23RD ANNUAL WEALTH CREATION STUDY (2013-2018)

Valuation Insights

What works, What doesn't

HIGHLIGHTS

- The two key drivers of Intrinsic Value are Return on Equity (RoE) and Earnings growth
- Companies create Intrinsic Value only when they earn RoE higher than Cost of Equity
- Low RoE companies must focus on increasing RoE, high RoE companies on increasing growth
- Both high RoE and high Earnings growth are difficult to sustain
- PEG (P/E to Growth ratio) less than 1x is a near-infallible formula for healthy outperformance
- Current market valuations imply robust earnings growth, which remains elusive. Hence, expect market to remain soft

> "In the Bible, it says that love covers a multitude of sins. Well, in the investing field, price covers a multitude of mistakes. For human beings, there is no substitute for love. For investing, there is no substitute for paying the right price - absolutely none."
>
> – Arnold Van Den Berg, Outstanding Investor Digest, April 2004

TOP 10 WEALTH CREATORS (2013-2018)

	THE BIGGEST		THE FASTEST		THE MOST CONSISTENT		
Rank	Company	Wealth Created (INR b)	Company	5-Year Price CAGR (%)	Company	Appeared in WC Study (x)	10-Year Price CAGR (%)
1	HDFC Bank	3,247	Indiabulls Ventures	97	Titan Company	10	33
2	Reliance Industries	3,094	Dalmia Bharat	81	Godrej Consumer	10	33
3	TCS	2,532	TVS Motor	80	Shree Cement	10	31
4	Maruti Suzuki	2,308	HEG	79	Pidilite Industries	10	30
5	Hindustan Unilever	1,883	Sterlite Technologies	75	Maruti Suzuki	10	27
6	HDFC	1,640	Bajaj Finance	73	Marico	10	26
7	Kotak Mahindra Bank	1,345	Motilal Oswal	67	Asian Paints	10	25
8	IOC	1,008	IIFL Holdings	64	HDFC Bank	10	22
9	Larsen & Toubro	990	NBCC	64	Kotak Mahindra Bank	10	21
10	Bajaj Finance	902	Eicher Motors	62	Dabur India	10	20

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Motilal Oswal 23rd Annual Wealth Creation Study

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Abbreviations and Terms used in this report

Abbreviation / Term	Description
2008, 2013, 2018, etc	Reference to years for India are financial year ending March, unless otherwise stated
Avg	Average
CAGR	Compound Annual Growth Rate
L to P / P to L	Loss to Profit / Profit to Loss. In such cases, calculation of PAT CAGR is not possible
INR b	Indian Rupees in billion
Price CAGR	In the case of aggregates, Price CAGR refers to Market Cap CAGR
WC	Wealth Created
Wealth Created	Increase in Market Capitalization over the last 5 years, duly adjusted for corporate events such as fresh equity issuance, mergers, demergers, share buybacks, etc.

Note: Capitaline database has been used for this study. Source of all exhibits is MOSL analysis, unless otherwise stated

Wealth Creation Study

Objective, Concept & Methodology

Objective

The foundation of Wealth Creation is to buy businesses at a price substantially lower than their "intrinsic value" or "expected value". The lower the market value compared to the intrinsic value, the higher is the margin of safety. Every year, as in the past 23 years, we endeavor to cull out the characteristics of businesses that create value for their shareholders.

As Phil Fisher says, "*It seems logical that even before thinking of buying any common stock, the first step is to see how money has been most successfully made in the past.*" Our Wealth Creation Studies are attempts to study the past as a guide to the future, and gain insights into the various dynamics of stock market investing.

Concept & Methodology

Wealth Creation is the process by which a company enhances the market value of the capital entrusted to it by its shareholders. It is a basic measure of success for any commercial venture. For listed companies, we define Wealth Created as the difference in market capitalization over a period of last five years, duly adjusted for corporate events such as fresh equity issuance, mergers, demergers, share buybacks, etc.

We rank the top 100 companies in descending order of absolute Wealth Created, **subject to the company's stock price at least outperforming the benchmark index (BSE Sensex in our case).** These top 100 Wealth Creators are also ranked according to speed (i.e. price CAGR during the period under study).

Report structure

We present the 2013-2018 Wealth Creation Study highlights in pages 2-3. The detailed findings are presented in pages 32-47. Appendix 1 (pages 48-49) ranks the top 100 Wealth Creators by size, and Appendix 2 (pages 50-51) ranks the same 100 Wealth Creators by speed.

