	37	1	16	1	33	2
Engineering	-16	1	-1	2	-12	3
Finance	15	3	16	4	15	7
FMCG	21	5	26	5	23	10
IT Software	15	1	16	4	16	5
Metals	-6	4	-13	5	-9	9
Oil & Gas	5	1	2	1	5	2
Paints	33	1	34	2	33	3
Personal Products	29	1	18	1	24	2
Pharmaceutical	25	8	14	10	20	18
Refineries	-5	2	7	3	-3	5
Grand Total	**8**	**49**	**9**	**54**	**8**	**103**

Source: Capitaline, MOFSL

Exhibit 36: High-RoE companies outperformed materially over FY13-19

	High RoE		Low ROE		Sector	
Industry	**MC CAGR %**	**Cos.**	**MC CAGR %**	**Cos.**	**MC CAGR %**	**Cos.**
Auto Ancillaries - Batteries	17	1	9	1	12	2
Auto Ancillaries - Tyres	34	2	20	1	30	3
Automobiles - 2W	9	1	45	2	22	3
Automobiles - CV	-7	1	29	1	-2	2
Banks	24	7	11	7	20	14
Cements	26	2	8	2	15	4
Chemicals	18	2	22	5	20	7
Consumer electronics	38	1	42	1	40	2
Diamond / Jewellery	28	1	33	1	29	2
Engineering	12	2	-8	1	2	3
Finance	25	2	18	5	24	7
FMCG	23	5	9	5	15	10
IT Software	13	3	7	2	11	5
Metals	13	5	5	4	10	9
Oil & Gas	-5	1	12	1	-2	2
Paints	20	1	27	2	22	3
Personal Products	27	1	22	1	25	2
Pharmaceutical	15	11	11	7	13	18
Refineries	23	2	21	3	21	5
Grand Total	**17**	**51**	**14**	**52**	**16**	**103**

Source: Capitaline, MOFSL

Change in RoE leads to higher wealth creation

Companies with improving RoE trajectory get rerated and outperform peers.

- Interestingly, our analysis of BSE200 companies (current constituents – where data is consistently available from FY03) over the last three cycles (FY03-FY08, FY08-FY13 and FY13-FY19) highlights that the change in the RoE of companies has a material impact on market cap creation.
- Across all three phases, companies delivering RoE improvement (at end v/s start of the respective period) have significantly outperformed those witnessing a decline in RoE. Companies with improving RoE has delivered aggregate market cap CAGR of (i) 52% (v/s 35% for others) over FY03-08, (ii) 21% over FY08-13 (v/s 4% for others) and (iii) 25% over FY13-19 (v/s 18% for others).
- Also, across phases, the number of sectors in which improving RoE companies delivered much better MC based returns (v/s falling RoE companies) was high.

Exhibit 37: Companies with RoE improvement outperform across phases (M-cap CAGR %)

	FY03-08		FY08-13		FY13-19	
Sector	**Improving**	**Declining**	**Improving**	**Declining**	**Improving**	**Declining**
Automobiles	50	30	25	19	44	11
Banks - Private Sector	86	60	17	18	NA	29
Banks - Public Sector	43	44	19	8	NA	13
Capital Goods	78	42	21	-6	22	16
Cement	50	NA	NA	11	7	22
Chemicals	46	44	22	13	15	30
Consumer	19	38	23	28	23	19
Healthcare	49	34	28	20	40	11
Media	33	NA	14	NA	NA	16
Metals	80	NA	NA	-9	16	9
Miscellaneous	52	50	40	2	41	20
NBFC	56	12	16	15	83	21
Oil & Gas	54	29	NA	0	21	15
Retail	90	NA	37	16	NA	36
Technology	20	24	27	14	10	14
Telecom	97	NA	NA	-7	NA	4
Utilities	63	NA	NA	-2	-3	NA
Grand Total	**52**	**35**	**21**	**4**	**25**	**18**

Source: MOFSL

CONCLUSION 4

Capital structure-led RoE improvement uplifts valuations

Efficient capital allocation leads to wealth creation

- **RoEs of companies can be improved either by accelerating earnings momentum (numerator) or employing a superior capital allocation strategy (denominator).**
- **Our hypothesis is that cash-rich companies can optimize their capital allocation by increasing payouts (of surplus cash) to shareholders and in turn achieve better RoEs/valuation multiples. This is confirmed by our case studies on TCS, ITC and Hindustan Zinc – these companies garnered better valuation multiples on improved RoE led by step up in shareholder payouts (dividends/buybacks).**

Capital allocation key to generate superior return ratios

RoE of companies could be improved by accelerating earnings momentum or by employing superior capital allocation strategy.

- Capital allocation is a dynamic process under which management has to make the right use of the one of the scarce resources (capital). It could either deploy funds generated from operations to expand existing/new business (M&A/capex/working capital/R&D) to generate superior return on incremental capital employed or repay the existing debt or return the excess cash back to the shareholders (as dividend/share buyback).
- As generally understood, a company that delivers superior return ratios (other things being constant) than peers usually gets premium valuations. While RoIC is used to measure operating efficiency of a business, RoE also factors in financial efficiency. Thus, a company can generate better RoE (with same RoIC) by employing a superior capital allocation strategy.
- In the previous section, we concluded that the change in RoE helps in market cap creation for companies. RoEs of companies can be improved either by accelerating earnings momentum (numerator) or employing a superior capital allocation strategy (denominator). Our hypothesis is that cash-rich companies can optimize their capital allocation by increasing payouts to shareholders and in turn achieve better RoEs/valuation multiples.

Payout strategy change drives rerating: Three case studies

Increase in dividend payout ratio leads to better valuation multiple, leading to superior market cap creation.

- To re-test our hypothesis, we studied three cases to check whether companies that have returned back surplus capital to shareholders (either in form of dividends or buybacks) have been rewarded by the market in the form of higher valuation multiples, leading to superior market cap creation.

CASE STUDY 1: TCS

COMPANY BACKGROUND

Tata Consultancy Services Limited (TCS) is an IT services, consulting and business solutions organization and a subsidiary of Tata Group. It was founded in 1968 by a division of Tata Sons Limited and at present has operations across 50 countries. It got listed in 2004 and became the first Indian IT company to reach USD100b market capitalization (in April 2018). With revenues of over USD20.9b in FY19, TCS is ranked among the top 10 global IT service providers.

HYPOTHESIS PERIOD

Test Period I: FY13-17
Test Period II: FY17-19

HYPOTHESIS

Better capital allocation by way of increasing payout from excess cash could improve RoE and drive P/E expansion.

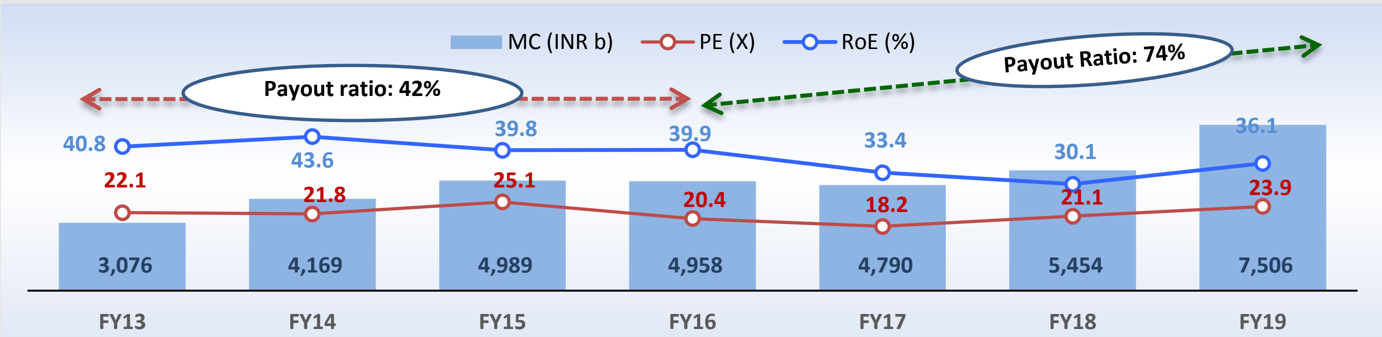
STOCK PERFORMANCE

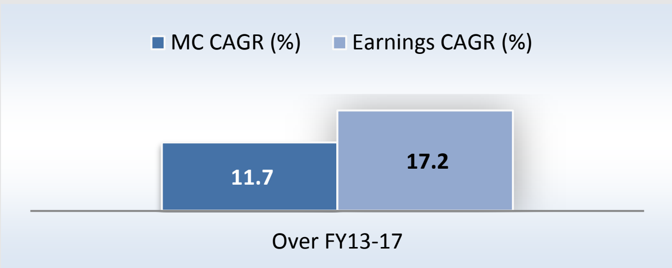
During FY13-17, TCS' stock clocked a market cap CAGR of 11.7% on the back of healthy earnings (CAGR of 17.2%). However, during the period, RoE declined by 7.4pp (to 33.4% in FY17) and P/E shrank by 18% from 22.1x in FY13 to 18.2x in FY17. During FY17-19, the change in payout policy resulted in higher cumulative payout, which stood at 74% v/s 42% in FY13-17. RoE expanded by 2.7pp to 36.1% in FY19. It evoked a positive reaction in market with the stock clocking a market cap CAGR of 25.2%, despite slower earnings growth (CAGR of 9.4%). Thus, P/E expanded by 31% from 18.2x in FY17 to 23.9x in FY19.

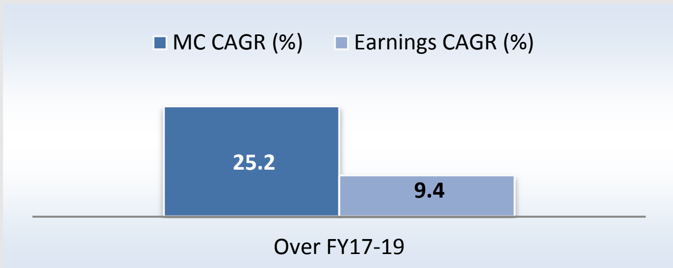
TESTING PERIOD HIGHLIGHTS

Particulars	FY13	FY17	FY13-17	FY19	FY17-19
Market CAP (INR b)	3,076	4,790		7,506	
CAGR (%)			**11.7**		**25.2**
Earnings (INR b)	139	263	1035	315	836
CAGR (%)			**17.2**		**9.4**
Net cash (INR b)	75	455		419	
Net cash as % of NW	**19%**	**53%**		**47%**	
Payout* (INR b)	43	93	439	273	621
Cum. Payout ratio			**42%**		**74%**
Average RoE (%)	40.8	33.4		36.1	
Change in RoE			**(7.4)**		**2.7**
PE (x)	22.1	18.2		23.9	
Change in PE			**(3.9)**		**5.6**

*including buybacks







CASE STUDY 2: ITC

COMPANY BACKGROUND

ITC is an Indian multinational conglomerate established in 1910 with headquarters in Kolkata, West Bengal. It employs more than 30k people at more than 60 locations across India and is part of Forbes 2000 list. Along with ~80% cigarettes market share, the company has diversified its presence in FMCG, Hotels, Packing, Paperboard & Speciality Paper and Agri-Business.