This year's theme study titled "**Valuation Insights – What works, what doesn't**" is featured in pages 4-31.

Wealth Creation 2013-2018

Highlights

HDFC Bank is the Biggest Wealth Creator for the first time ever

- After consistently hugging the second and third rank for the last 6 studies, **HDFC Bank** has finally broken through to emerge the biggest Wealth Creator over 2013-18.

Exhibit 1 **Top 10 Biggest Wealth Creators (2013-18)**

Rank	Company	Wealth Created		CAGR (%)		P/E (x)		RoE (%)	
		INR b	% share	Price	PAT	2018	2013	2018	2013
1	HDFC Bank	3,247	7.2	25	22	27	22	17	19
2	Reliance Inds	3,094	6.9	18	13	15	13	12	11
3	TCS	2,532	5.6	13	13	21	22	30	36
4	Maruti Suzuki	2,308	5.1	47	25	41	17	15	11
5	Hind. Unilever	1,883	4.2	23	10	55	31	72	113
6	HDFC	1,640	3.7	17	16	22	19	16	21
7	Kotak Mah. Bank	1,345	3.0	26	23	32	22	12	14
8	IOC	1,008	2.2	20	38	8	15	19	7
9	Larsen & Toubro	990	2.2	17	14	21	18	16	13
10	Bajaj Finance	902	2.0	73	35	38	10	16	18
Total of Top 10		**18,948**	**42**	**21**	**18**	**21**	**18**	**17**	**15**
Total of Top 100		**44,883**	**100**	**24**	**19**	**22**	**18**	**16**	**14**

Indiabulls Ventures is the Fastest Wealth Creator

- **Indiabulls Ventures** has emerged the Fastest Wealth Creator, with 2013-18 stock price multiplier of 30x (97% CAGR).
- INR 100,000 invested equally in 2013 in top 10 Fastest Wealth Creators would have grown to almost INR 1.7 million in 2018, delivering a return CAGR of 75%. Over the same period, INR 100,000 invested in the Sensex would have grown to only INR 175,000 (12% return CAGR).

Exhibit 2 **Top 10 Fastest Wealth Creators (2013-18)**

Rank	Company	Price Appn.	CAGR (%)		Mkt Cap (INR b)		P/E (x)	
		(x)	Price	PAT	2018	2013	2018	2013
1	Indiabulls Ventures	30	97	30	127	2	54	3
2	Dalmia Bharat	19	81	23	257	12	48	6
3	TVS Motor	19	80	40	293	15	44	12
4	HEG	19	79	48	127	7	12	4
5	Sterlite Technologies	17	75	67	125	9	37	35
6	Bajaj Finance	15	73	35	1,023	57	38	10
7	Motilal Oswal	13	67	42	146	11	26	11
8	IIFL Holdings	12	64	27	224	18	25	7
9	NBCC	12	64	11	171	15	48	7
10	Eicher Motors	11	62	45	772	69	39	23

Titan Company is the Most Consistent Wealth Creator

- **Titan Company** has emerged the Most Consistent Wealth Creator by virtue of –
  1. Appearing among top 100 Wealth Creators in each of the last 10 studies; and
  2. Recording the highest Price CAGR of 33% over the 10-year period 2008 to 2018, fractionally ahead of **Godrej Consumer**.
- All the top 10 Consistent Wealth Creators are consumer-facing companies (Exhibit 3).

Exhibit 3 **Top 10 Most Consistent Wealth Creators (2008-18)**

Rank	Company	Appeared in WC Study (x)	10-yr Price CAGR (%)	10-yr PAT CAGR (%)	P/E (x) 2018	P/E (x) 2008	RoE (%) 2018	RoE (%) 2008
1	Titan Company	10	33	22	73	30	22	35
2	Godrej Consumer	10	33	25	51	20	24	93
3	Shree Cement	10	31	17	42	13	15	42
4	Pidilite Inds.	10	30	19	49	20	27	28
5	Maruti Suzuki	10	27	14	41	14	15	20
6	Marico	10	26	17	54	26	31	51
7	Asian Paints	10	25	17	54	28	24	42
8	HDFC Bank	10	22	28	27	29	17	14
9	Kotak Mah. Bank	10	21	20	32	22	12	17
10	Dabur India	10	20	15	42	29	24	53

Financials is the biggest Wealth Creating sector for the second consecutive year

- **Financials** has emerged as India's biggest Wealth Creating sector over 2013-18 for the second consecutive year.
- In this study period, the Financials sector has the unusual distinction of being the biggest Wealth Creator (thanks to private banks and NBFCs) and the biggest Wealth Destroyer (thanks to state-owned banks).