HYPOTHESIS PERIOD

Test period I: FY06-09
Test period II: FY09-14

HYPOTHESIS

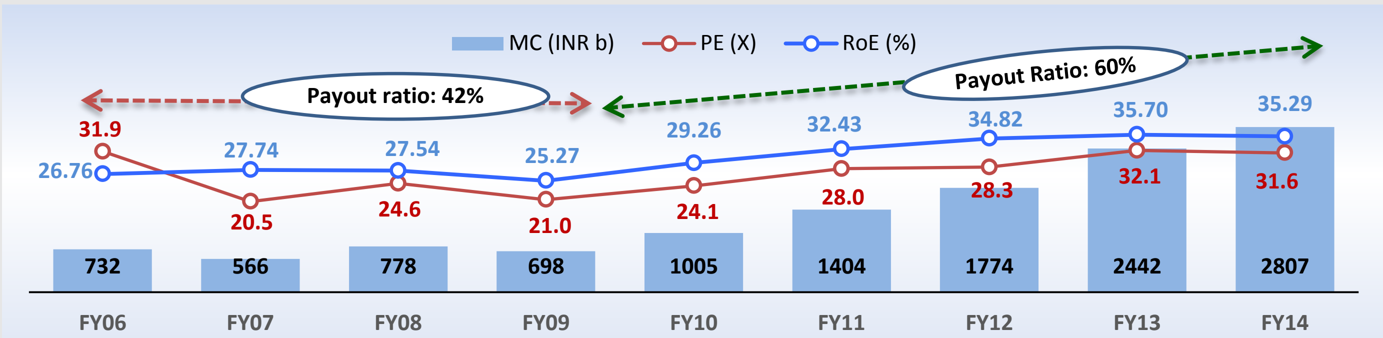
Better capital allocation by way of increasing payout from excess cash could improve RoE and drive P/E expansion.

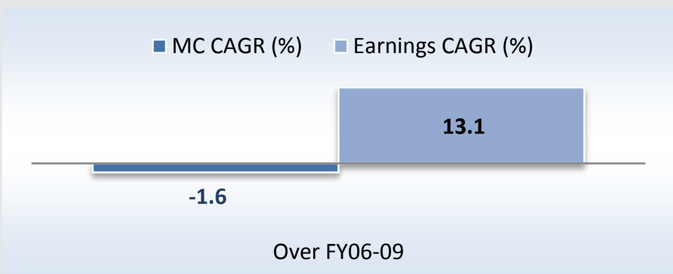
STOCK PERFORMANCE

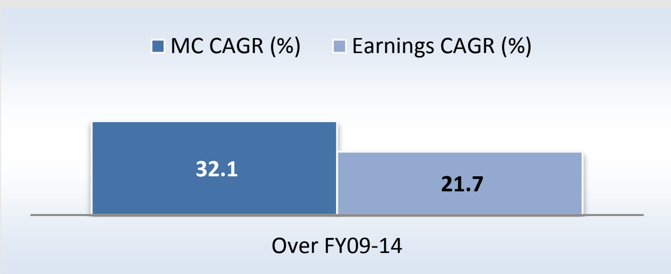
Over FY06-09, ITC's stock clocked a market cap CAGR of (1.6%) on the back of earnings CAGR of 13.1%. However, during the period, RoE declined by 1.5pp (to 25.3% in FY09) and P/E shrank by 34% from 31.9x in FY06 to 21.0x in FY09. Over FY09-14, the change in payout policy resulted in a higher cumulative payout, which stood at 60% v/s 42% in FY06-09. RoE expanded by 10pp to 35.3% in FY14. It evoked a positive reaction in the market with the stock clocking return CAGR of 32.1%, which was also supported by earnings CAGR of 21.7%. This has resulted into P/E expansion by 50% from 21.0x in FY09 to 31.6x in FY14.

TESTING PERIOD HIGHLIGHTS

Particulars	FY06	FY09	FY06-09	FY14	FY09-14
Market CAP (INR b)	732	698		2,807	
CAGR (%)			**(1.6)**		**32.1**
Earnings (INR b)	23	33	115	89	353
CAGR (%)			**13.1**		**21.7**
Net cash (INR b	34	28		96	
Net cash as % of NW	**38**	**20**		**36**	
Payout (INR b)	10	14	49	48	211
Cum. Payout ratio			**42%**		**60%**
RoE (%)	26.8	25.3		35.3	
Change in RoE			**(1.5)**		**10.0**
PE (x)	31.9	21.0		31.6	
Change in PE			**(10.9)**		**10.6**







CASE STUDY 3: HINDUSTAN ZINC

COMPANY BACKGROUND

Hindustan Zinc Limited (HZL) is an integrated mining and resource producer of zinc, lead, silver and cadmium. Incorporated in 1966 as a PSU, the company went into privatization in 2002 when Sterlite Opportunities and Ventures Limited (now part of Vedanta Limited) bought a 26% stake, including management control. Over time, Vedanta bought a majority stake in the company (64.9%), making HZL its subsidiary. HZL is now India's largest and the world's second largest zinc-lead miner with annual ore production capacity of 17.7MMT.

HYPOTHESIS PERIOD

Period I: FY12-15
Period II: FY15-19

HYPOTHESIS

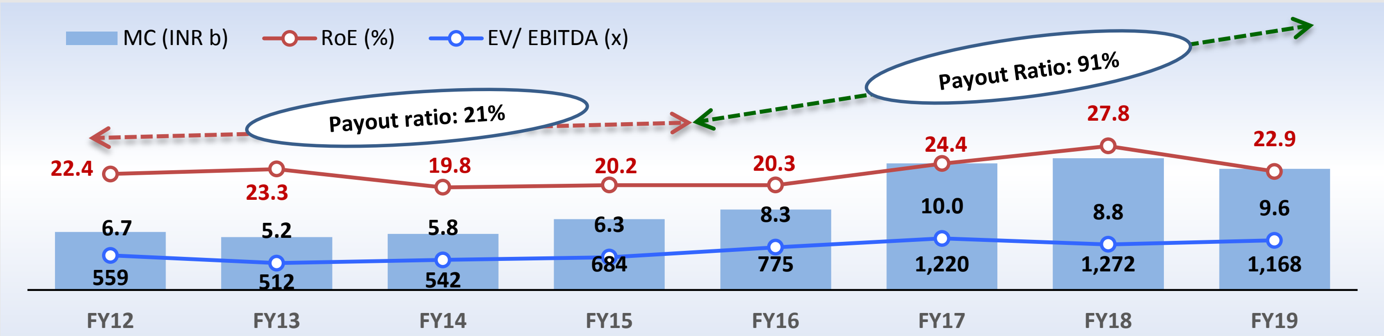
Better capital allocation by way of increasing payout could improve RoE and support multiple expansion.

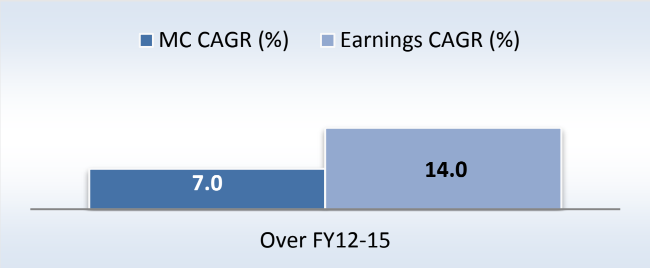
STOCK PERFORMANCE

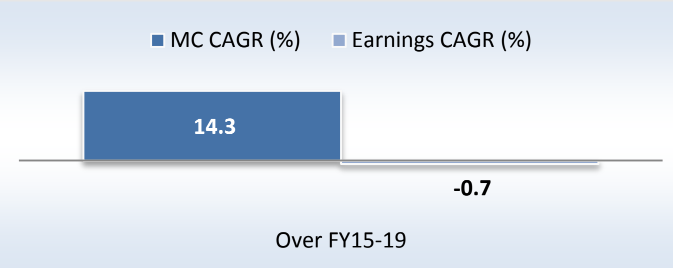
Over FY12-15, HZL's stock clocked a market cap CAGR of 7% on the back of EBITDA CAGR of 14%. However, RoE declined by 2.2pp (to 20.2% in FY15) and EV/EBITDA multiple declined by 5% from 6.7x in FY12 to 6.3x in FY15. Over FY15-19, a change in the payout policy resulted in a higher cumulative payout (91% v/s 21% over FY12-15). This has led to RoE expansion by 2.7pp from 20.2% in FY15 to 22.9% in FY19. It evoked positive reaction in the market, with the stock clocking a market cap CAGR of 14.3%, despite earnings de-growth (CAGR of -0.7%). As a result, EV/EBITDA multiple expanded by 51% from 6.3x in FY15 to 9.6x in FY19.

TESTING PERIOD HIGHLIGHTS

Particulars	FY12	FY15	FY12-15	FY19	FY15-19
Market CAP (INR b)	558.8	683.9		1,167.9	
CAGR (%)			**7.0**		**14.3**
Earnings (INR b)	55.3	81.8	275.1	79.6	419.0
CAGR (%)			**14.0**		**(0.7)**
Net Cash (INR b)	179.47	307.9		169.7	
Net cash as % of NW	**67**	**71**		**51**	
Payout (INR b)	18.9	23.7	56.6	106.2	378.6
Cum. Payout ratio			**21%**		**91%**
RoE (%)	22.4	20.2		22.9	
Change in RoE			**(2.2)**		**2.7**
EV/EBITDA (x)	6.7	6.3		9.6	
Change in EV/EBITDA			**(0.4)**		**3.3**







CONCLUSION 5

Mid-caps: Lower RoE but outperformance to large-caps

Potential RoE improvement and higher earnings growth the enablers

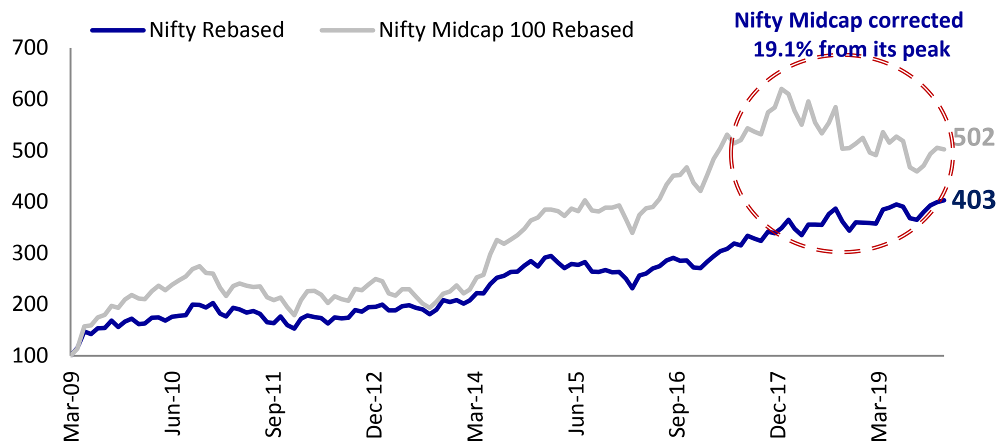
- **The underperformance of midcaps vis-à-vis large caps since FY17 is well known. However, an analysis of the last 10-year performance reveals that the performance of both the Nifty and the Nifty Midcap 100 has been cyclical, with the latter outperforming from a longer-term perspective.**
- **Over the three tested cycles (FY03-08, FY08-13 and FY13-19), mid-cap companies (excl. BFSI) have outperformed large-caps in market cap creation (percentage wise) by a significant margin. This is despite mid-caps have lower RoEs than large-caps in all the three tested cycles. This, in our view, is primarily on account of higher earnings growth and thus higher variability (improvement) in RoEs for mid-caps.**

Mid-cap underperformance cyclical – more of last two years' phenomenon

- Mid-caps' underperformance to large caps since FY17 is well known. However, looking at the last 10 years' performance of the indices (Nifty v/s Nifty Midcap 100), we have observed a clear evidence of cyclicality.
- Both the indices had performed quite linearly from Dec'09 to Dec'14 with mid-caps maintaining outperforming. However, from Dec'14 to Dec'17, the midcap-100 index had significantly outperformed the Nifty-50. The trend though has changed in the recent times in favor of Nifty-50.

Midcap has outperformed Large-cap over the long term. However, they have underperformed large cap since Dec'17

Exhibit 38: Nifty Midcap-100 corrected 19.1% from peak in Dec'17



Source: Capitaline, MOFSL

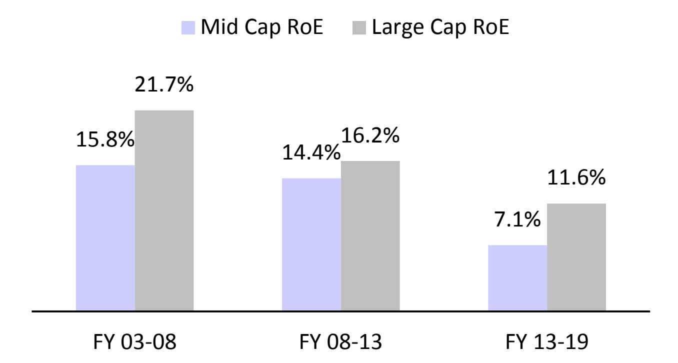
- A comparison of the performance at the index level may not present the correct picture due to the inclusion/exclusion of certain stocks from the respective benchmarks, their change in weightage in the index and the crossover of well-performing stocks from mid-caps to large-caps (and vice versa).
- To understand RoE of stocks by market cap and its impact on market cap creation, we have used the SEBI classification of large-caps (top 100 stocks by market cap) and mid-cap companies (those with market cap rank from 101-250). Our analysis has been detailed below.

Midcap outperformed across three tested time cycles

Mid-caps outperformance to large-caps is primarily driven by higher variability in RoE and earnings growth.

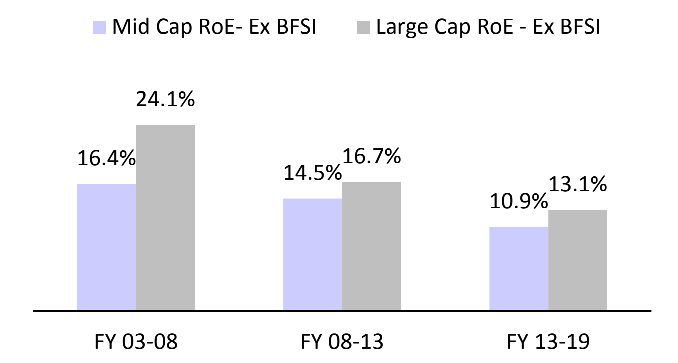
- Over the last 16 years, mid-caps have outperformed large-caps in market cap creation (percentage-wise) across three different phases. This is despite generally higher RoE of large-caps than that of mid-caps.
- To understand the reason behind this, we have looked at RoE of large-caps (defined as top BSE100 companies by market cap as at the start of respective base year) and mid-caps (defined as BSE 101 - BSE 250 by market cap of the respective base year) over three phases (FY03-08, FY08-13 and FY13-19).
- We have chosen three different phases to primarily factor in the shift of companies from mid to large-cap (or vice versa), or exclusion from the meaningful universe.
- Mid-caps outperformed large-caps in market cap creation (percentage wise) in all the three tested periods. This, in our view, was primarily due to: (i) much higher improvement (variability) in RoE of mid-caps and (b) high earnings growth.
- Earnings growth of mid-cap companies was almost 2x that of large-cap companies over two phases (FY03-08 and FY08-13). However, over FY13-19, mid-cap PAT declined at a compounded annual rate of 7.0%. This was attributable mainly to the loss-making PSBs which distorted the picture. PAT CAGR of mid-caps (ex BFSI) over FY13-19 stood at 14.1% v/s 4.7% for large caps (ex BFSI).

Exhibit 39: Large-cap average RoE outperformed mid-caps…



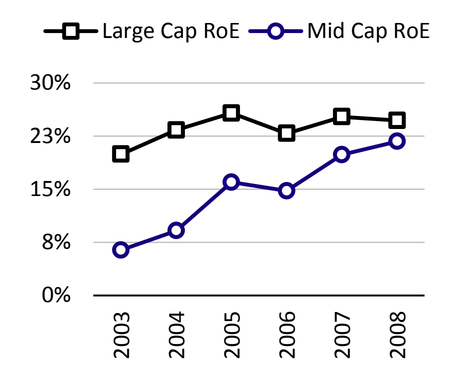
Source: Capitaline, Bloomberg and MOFSL

Exhibit 40: …so did ex-BFSI in all three phases



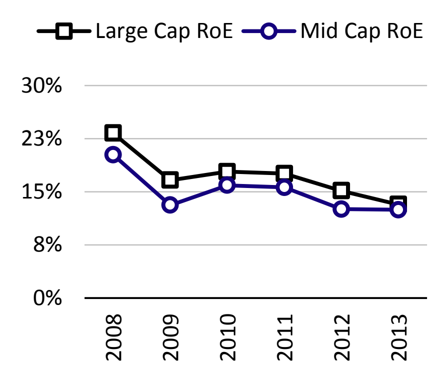
Source: Capitaline, Bloomberg and MOFSL

Exhibit 41: Large-caps RoE…



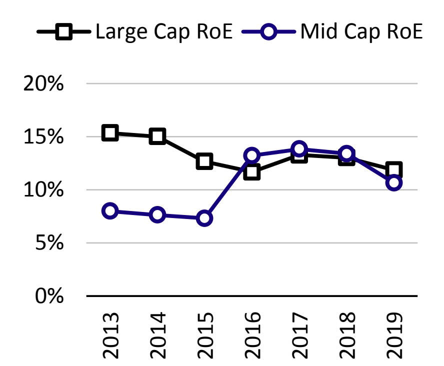
Source: Capitaline, Bloomberg and MOFSL

Exhibit 42: …outperform



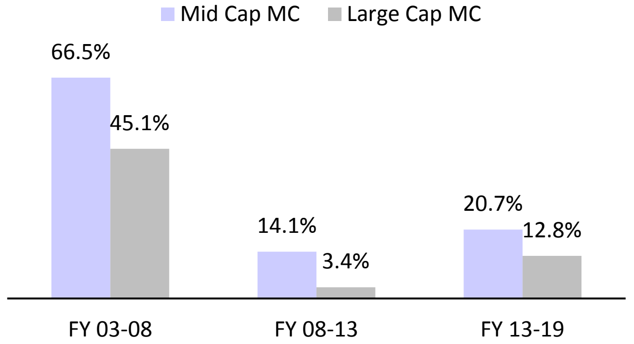
Source: Capitaline, Bloomberg and MOFSL

Exhibit 43: …mid-caps RoE (ex. BFSI)



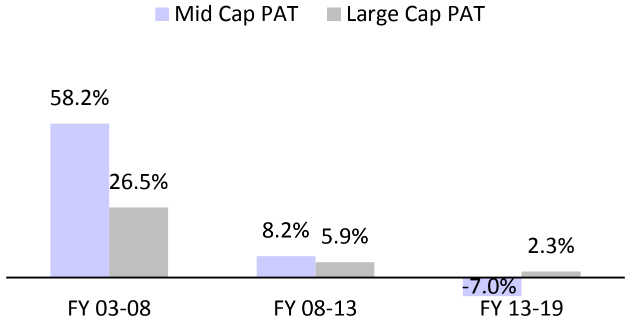
Source: Capitaline, Bloomberg and MOFSL

Exhibit 44: Mid-cap MC CAGR outpaced large-cap MC…



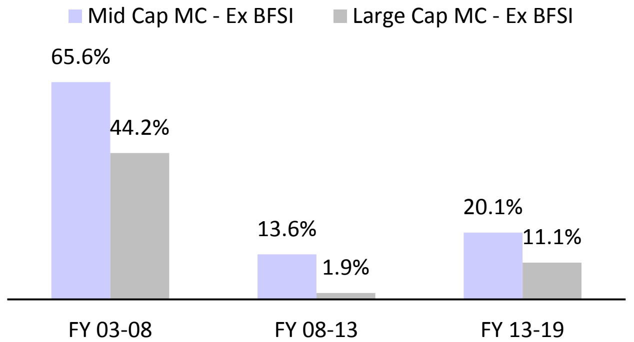
Source: Capitaline, Bloomberg and MOFSL

Exhibit 45: …so did PAT CAGR except for FY13-19 due to loss making PSBs



Source: Capitaline, Bloomberg and MOFSL

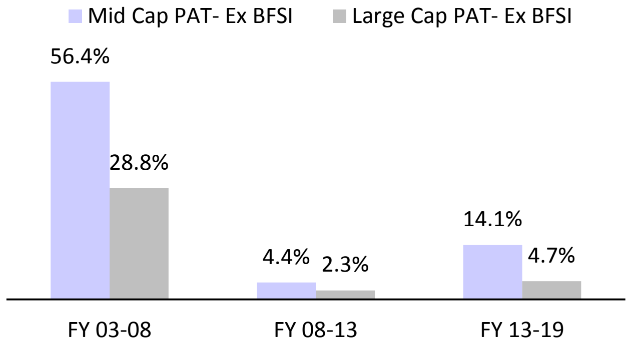
Exhibit 46: Ex-BFSI, mid-cap MC CAGR outpaces large caps…



CAGR over the period

Source: Capitaline, Bloomberg and MOFSL

Exhibit 47: …in line with PAT CAGR (ex BFSI)



CAGR over the period

Source: Capitaline, Bloomberg and MOFSL

Exhibit 48: Summary table of PAT and market cap over the period (INR t)

Particulars	Period 03-08*		Period 08-13*		Period 13-19*	
	FY03	FY08	FY08	FY13	FY13	FY19
Absolute PAT						
Large Cap	0.6	1.8	2.1	2.9	3.2	3.7
Mid Cap	0.0	0.2	0.3	0.5	0.5	0.3
Absolute PAT EX BFSI						
Large Cap	0.4	1.5	1.8	2.0	2.4	3.1
Mid cap	0.0	0.2	0.2	0.3	0.2	0.5
Absolute MC						
Large Cap	4.3	27.9	36.2	42.7	47.8	98.5
Mid Cap	0.2	3.0	4.0	7.7	7.3	22.7
Absolute MC EX BFSI						
Large Cap	3.7	23.1	30.9	33.9	38.5	72.4
Mid cap	0.2	2.7	3.3	6.2	5.9	17.6

*Companies are categorized between Large Cap and Mid cap based on 'base year' market capitalization for each period separately. For eg. Period FY03-08 has base period as FY03.This data universe of companies under Mid-cap/Large-cap changed across the periods.