PEG < 1x is also a solid formula for superior returns

- For the purposes of this section, PEG (P/E to Growth ratio) is obtained by dividing trailing 12-month P/E by future 5-year earnings CAGR.
- We have used perfect foresight of 5 years' earnings to calculate PEG. Thus, if a stock's P/E in 2013 was 20x, and its 2013-18 PAT CAGR is 25%, its 2013 PEG works out to 0.8x (20 ÷ 25).
- Clearly, lower the PEG, higher the likely return.
- Our theme study this year (see pages 4 to 31) has almost conclusively established that stocks with PEG less than 1x tend to significantly outperform the market.
- As tabled below, the story was no different for the 2018 Wealth Creators. Nearly half the Wealth Creators were trading at PEG of less than 1x in 2013, and delivered the highest return.

Exhibit 4 **PEG < 1x is a solid formula for high returns**

PEG Range in 2013 (x)	No. of Cos.	WC (INR b)	% Share of WC	CAGR (%) Price	CAGR (%) PAT	RoE (%) 2018	RoE (%) 2013
<0.5	23	7,427	17	38	34	19	10
0.5-1	26	17,803	40	28	17	15	14
1-1.5	11	5,093	11	20	13	18	18
1.5-2	11	4,952	11	16	13	25	26
2-3	9	2,091	5	22	10	11	16
>3	14	5,365	12	20	6	18	23
L to P	3	682	2	24	L to P	13	-20
PAT decline	3	1,470	3	19	-17	3	16
Total	**100**	**44,883**	**100**	**24**	**19**	**16**	**14**

Note: PEG here is calculated as P/E of March 2013 divided by 2013-18 PAT CAGR

For detailed findings of 2013-18 Wealth Creation Study, please see pages 32-47.

Theme 2018

Valuation Insights

What works, what doesn't

"In the Bible, it says that love covers a multitude of sins. Well, in the investing field, price covers a multitude of mistakes. For human beings, there is no substitute for love. For investing, there is no substitute for paying the right price – absolutely none."

— *Arnold Van Den Berg, Outstanding Investor Digest, April 2004*

1. Introduction

Towards understanding reasonable Price

The essence of equity investing is – buying (and staying invested in) only those stocks where there is a significant **Value-Price gap**. As Warren Buffett has said, 'Price is what we pay. Value is what we get." Thus, the equity investing process may be simply reduced to –

- Assessing value of stocks
- Comparing the value with the prevailing price and
- Buying them only if there is adequate Margin of Safety i.e. the price should be meaningfully lower than the assessed value to account for potential risks in investing.

At Motilal Oswal, we call our approach to equity investing **"QGLP" – Quality, Growth, Longevity, reasonable Price**. QGL is the Value component which is then juxtaposed with P i.e. reasonable Price. In our recent past Wealth Creation Studies*, we have probed into various aspects of QGL. In this Study, we attempt to gain some insights into what constitutes reasonable Price.

Exhibit 1 **Motilal Oswal's QGLP investment philosophy – At a glance**

QGLP – Quality, Growth, Longevity, reasonable Price

Quality of business x Quality of management
- Stable business, preferably consumer facing
- Huge business opportunity
- Sustainable competitive advantage
- Competent management team
- Healthy financials & ratios

Growth in earnings
- Volume growth
- Price growth
- Mix change
- Operating leverage
- Financial leverage

Price
- Reasonable valuation, relative to quality and growth prospects
- High margin of safety

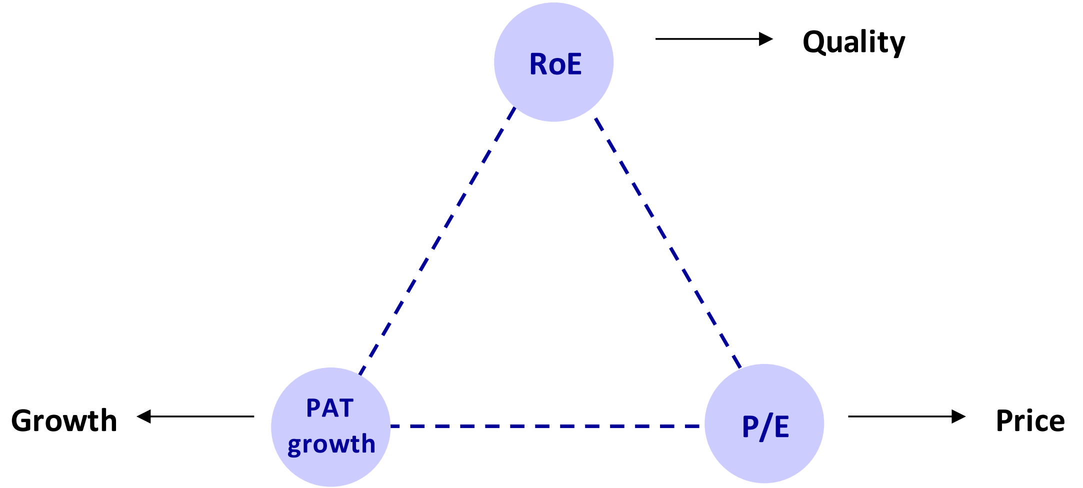
Longevity of Quality & Growth
- Long-term relevance of business
- Extending competitive advantage period
- Sustenance of growth momentum