Source: Capitaline, Bloomberg and MOFSL

CONCLUSION 6

Improving RoE and PAT growth – a lethal combination

Optimal mix for market cap creation

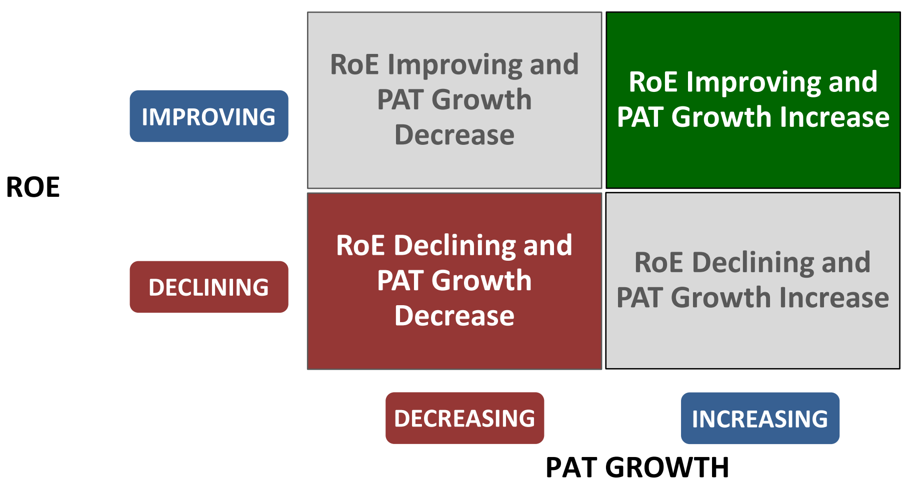
- **Companies with 'improving RoE' and 'earnings growth' are the best for market cap creation. Our analysis of BSE500 companies over two phases (from FY08-13 and FY13-19) revealed that companies with both improving RoE and earnings are ideal for generating best returns, while those with declining RoE/earnings growth have delivered the weakest market cap returns.**
- **A few companies appear attractive based on the framework of improving RoEs and increase in PAT growth estimates for FY20-22: Large-caps: (a) Axis Bank , Bharti Airtel, Hindustan Unilever, Infosys and Ultratech Cement. (b) Mid-caps: Federal Bank, JSW Energy, Tata Global, Trent and Voltas.**

What's the secret to generating best investor returns?

- As concluded earlier, since the markets are efficient, in most cases, the quality of capital efficiency is priced in. Given this, it is the deepening or narrowing of the moat (i.e. delta or improvement in RoE) that influences stock prices more than the absolute levels. Similarly, companies in the high-growth phase will continue to be materially re-rated till the time growth in earnings continues to improve. As earnings growth saturates, valuation multiples also peak out.
- If we put all this in a 2*2 matrix by taking an improvement and a decline in the RoE on the y-axis, and an increase and decline in the earnings growth on the x-axis, we conclude that in order to generate superior market cap returns, the lethal combination of RoE and PAT growth is a must.

Improving RoE and PAT growth is the best combination for market cap creation.

Exhibit 49: RoE and PAT framework

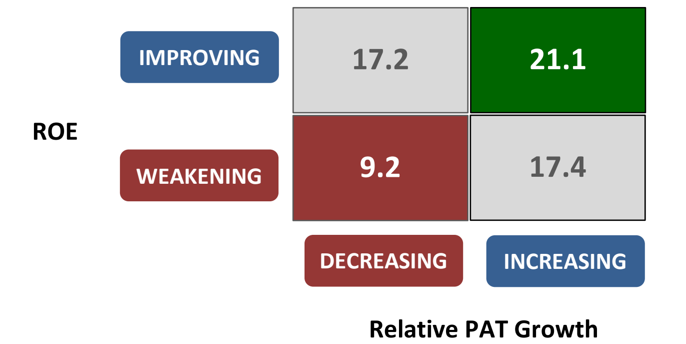


Source: MOFSL

- In order to back test our hypothesis, we analyzed BSE500 companies where consistent data was available for the last 16 years (FY03-19). We divided the entire period into three phases (Phase I: FY03-08, Phase II: FY08-13 and Phase III: FY13-19) and determined average RoE and earnings CAGR of stocks in each of the phases. We further removed the companies reporting negative profitability either at the start or the end of the phase. Based on this, we shortlisted stocks that qualify for being classified in each quadrant using data of the prior phase as the base.

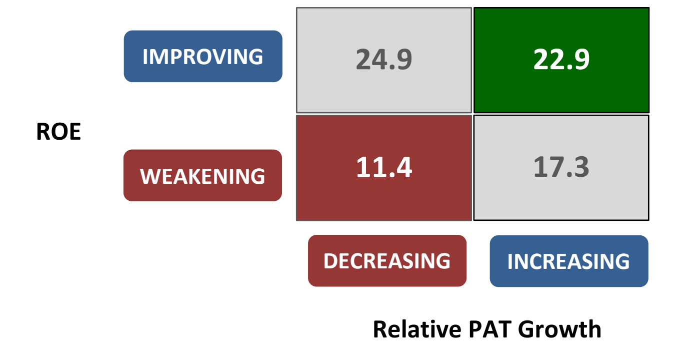
- According to our analysis, for both the tested periods (FY08-13 and FY13-19), companies in the quadrant with improving RoE/growth delivered the best market cap CAGR, while those in the quadrant with declining RoE/earnings CAGR delivered weakest market cap growth.
- We note that in the tested period of FY13-19 the companies with improving RoE and declining PAT growth delivered a slight better market cap return (CAGR24.9%) than the companies with improving RoE and PAT growth (CAGR 22.9%) this is primarily on account of few BFSI companies (HDFC Bank, Bajaj Finance, IndusInd Bank and Cholamandalam finance) where the cumulative PAT growth remained high (FY13-19: 24.6%) but moderated on a high base (FY08-13: 38.4%).

Exhibit 50: RoE and PAT growth framework based on phase I & II – market cap CAGR (%)



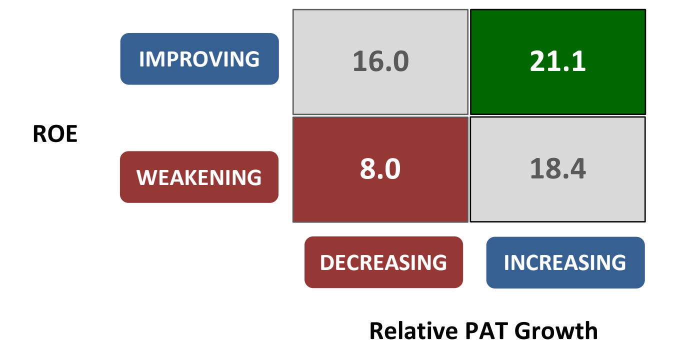
Source: Capitaline, Bloomberg & MOFSL

Exhibit 51: RoE and PAT growth framework based on phase II & III – market cap CAGR (%)



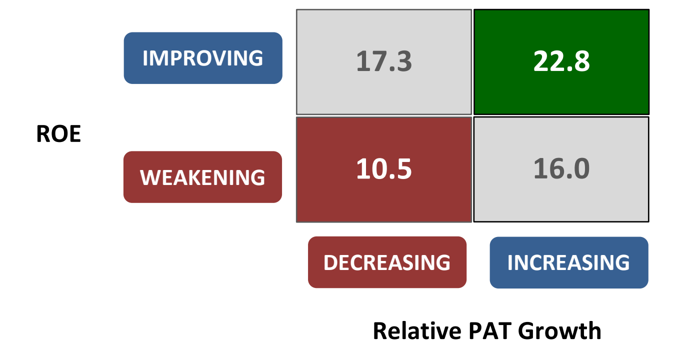
Source: Capitaline, Bloomberg & MOFSL

Exhibit 52: Ex BFSI - RoE and PAT growth framework based on Phase I & II – market cap CAGR (%)



Source: Capitaline, Bloomberg & MOFSL

Exhibit 53: Ex BFSI - RoE and PAT growth framework based on phase II & III – market cap CAGR (%)



Source: Capitaline, Bloomberg & MOFSL

Actionable – companies with improving RoEs and increasing PAT growth

Improvements in RoEs and increase in earnings growth are important factors for market cap creation.

- Our study concludes that an improvement in RoE and earnings growth is key for wealth creation.
- To narrow out and derive a meaningful list of the companies under our MOFSL coverage, we have taken 20% improvement in both RoE (estimated for FY22 over the median of FY16-20) and relative PAT growth (CAGR over FY20-22E v/s CAGR over FY15-20) as the threshold level.
- Our top picks based on the above hypothesis are:
  - **Large-caps:** Axis Bank, Bharti Airtel, Hindustan Unilever, Infosys and Ultratech Cement.
  - **Mid-caps:** Federal Bank, JSW Energy, Tata Global, Trent and Voltas.

Some Interesting thoughts on RoE

Point 1 RoE ex-goodwill: Not a good comparable yardstick

- For a number of acquisitive companies, goodwill comprises a significant proportion of their net worth. Some investors prefer to look at a company's RoE excluding the value of goodwill, primarily because they consider goodwill (its write off) to be non-cash in nature and/or part of sunk cost.
- In the Indian context, goodwill represents the premium that has been paid (either over the book value – as was the case prior to Ind-AS adoption, or the real premium paid for acquiring the ready asset/brand post Ind-AS). Thus, we believe that goodwill is cash expensed in advance to acquire the asset.

We believe RoEs excluding goodwill does not reveal true picture and leads to incorrect comparison of companies

- We believe that looking at a company's RoE excluding goodwill does not reveal the true picture and leads to an incorrect comparison of companies that have invested to grow their business captively with companies that have acquired a ready business to achieve growth.
- It must be noted that companies growing their business captively have made significant investments (in time and resources) to create an asset/brand. Also, excluding the value of goodwill for calculating RoE, in our view, would mean that in the case of acquiring companies, the upside in profits due to their acquisitions has been factored in after ignoring the cost incurred to acquire the asset.

Exhibit 54: Large caps with goodwill more than 5% of net worth (INR b)

Company	Goodwill	% of NW
UPL	150.5	103%
Godrej Consumer	49.2	68%
Cadila Healthcare	52.9	51%
Bharti Airtel	332.6	47%
Ambuja Cement	78.8	35%
Hindalco Inds	185.7	32%
Grasim Inds	179.7	32%
HCL Technologies	90.6	22%
Piramal Enterp	59.4	22%
Motherson Sumi	22.1	20%
Wipro	113.2	20%
Cipla	28.7	19%
Lupin	23.8	17%
Marico	5.0	17%
Sun Pharma.Inds	59.6	14%
Tech Mahindra	28.2	14%
Adani Ports	32.7	13%
Oracle Fin.Serv	6.1	12%
Berger Paints	2.7	11%
L & T Infotech	4.9	10%
Havells India	3.2	8%
Torrent Pharma.	3.3	7%
O N G C	140.9	6%
Aurobindo Pharma	8.3	6%
Dabur India	3.4	6%
Tata Steel	40.0	6%
Infosys	35.4	5%
Zee Entertainmen	5.3	5%
M & M	20.7	5%

Source: Capitaline, Bloomberg & MOFSL

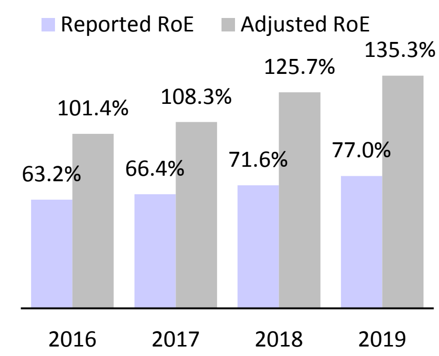
Point 2 Can a change in accounting treatment materially impact return ratios? YES!