* For all our Wealth Creation Studies, visit www.motilaloswal.com

The key numerical triad of QGLP is –

1. **RoE (Return on Equity)** – this reflects the Quality of Business and Quality of Management
2. **PAT Growth** – the G of QGLP
3. **P/E (Price-to-Earnings)** – this helps determine reasonable price.

Exhibit 2 **The numerical triad of QGLP**



Hitherto, we assessed these three variables somewhat independently. We now find that a simplified version of the Discounted Free Cash Flow to Equity (DFCFE) model offers an intelligent integration of the RoE-Growth-PE triad, leading to some interesting insights on valuation which we discuss in this Study. Besides, we also present some insights based on few pricing heuristics – P/E (both absolute and relative to market), PEG (P/E to Growth ratio) and Payback Ratio.

The final message is loud and clear, especially in the context of current richly valued Indian market – **Overpaying doesn't pay!**

2. Evolution of valuation

From book value to cash flows and beyond

Equity valuation is a continuously evolving practice. In his book *Investing – The Last Liberal Art*, Robert Hagstrom traces out five phases of valuation –

Exhibit 3 **How equity valuation has evolved**

1930's & 1940's	Discount to hard book value, first proposed by Benjamin Graham and David Dodd
1950's	Dividend yield
1960's	Earnings and earnings growth
1980's	Return on Equity and Cash flow, strongly advocated by the likes of Warren Buffett
Emerging	Cash return on invested capital

What the above means is that there is unlikely to ever be a final word about valuation. Even as new tools and techniques evolve, practitioners will adapt and adopt what best works for them.

3. What is Value

Present value of lifetime cash flows

Investopedia defines **Intrinsic Value** as, "the ***perceived*** or calculated value of a company, including tangible and intangible factors, using fundamental analysis. The intrinsic value may or may not be the same as the current market value."

The key word here is "perceived". As is humorously said, "In the stock market, most people know the price of everything but the value of nothing." Price is universal to all, but value lies in the minds of individual investors. In fact, the very reason stock trades happen is because at the same price, some investors think the stock is below ***their*** perceived value (hence they buy), whereas some others think it is beyond ***their*** perceived value (hence they sell). Those investors get rewarded whose perception of value is closer to that which the market majority eventually converges to.

The most irrefutable definition of Intrinsic Value for any asset is – **present value of its lifetime cash flows**. This is most easily depicted in valuing fixed income instruments.

3.1 Intrinsic Value of fixed income instruments

Exhibit 4 depicts the cash flow and Intrinsic Value calculation for a bond with face value of INR 1,000 and 8% coupon. The annual interest inflows will be INR 80. In the 10^{th} year, the principal of INR 1,000 will also be repaid.

Now, these cash flows need to be discounted by the return that an investor desires. Thus, if an investor desires 10% return, their present value of Year 1 interest inflow of INR 80 is INR 73 (80÷1.1), that of the Year 2 interest inflow is INR 66 (80÷1.21), and so on. This way, the total present value of the interest and principal repayment inflows is INR 877, which is the bond's Intrinsic Value for this particular investor.

If another investor desires a return of 12%, their Intrinsic Value would work out to INR 774.