Change in accounting ratios can impact return ratios significantly

- RoE of high-dividend-paying defensives sectors such as Technology and Consumer declined by 300bp and 610bp, respectively, over FY15-19, despite a marginal contraction (Technology) and expansion (Consumer) in their NP margins.
- We believe that the decline in asset turns can be primarily attributed to a change in the dividend accounting policy post the implementation of Ind-AS, which requires companies to make provisions for dividends in the accounting year in which it was approved during the AGM. This is unlike the previous accounting standard that mandated companies to provide for dividends in the same year for which the dividends pertained. This led to a temporary postponement of dividend provisions in FY16, resulting in a sharp increase in net assets and net worth compared to the previous year.

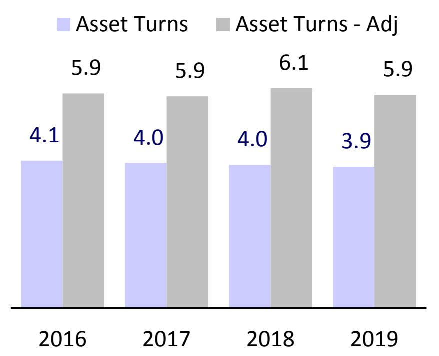
Case Study: HUL – we have adjusted dividend for FY16-19 according to the erstwhile accounting standard by adjusting dividend in net worth and increasing provision in the year of dividend declaration (and not in the year of the dividend's AGM approval as required by Ind-AS). This resulted in higher asset turns and financial leverages, and consequently, an increase in RoE. In FY19, adjusted RoE stood at a high of 135.3% versus reported RoE of 77.0%.

Exhibit 55: Adj. RoE climbs higher as…



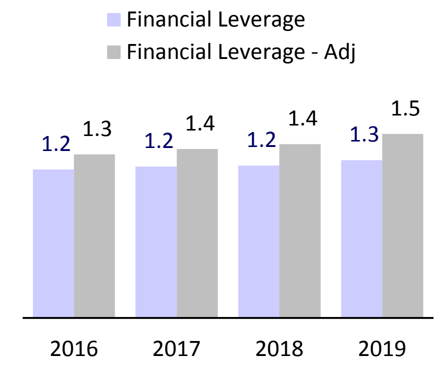
Source: Capitaline, MOFSL

Exhibit 56: …asset turns increase and…



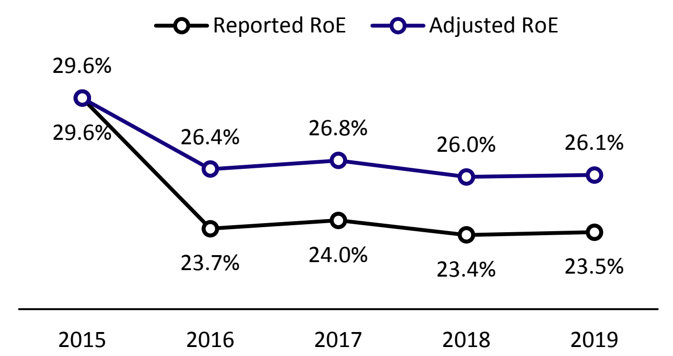
Source: Capitaline, MOFSL

Exhibit 57: …so does financial leverage



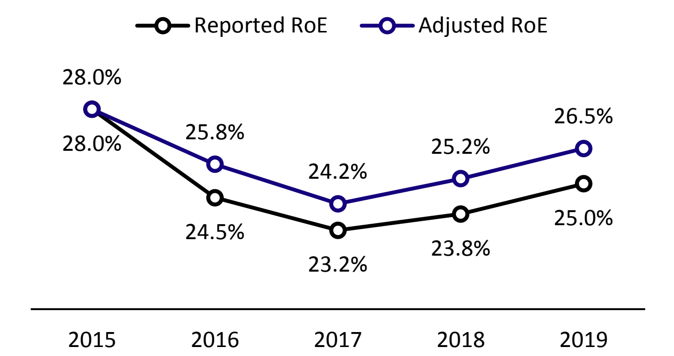
Source: Capitaline, MOFSL

Exhibit 58: Adj. RoE for consumer sectors higher…



Source: Capitaline, MOFSL

Exhibit 59: …same is the case for Technology



*Reported and adjusted RoE is calculated on closing new worth

Source: Capitaline, MOFSL

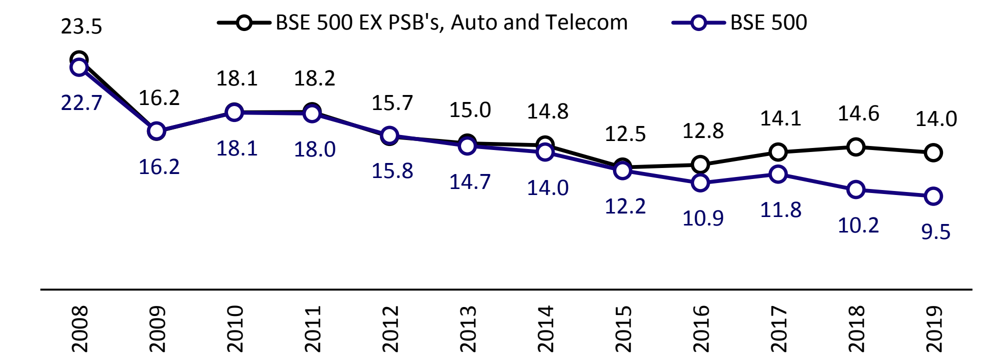
ANNEXURE 1

Divergent trend of sectoral RoE: 2015-2019

- Index RoE has been on a downtrend over the past few years – from 22.7% in FY08 to 9.5% in FY19. However, we believe one should look at sectorial RoE to assess the macro picture.
- From FY15, some sectors showed signs of a recovery with RoE of
  - Metals increasing from 4.1% in FY15 to 16.2% in FY19 – contributing 0.9% of BSE500 index RoE improvement over FY15-19, primarily driven by rising global metal prices.
  - Oil & Gas up from 10.5% to 13.9% – contributing 0.6% of index RoE improvement due to price deregulation, adding significantly to incremental profit pool of OMCs.
  - Capital goods increasing to 16.4% from 4.5% in FY15 with 0.4% contribution to index RoE improvement.
- However, of the 270bp decline in index RoE over FY15-19, ~250bp was contributed by PSBs, mainly due to the asset quality review in FY16. This process of cleaning the book of banks has increased asset provisioning and ultimately took a toll on profits of various PSBs.
- Automobile also contributed 80bp to the decline in index RoE, with sector RoE down from 20.2% in FY15 to 3.6% in FY19. This was mainly due to the weak operating performance of TAMO (excl. TAMO, auto RoE stood at 17.4%).
- Disruption by Reliance-Jio affected the margins of telecom players across the board. This, along with higher capital expenditures and spectrum charges, dragged RoE of telecom companies from 8.0% to -18.1% in FY19. As a result, index RoE declined by 0.7%.
- Due to significant changes in these sectors, index RoE declined over the period. Excluding PSBs, Auto and Telecom, index RoE was up by nearly 150bp to 14.0% in FY19 from a decade low of 12.5% in FY15, led primarily by an improvement in the profitability margin. NP margin improved to 8.0% in FY19 from 6.9% in FY15. Asset turns declined materially post FY15 but stabilized at 0.51x.
- Further, companies in the high-dividend-paying sectors such as Consumer and Technology were adversely impacted by the implementation of Ind-AS. The structural reform of demonetization in FY17 and the rollout of GST in FY18 led to some temporary hiccups in corporate earnings growth and RoE.

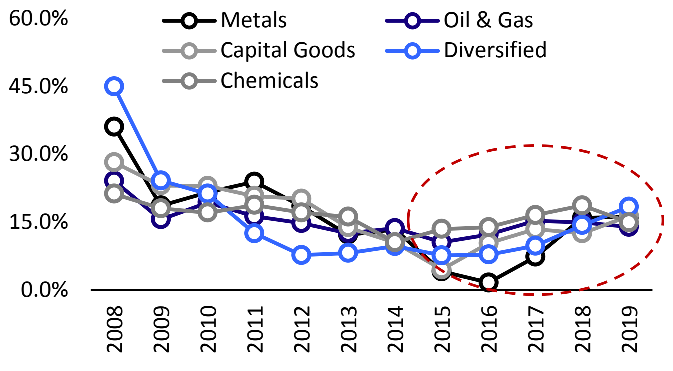
RoE of BSE500 (ex PSB's, Auto and Telecom) increased from 12.5% in FY15 to 14.0% in FY19.

Exhibit 60: RoE of BSE500 companies (ex PSBs, Auto and Telecom) on uptrend post FY15 (%)



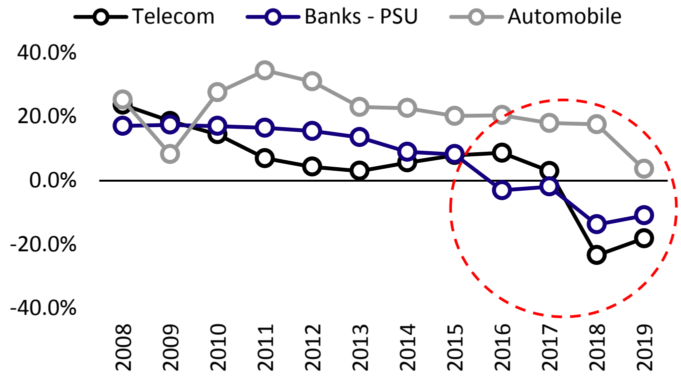
Source: Capitaline, MOFSL

Exhibit 61: Sectors showing RoE improvement post FY15



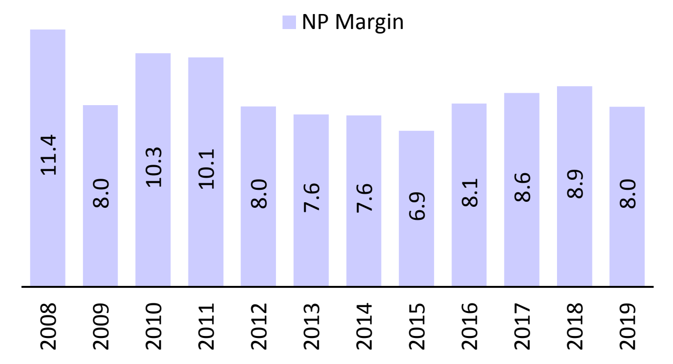
Source: Capitaline, MOFSL

Exhibit 62: RoE dipped for PSBs, Auto and Telecom



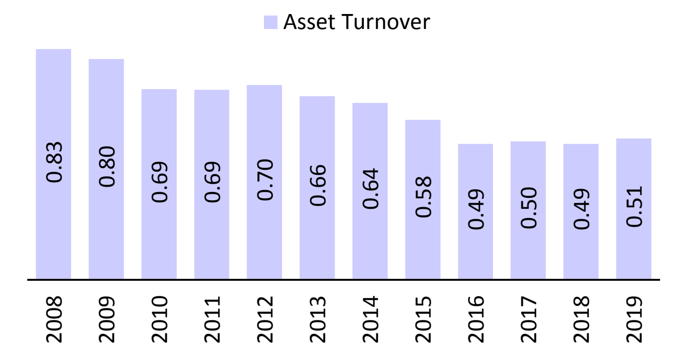
Source: Capitaline, MOFSL

Exhibit 63: Margins – key driver of RoE improvement (%)...



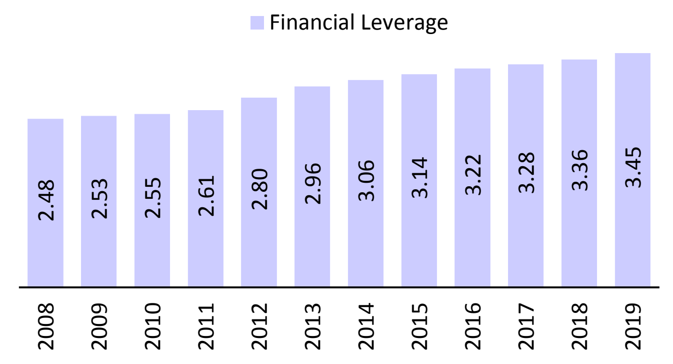
Source: MOFSL

Exhibit 64: ...asset turn (x) stabilizes (BSE500 Ex PSB, auto, Tele)



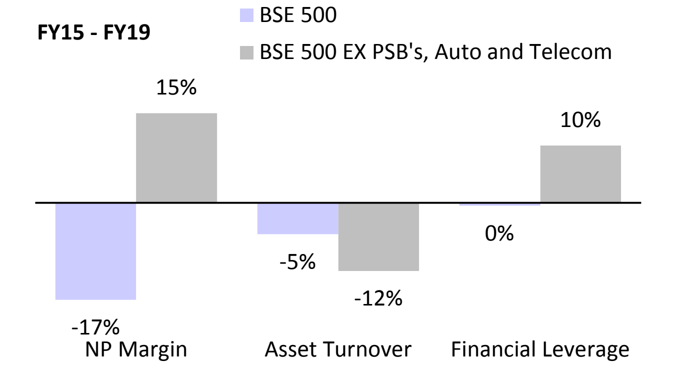
Source: MOFSL

Exhibit 65: Leverage continues to rise (x)



Source: Capitaline, MOFSL

Exhibit 66: Profitability improvement driven by NP margin



Source: Capitaline, MOFSL

Global Cyclicals witness significant RoE improvement and drive index RoE

RoE of oil and gas increased by 340bps to 13.9% and metals by 1210bps to 16.2% over FY15-19

- Over FY15-19, Global Cyclicals – Oil & Gas and Metals – witnessed a sharp improvement in RoE, led by a rise in their profitability as the cycle turned favorable. Also, as these sectors are heavyweights, they contributed significantly to overall index RoE improvement.
- RoE of Oil & Gas increased by 340bp to 13.9% and of Metals by 1,210bp to 16.2% off a low base. Accordingly, in FY19, RoE contribution of Oil & Gas and Metals increased to 2.3% (FY15: 1.7%) and 1.3% (FY15: 0.4%), respectively.

- Also, Capital Goods RoE improved to 16.4% in FY19 from 4.5% in FY15, and its contribution to index RoE increased to 0.6% from merely 0.2%. Other sectors witnessing an RoE improvement were Chemical, Real estate and Diversified.

RoEs of Defensives/Domestic Cyclicals decline

RoE of telecom and healthcare companies declined by 26.0% and 9.3% respectively over FY15-19

- Over FY15-19, most companies in Defensives and Domestic Cyclicals witnessed a decline in RoE, primarily due to a contraction in the NP margin.
- Telecom and Healthcare RoE declined by 26% and 9.3%, respectively, primarily due to rising competitiveness in these sectors.
- This was followed by Consumer sector, where RoE declined 6.7% despite better profitability. A similar trend was observed in Technology.
- Contribution of Domestic Cyclicals and Defensives (which witnessed an RoE decline) to index RoE decreased to 4.8% in FY19 from 6.3% in FY15.

Exhibit 67: Cyclical sectors contributed for RoE improvement over FY15-19 (%)

Sector	FY15 ROE	FY15 ROE Contribution	FY19 ROE	FY19 ROE Contribution	Change in ROE over FY15 - FY19	Change in Contribution to Index RoE
Global Cyclical		**2.2**		**3.6**		
Metals	4.1	0.4	16.2	1.3	12.1	0.9
Oil & Gas	10.5	1.7	13.9	2.3	3.4	0.6
Domestic Cyclicals		**2.5**		**2.0**		
Automobiles	20.2	1.1	3.6	0.2	-16.6	-0.8
Capital Goods	4.5	0.2	16.4	0.6	11.9	0.4
Chemicals	13.5	0.2	14.9	0.2	1.4	0.1
Diversified	7.6	0.0	18.4	0.0	10.8	0.0
Infrastructure	-8.3	-0.1	-10.2	-0.1	-2.0	0.0
Misc	8.5	0.3	11.2	0.4	2.7	0.1
Real Estate	4.4	0.1	7.6	0.1	3.2	0.0
Retail	19.7	0.0	17.5	0.0	-2.2	0.0
Utilities	9.7	0.7	8.4	0.5	-1.3	-0.2
Defensive		**3.8**		**2.8**		
Cement	11.0	0.2	9.8	0.2	-1.2	0.0
Consumer	31.6	0.8	24.9	0.8	-6.7	0.0
Healthcare	20.5	0.7	11.3	0.5	-9.3	-0.2
Media	14.6	0.1	8.6	0.1	-6.0	0.0
Retail	24.0	0.1	15.4	0.1	-8.6	0.0
Technology	29.0	1.6	26.0	1.6	-3.0	-0.1
Telecom	8.0	0.2	-18.1	-0.4	-26.0	-0.7
Textiles	9.8	0.1	8.5	0.1	-1.3	0.0
BFSI		**3.8**		**1.1**		
Banks - Private Sector	16.9	1.2	9.7	0.9	-7.1	-0.2
Banks - Public Sector	8.3	1.2	-10.9	-1.4	-19.2	-2.5
Insurance	12.8	0.2	12.5	0.2	-0.2	-0.1
NBFC	16.7	1.2	14.7	1.4	-2.0	0.1
Grand Total	**12.2**	**12.2**	**9.5**	**9.5**	**-2.7**	**-2.7**

Source: Capitaline, MOFSL

ANNEXURE 2

Rising era followed by downward era

Rising Era: 2003-08: Contribution of Global Cyclicals lifts index RoE; improvement across sectors

Global cyclical sectors contributed 6.9% out of 16.8% of index RoE in FY03 and 8.6% out of 22.7% in FY08

- Over the period of upcycle, the contribution of Global Cyclicals to index RoE was the highest and increased from 6.9% (of 16.8% index RoE) in FY03 to 8.6% (of 22.7% index RoE) in FY08.
- Oil & Gas contributed ~6.3% in FY03 and 4.9% in FY08, despite a decline of 200bp in the sector's RoE to 24.1% in FY08. On the other hand, the contribution of Metals sector to the index RoE increased from 0.6% in FY03 to 3.7% in FY08.
- Of the increase of 5.9% in the index RoE for the period, the contribution of Metals was at 3.1% as the sector's RoE rose from 9.1% in FY03 to 36.1% in FY08.
- Domestic Cyclicals' contribution to RoE increased to 5.1% in FY08 from 3.1% in FY03, with a meaningful rise in the contribution of Capital Goods (RoE up from 14.1% to 28.2%). Real Estate RoE increased significantly to 48.6% from 7.1%, leading to an increase in its contribution to 0.8% from negligible in FY03.
- Defensives' contribution rose the highest by 250bp to 4.8% in FY08 from 2.3% in FY03, led by Technology (RoE up 1,020bp), Telecom (RoE up to 23.7% from -1.4% in FY03) and Cement (RoE up to 39.2% from 3.2% in FY03).
- On a contrary, BFSI's RoE contribution declined from 4.5% in FY03 to 4.2% in FY08. RoE of private sector banks and public sector banks declined by 440bp and 350bp to 13.1% and to 17.1%, respectively, over the same period.

Exhibit 68: Most sectors witnessed RoE improvement over FY03-08 (%)

Particulars	FY03 ROE	FY03 ROE Contribution	FY08 ROE	FY08 ROE Contribution	Change in ROE over FY03 - FY08	Change in Contribution to Index RoE
Global Cyclical		**6.9**		**8.6**		**1.7**
Metals	9.1	0.6	36.1	3.7	27.0	3.1
Oil & Gas	26.1	6.3	24.1	4.9	-2.0	-1.4
Domestic Cyclical		**3.1**		**5.1**		**2.0**
Automobiles	14.1	0.5	25.3	0.9	11.2	0.4
Capital Goods	14.1	0.6	28.2	1.1	14.1	0.5
Chemicals	5.4	0.1	21.3	0.3	15.9	0.2
Diversified	13.0	0.0	45.0	0.1	32.0	0.1
Infrastructure	13.8	0.1	13.7	0.1	-0.1	0.1
Misc	7.6	0.3	13.3	0.5	5.8	0.2
Real Estate	7.1	0.0	48.6	0.8	41.4	0.8
Retail	NA	NA	29.3	0.0		0.0
Utilities	10.2	1.5	11.7	1.3	1.4	-0.3
Defensive		**2.3**		**4.8**		**2.5**
Cement	3.2	0.0	39.2	0.6	36.0	0.5
Consumer	28.1	1.0	37.1	0.9	9.1	-0.2
Healthcare	24.5	0.5	26.7	0.7	2.2	0.2
Media	7.2	0.1	8.4	0.0	1.2	0.0
Retail	12.7	0.0	38.3	0.0	25.6	0.0
Technology	23.8	0.6	34.0	1.3	10.2	0.8
Telecom	-1.4	0.0	23.7	1.0	25.1	1.1
Textiles	10.9	0.1	24.0	0.3	13.1	0.1
BFSI		**4.5**		**4.2**		**-0.3**
Banks - Pvt	17.5	0.5	13.1	0.7	-4.4	0.2
Banks – PSU	20.6	3.0	17.1	2.2	-3.5	-0.8
Insurance	5.0	0.1	6.5	0.2	1.5	0.1
NBFC	15.1	0.9	19.9	1.1	4.8	0.2
Grand Total	**16.8**	**16.8**	**22.7**	**22.7**	**5.9**	**5.9**

* RoE Contribution = Net Profit of Sector / Index Average Net Worth

Source: Capitaline, MOFSL

Downtrend Era: 2008-19: Decline in RoE of heavyweights – O&G, Metals and PSBs – takes a toll on index RoE

Three sectors (Global cyclical, PSBs and Telecom) accounted for 1000bps (out of 1320bps) decline in index RoE over FY08-19

- Over the period, RoE of heavyweights such as Oil & Gas and PSBs softened, leading to a fall in index RoE. Despite this, Oil & Gas remains the primary contributor to BSE500 RoE – at 2.3% in FY19 (of 9.5% index RoE) and 4.9% in FY08 (of 22.7% index RoE).
- Of the 1,320bp decline in RoE, three sectors accounted for 1,000bp (Global Cyclicals – 500bp; PSBs – 360bp; Telecom – 140bp).
- Rising competitive pressure in Telecom sector significantly dented its RoE and its contribution to index RoE. Telecom drove a 1.4% decline in index RoE.
- All sectors, except for Insurance and Media, witnessed softening in RoE. However, their contribution to index RoE was mixed.

Exhibit 69: RoE declines across sectors (FY08-19, %)

Particulars	FY08 ROE	FY08 ROE Contribution	FY19 ROE	FY19 ROE Contribution	Change in ROE (FY08-FY19)	Change in Contribution to Index RoE
Global Cyclical		**8.6**		**3.6**		**-5.0**
Metals	36.1	3.7	16.2	1.3	-19.9	-2.4
Oil & Gas	24.1	4.9	13.9	2.3	-10.2	-2.6
Domestic Cyclicals		**5.1**		**2.0**		**-3.1**
Automobiles	25.3	0.9	3.6	0.2	-21.7	-0.6
Capital Goods	28.2	1.1	16.4	0.5	-11.8	-0.6
Chemicals	21.3	0.3	14.9	0.2	-6.4	-0.1
Diversified	45.0	0.1	18.4	0.0	-26.6	-0.1
Infrastructure	13.7	0.1	-10.2	-0.1	-23.9	-0.2
Misc	13.3	0.5	11.2	0.4	-2.1	-0.1
Real Estate	48.6	0.8	7.6	0.1	-40.9	-0.7
Retail	29.3	0.0	17.5	0.0	-11.8	0.0
Utilities	11.7	1.3	8.4	0.5	-3.3	-0.8
Defensive		**4.8**		**2.8**		**-2.0**
Cement	39.2	0.6	9.8	0.2	-29.4	-0.4
Consumer	37.1	0.9	24.9	0.8	-12.2	-0.1
Healthcare	26.7	0.7	11.3	0.5	-15.4	-0.2
Media	8.4	0.0	8.6	0.1	0.2	0.0
Retail	38.3	0.0	15.4	0.1	-22.9	0.0
Technology	34.0	1.3	26.0	1.6	-8.0	0.2
Telecom	23.7	1.0	-18.1	-0.4	-41.8	-1.4
Textiles	24.0	0.3	8.5	0.1	-15.5	-0.2
BFSI		**4.2**		**1.1**		**-3.1**
Banks - Private Sector	13.1	0.7	9.7	0.9	-3.3	0.2
Banks - Public Sector	17.1	2.2	-10.9	-1.4	-28.0	-3.6
Insurance	6.5	0.2	12.5	0.2	6.0	0.0
NBFC	19.9	1.1	14.7	1.4	-5.1	0.3
Grand Total	**22.7**	**22.7**	**9.5**	**9.5**	**-13.2**	**-13.2**

Source: Capitaline, MOFSL

ANNEXURE 3 Sector-wise DuPont analysis over the years

Exhibit 70: Defensives

	Consumer				Technology				Healthcare				Utilities			
Year	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)
2003	28.1	10.9	1.84	1.40	23.8	18.9	1.22	1.03	24.5	12.5	1.35	1.45	10.2	18.9	0.33	1.62
2004	29.8	11.4	1.85	1.42	28.6	19.8	1.35	1.07	25.3	13.3	1.32	1.44	12.0	25.4	0.29	1.61
2005	30.8	11.6	1.83	1.45	40.7	19.9	1.91	1.07	23.9	13.8	1.16	1.50	12.2	24.6	0.31	1.60
2006	30.8	11.4	1.96	1.38	38.1	20.0	1.83	1.04	24.8	14.5	1.03	1.67	11.0	22.5	0.30	1.62
2007	35.0	12.7	1.92	1.43	40.0	20.6	1.86	1.04	28.7	16.2	1.06	1.67	11.9	20.1	0.36	1.67
2008	37.1	13.1	1.92	1.47	34.0	18.8	1.65	1.10	26.7	17.9	0.96	1.56	11.7	20.2	0.34	1.68
2009	36.3	11.7	2.17	1.43	33.2	18.3	1.57	1.16	16.4	10.5	0.97	1.60	10.9	17.3	0.36	1.77
2010	33.5	11.3	2.12	1.39	31.1	19.9	1.34	1.17	18.5	12.4	0.92	1.62	12.6	19.5	0.35	1.86
2011	32.8	10.8	2.14	1.42	29.6	19.6	1.31	1.15	40.7	31.8	0.86	1.49	12.0	18.4	0.33	1.99
2012	32.4	10.5	2.10	1.47	28.3	18.2	1.37	1.14	16.9	13.4	0.85	1.49	10.0	13.2	0.34	2.24
2013	33.4	11.1	2.05	1.47	29.4	19.1	1.37	1.12	20.0	15.0	0.86	1.55	10.7	13.2	0.34	2.43
2014	32.6	11.1	2.04	1.44	32.0	20.0	1.46	1.10	19.3	13.8	0.91	1.54	9.5	11.4	0.33	2.52
2015	31.6	11.2	2.05	1.38	29.0	18.9	1.41	1.09	20.5	14.1	0.95	1.53	9.7	11.7	0.32	2.62
2016	26.6	11.2	1.80	1.32	27.2	18.5	1.33	1.10	18.1	13.4	0.86	1.57	9.8	11.3	0.31	2.75
2017	25.5	12.1	1.64	1.28	24.8	17.9	1.26	1.10	16.7	13.6	0.76	1.62	8.6	10.0	0.30	2.83
2018	24.9	12.6	1.57	1.26	24.0	17.8	1.22	1.10	11.8	10.8	0.67	1.64	9.9	12.0	0.29	2.84
2019	24.9	12.9	1.55	1.25	26.0	17.3	1.37	1.10	11.3	10.2	0.66	1.65	8.4	9.6	0.30	2.88

Source: Capitaline, MOFSL

Exhibit 71: Domestic Cyclicals

	Automobile				Capital Goods				Cement				Diversified			
Year	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	%	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)
2003	14.1	4.2	1.83	1.84	14.1	6.4	1.47	1.51	3.2	1.5	0.71	3.07	13.0	3.6	1.40	2.54
2004	21.6	6.1	2.14	1.65	18.7	7.9	1.73	1.37	9.7	4.1	0.87	2.72	16.0	4.6	1.50	2.30
2005	26.7	7.1	2.35	1.59	23.7	8.9	2.04	1.31	14.7	7.0	0.90	2.32	22.0	6.1	1.67	2.16
2006	28.8	7.9	2.22	1.64	28.5	10.2	2.17	1.29	14.6	7.9	0.87	2.12	18.3	5.0	1.72	2.15
2007	25.9	6.9	2.17	1.73	31.6	10.9	2.12	1.36	51.7	20.6	1.45	1.73	24.3	6.7	1.58	2.32
2008	25.3	6.8	2.04	1.83	28.2	10.0	1.89	1.49	39.2	21.9	1.20	1.50	45.0	15.7	1.32	2.16
2009	8.2	2.0	1.94	2.15	23.1	8.0	1.78	1.62	25.4	16.3	1.08	1.44	24.2	9.3	1.32	1.98
2010	27.6	6.1	1.99	2.26	23.0	9.1	1.56	1.62	24.3	15.8	1.07	1.43	21.3	9.3	1.20	1.90
2011	34.5	7.8	2.14	2.08	20.8	8.6	1.37	1.76	14.0	9.9	0.96	1.47	12.5	5.6	1.14	1.95
2012	31.0	7.1	2.11	2.06	20.1	8.3	1.26	1.94	16.4	10.6	1.03	1.51	7.7	3.4	1.06	2.12
2013	23.0	5.7	1.92	2.11	13.8	6.0	1.15	1.99	15.8	10.3	1.02	1.51	8.1	3.4	1.08	2.24
2014	22.7	6.2	1.80	2.03	10.4	4.9	1.03	2.08	10.5	7.5	0.92	1.51	9.7	3.8	1.12	2.25
2015	20.2	5.8	1.72	2.03	4.5	2.2	0.92	2.17	11.0	7.7	0.94	1.54	7.6	3.2	1.07	2.23
2016	20.5	6.4	1.62	1.97	10.3	5.4	0.90	2.14	9.9	7.6	0.86	1.52	7.8	3.9	0.89	2.27
2017	18.0	6.2	1.48	1.95	13.4	6.8	0.96	2.04	10.1	7.7	0.89	1.48	9.7	5.4	0.78	2.28
2018	17.6	6.3	1.46	1.93	12.5	6.4	0.96	2.03	9.2	6.8	0.89	1.52	14.3	9.7	0.69	2.14
2019	3.6	1.3	1.42	1.96	16.4	7.9	1.00	2.06	9.8	6.8	0.92	1.57	18.4	12.6	0.73	2.00

Source: Capitaline, MOFSL

Exhibit 72: Global Cyclicals

Year	Oil & Gas				Metals			
	ROE %	NP Margi%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margi%	Asset turn (x)	Fin Leverage (x)
2003	26.1	8.4	1.91	1.63	9.1	5.7	0.73	2.19
2004	24.9	8.4	1.89	1.57	28.9	16.5	0.90	1.96
2005	24.8	8.0	2.05	1.52	40.5	22.2	1.13	1.62
2006	21.7	6.7	2.13	1.52	36.7	18.3	1.36	1.47
2007	23.7	7.1	2.17	1.55	37.8	20.1	1.23	1.53
2008	24.1	7.5	2.05	1.57	36.1	13.5	1.54	1.74
2009	15.6	4.9	1.94	1.63	18.6	7.6	1.31	1.85
2010	19.3	7.4	1.62	1.61	21.6	11.1	1.08	1.80
2011	16.3	5.6	1.81	1.61	23.9	13.2	1.01	1.79
2012	14.8	4.3	2.04	1.69	18.5	10.8	0.94	1.83
2013	12.5	3.5	2.02	1.76	12.2	8.0	0.81	1.88
2014	13.6	3.9	1.93	1.84	13.4	8.3	0.78	2.07
2015	10.5	3.6	1.60	1.86	4.1	2.6	0.70	2.26
2016	12.2	5.9	1.17	1.76	1.6	1.1	0.64	2.35
2017	15.3	6.9	1.27	1.73	7.3	4.3	0.72	2.39
2018	14.9	6.2	1.37	1.75	15.9	8.2	0.86	2.28
2019	13.9	5.0	1.57	1.78	16.2	7.9	0.95	2.17

Exhibit 73: Telecom & Media sector

Year	Telecom				Media			
	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)
2003	-1.4	-1.5	0.56	1.67	7.2	17.2	0.34	1.23
2004	-2.9	-2.8	0.55	1.87	7.8	13.5	0.47	1.24
2005	12.6	9.2	0.70	1.97	10.4	13.8	0.60	1.27
2006	4.1	3.9	0.66	1.61	7.6	7.7	0.73	1.35
2007	20.9	14.7	0.86	1.65	7.4	7.5	0.73	1.35
2008	23.7	19.4	0.66	1.84	8.4	7.9	0.80	1.34
2009	18.6	16.9	0.59	1.86	6.8	5.7	0.80	1.47
2010	14.4	15.0	0.57	1.70	13.8	12.6	0.77	1.42
2011	7.0	6.5	0.56	1.93	17.3	14.1	0.92	1.34
2012	4.3	3.6	0.51	2.34	14.9	10.7	0.97	1.43
2013	3.0	2.2	0.55	2.47	16.0	12.2	0.91	1.44
2014	5.6	3.9	0.57	2.53	14.9	11.5	0.93	1.39
2015	8.0	4.9	0.61	2.67	14.6	11.3	0.95	1.36
2016	8.7	5.5	0.56	2.84	18.3	15.5	0.87	1.36
2017	3.0	2.3	0.44	2.91	20.6	17.9	0.84	1.37
2018	-23.3	-19.4	0.38	3.19	13.2	13.0	0.77	1.33
2019	-18.1	-14.7	0.34	3.60	8.6	8.1	0.82	1.30

Source: Capitaline, MOFSL

Exhibit 74: BFSI

Year	Banks - Pvt				Banks - PSU				NBFC				Insurance			
	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)
2003	17.5	12.8	0.10	13.70	20.6	11.4	0.10	18.48	15.1	16.6	0.17	5.33	5.0	8.0	0.63	1.00
2004	21.6	17.4	0.09	14.03	23.2	15.4	0.09	17.64	7.7	8.4	0.16	5.65	11.7	21.7	0.54	1.00
2005	16.2	16.3	0.07	13.24	17.9	12.5	0.08	16.82	17.0	17.7	0.16	6.01	3.3	7.8	0.43	1.00
2006	15.1	16.2	0.08	11.94	15.0	12.0	0.08	16.11	21.0	21.3	0.17	5.91	5.1	15.0	0.34	1.00
2007	14.4	13.3	0.09	12.74	15.9	12.2	0.08	16.19	20.1	20.2	0.18	5.56	9.3	28.2	0.33	1.00
2008	13.1	12.7	0.09	10.99	17.1	12.6	0.09	16.02	19.9	23.3	0.17	5.15	6.5	18.3	0.36	1.00
2009	11.3	12.0	0.10	9.85	17.5	12.3	0.09	16.40	13.5	16.9	0.16	5.09	4.5	11.0	0.41	1.00
2010	13.0	17.0	0.08	9.82	17.1	12.7	0.08	17.20	17.7	19.2	0.18	5.18	5.7	14.5	0.39	1.00
2011	14.5	19.5	0.08	9.77	16.5	12.0	0.08	17.37	19.1	20.8	0.17	5.42	1.2	2.8	0.36	1.19
2012	16.0	18.1	0.09	10.08	15.5	10.3	0.09	16.74	17.5	18.7	0.16	5.70	-3.5	-3.6	0.42	2.33
2013	17.0	18.5	0.09	10.03	13.6	9.4	0.09	16.22	18.5	19.0	0.17	5.80	14.5	8.1	0.44	4.03
2014	17.0	19.2	0.09	9.79	9.0	6.4	0.09	16.23	17.2	18.2	0.16	5.90	13.0	8.0	0.36	4.55
2015	16.9	19.8	0.09	9.36	8.3	6.0	0.08	16.30	16.7	16.8	0.16	6.05	12.8	7.0	0.40	4.51
2016	14.5	17.6	0.09	9.19	-3.0	-2.3	0.08	16.31	15.6	15.7	0.16	6.25	10.8	8.1	0.29	4.63
2017	13.0	16.7	0.08	9.18	-1.9	-1.6	0.07	16.14	14.9	14.5	0.16	6.38	13.6	5.9	0.41	5.63
2018	10.9	14.9	0.08	9.30	-13.7	-12.3	0.07	16.10	13.2	12.7	0.16	6.37	16.4	5.9	0.39	7.03
2019	9.7	12.5	0.08	9.47	-10.9	-9.9	0.07	15.67	14.7	14.4	0.16	6.47	12.5	4.2	0.39	7.61

Source: Capitaline, MOFSL

Exhibit 75: Infrastructure, Chemicals and Textile

	Infrastructure				Chemicals				Textile			
Year	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)
2003	13.8	4.6	1.21	2.50	5.4	2.5	1.07	2.05	10.9	6.1	0.99	1.79
2004	14.9	5.7	0.92	2.85	12.9	5.2	1.29	1.95	18.9	10.3	1.07	1.72
2005	14.5	5.2	0.87	3.22	20.9	8.1	1.43	1.79	18.5	7.9	1.28	1.83
2006	22.0	9.8	0.70	3.23	21.8	9.0	1.41	1.72	20.6	9.5	1.13	1.93
2007	16.0	7.7	0.66	3.14	18.3	7.1	1.44	1.79	25.9	11.6	1.13	1.98
2008	13.7	9.4	0.52	2.80	21.3	8.2	1.40	1.85	24.0	11.0	1.07	2.05
2009	8.3	6.3	0.45	2.93	18.0	5.9	1.64	1.85	11.2	5.6	0.98	2.06
2010	11.5	8.1	0.39	3.66	17.1	7.7	1.22	1.81	21.1	10.5	0.97	2.07
2011	8.6	5.8	0.37	4.08	18.8	8.1	1.31	1.78	16.7	8.1	1.02	2.03
2012	4.9	3.2	0.35	4.51	17.1	6.8	1.34	1.87	13.7	6.5	1.07	1.97
2013	7.1	4.2	0.32	5.33	16.1	6.7	1.23	1.98	13.2	6.5	1.03	1.99
2014	2.4	1.4	0.29	5.98	10.5	4.2	1.23	2.01	10.8	5.2	1.04	2.01
2015	-8.3	-5.0	0.27	6.06	13.5	5.2	1.29	2.01	9.8	4.7	1.04	2.00
2016	-11.6	-7.0	0.27	6.07	13.9	6.0	1.15	2.01	11.8	6.0	0.99	1.96
2017	-25.4	-12.5	0.33	6.22	16.5	8.6	1.02	1.89	12.5	7.0	0.97	1.85
2018	-4.6	-2.1	0.37	5.80	18.7	10.2	1.06	1.73	9.2	5.5	0.70	2.41
2019	-10.2	-3.7	0.47	5.80	14.9	8.0	1.03	1.81	8.5	5.0	0.58	2.93

Source: Capitaline, MOFSL

Exhibit 76: Real estate, Retail, Miscellaneous

	Real Estate				Retail				Misc			
Year	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)	ROE %	NP Margin%	Asset turn (x)	Fin Leverage (x)
2003	7.1%	4.8%	0.61	2.41	12.7%	2.7%	1.32	3.63	7.6%	3.4%	1.10	2.01
2004	9.9%	7.2%	0.62	2.22	35.3%	2.2%	4.54	3.53	14.6%	5.1%	1.44	1.97
2005	16.7%	9.1%	0.77	2.40	21.3%	1.2%	4.57	3.76	22.7%	6.7%	1.80	1.88
2006	46.8%	17.6%	0.78	3.39	37.1%	2.2%	4.01	4.24	20.7%	6.7%	1.65	1.86
2007	50.1%	39.0%	0.44	2.91	36.0%	2.3%	2.77	5.63	18.5%	5.4%	1.74	1.97
2008	48.6%	45.9%	0.56	1.89	38.4%	3.2%	3.45	3.50	13.3%	4.8%	1.38	2.02
2009	15.4%	35.9%	0.25	1.70	18.4%	1.7%	4.84	2.20	9.2%	3.4%	1.28	2.14
2010	6.7%	21.2%	0.19	1.69	24.7%	2.1%	5.36	2.14	11.3%	4.2%	1.18	2.26
2011	6.3%	15.9%	0.22	1.76	28.8%	2.8%	5.29	1.92	13.0%	4.9%	1.19	2.23
2012	5.5%	13.3%	0.22	1.86	31.6%	3.3%	5.09	1.90	7.1%	2.7%	1.08	2.49
2013	5.3%	12.4%	0.23	1.87	27.6%	3.2%	5.08	1.69	8.1%	3.3%	0.92	2.66
2014	4.8%	10.1%	0.25	1.88	22.1%	3.2%	4.23	1.63	5.4%	2.1%	1.00	2.59
2015	4.4%	8.7%	0.25	1.99	23.4%	2.7%	5.21	1.64	8.5%	3.2%	1.01	2.64
2016	5.0%	7.6%	0.30	2.19	22.7%	1.3%	10.91	1.62	14.9%	6.5%	0.96	2.38
2017	6.0%	9.5%	0.27	2.31	19.7%	1.0%	11.60	1.63	15.4%	6.4%	1.18	2.04
2018	15.4%	25.0%	0.30	2.07	19.8%	1.7%	7.53	1.59	16.3%	7.0%	1.21	1.92
2019	7.6%	11.6%	0.35	1.89	15.9%	1.6%	6.49	1.52	11.2%	5.1%	1.22	1.80

Source: Capitaline, MOFSL

NOTES

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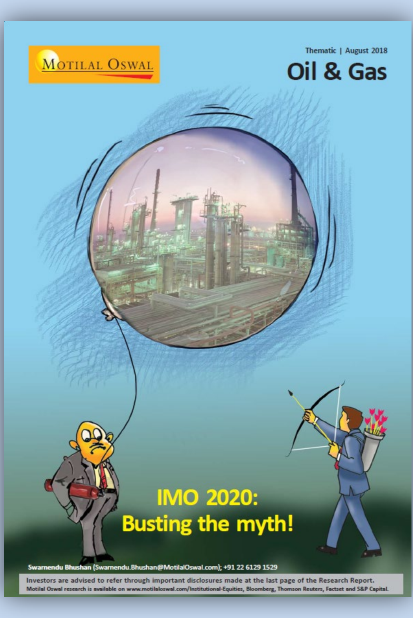

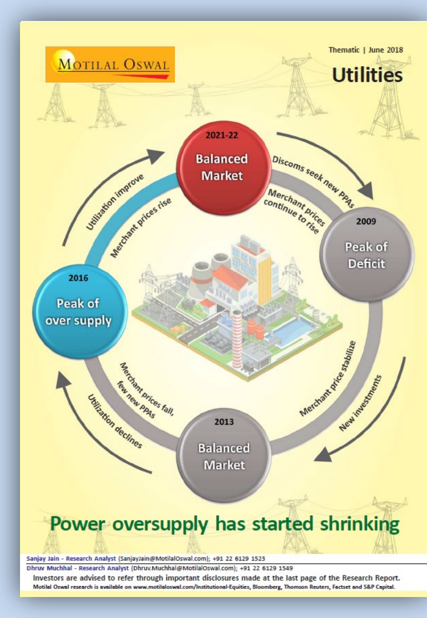

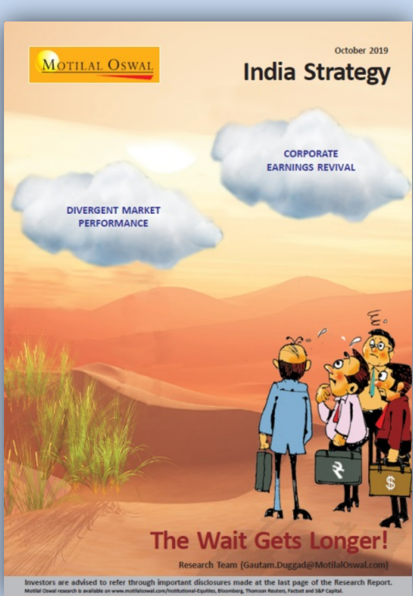

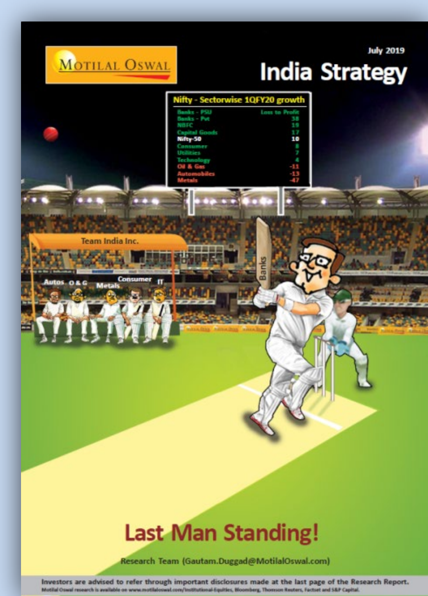

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* MOSL has been amalgamated with Motilal Oswal Financial Services Limited (MOFSL) w.e.f August 21, 2018 pursuant to order dated July 30, 2018 issued by Hon'ble National Company Law Tribunal, Mumbai Bench.