Exhibit 4 **Intrinsic Value calculation for a bond with face value of INR 1,000 and 8% coupon if an investor desires 10% return**

Year		*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Interest @ 8% of 1,000	(A)	80	80	80	80	80	80	80	80	80	80
Principal repayment	(B)	-	-	-	-	-	-	-	-	-	1,000
Total Cash flow	I=(A)+(B)	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**1,080**
Discount factor @ 10%	(D)	1.10	1.21	1.33	1.46	1.61	1.77	1.95	2.14	2.36	2.59
		(1.1)	*(1.1^2)*	*(1.1^3)*	*(1.1^4)*	*(1.1^5)*	*(1.1^6)*	*(1.1^7)*	*(1.1^8)*	*(1.1^9)*	*(1.1^{10})*
Present Value	I=I÷(D)	73	66	60	55	50	45	41	37	34	416
TOTAL PRESENT VALUE	**877**										

3.2 The challenge of Intrinsic Value for equity stocks

The above approach of discounting cash flow is increasingly being adopted to value equity stocks. However, there are key challenges –

- **No fixed coupon:** Unlike fixed income securities, equity stocks do not offer a fixed annual coupon. Strictly speaking, the equity equivalent of a coupon is dividend. However, dividends are dependent on the profits that companies earn and the dividend payout policy which they choose to follow. Many times, even after earning healthy profits, companies may not declare any dividends for a particular year(s) if they decide to conserve resources for expansion and/or acquisitions.
- **No fixed tenure and terminal value:** Unlike fixed income securities, equity stocks have no fixed tenure and hence terminal value.
- **The challenge of required return i.e. discount rate:** Intrinsic Value is very sensitive to the required return or the discount rate. In the stock market, every investor will have their own required return, and hence may arrive at their own Intrinsic Value. In equities, the key to success is to accurately assess what value the broad market is likely to assign to a particular company. Hence, choosing an appropriate discount rate is crucial in arriving at Intrinsic Value.

Even as the art and science of equity valuation continues to rapidly evolve, the current state-of-art approach is what is called the DCF (Discounted Cash Flow) Model. We proceed to discuss insights from one simplified version of the same.

4. Two key drivers of equity value

Return on Equity and Earnings growth

A detailed discussion on DCF is beyond the scope of this report. We would refer readers to valuation classics like *Damodaran on Valuation* by Professor Aswath Damodaran and *Valuation: Measuring and Managing the Value of Companies* by Tim Koller, Marc Goedhart and David Wessels. The latter book presents an interesting perspective that the DCF Model – hence value – is essentially driven by two factors: (1) RoIC (Return on Invested Capital) and (2) Sales growth.

We have adapted a simplified version of the same using RoE (Return on Equity) as proxy for RoIC and PAT (Profit After Tax) growth as proxy for Sales growth. We present the model and its key elements in Exhibit 6 on page 9. We discuss below our key valuation insights from the same.

Exhibit 5 **Return on Equity and Earnings growth drive value**

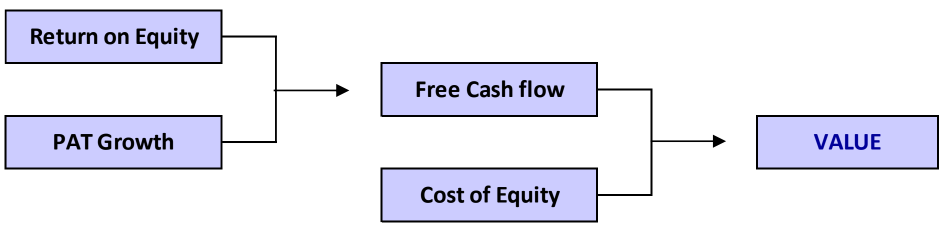


Exhibit 6 **Simplified Discounted Free Cash Flow to Equity Model**

KEY VARIABLES -	Assumed values
Earnings growth rate	20%
RoE	25%
Continuing growth rate	8%
Cost of Equity	13%

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
PAT	**83**	**100**	**120**	**144**	**173**	**207**	**246**	**290**	**339**	**391**	**447**	**506**	**568**	**630**	**693**	**756**	**816**
YoY		20%	20%	20%	20%	20%	19%	18%	17%	16%	14%	13%	12%	11%	10%	9%	8%
Delta PAT		0	20	24	29	35	39	44	48	52	56	59	61	62	63	62	60
Investment		80	96	115	138	157	175	193	210	225	237	246	250	252	250	242	
FCFE		**20**	**24**	**29**	**35**	**51**	**71**	**97**	**129**	**166**	**210**	**261**	**318**	**378**	**444**	**514**	
Continuing Value																11,100	
Total Cash Flow		**20**	**24**	**29**	**35**	**51**	**71**	**97**	**129**	**166**	**210**	**261**	**318**	**378**	**444**	**11,614**	
Discount Factor		1.13	1.28	1.44	1.63	1.84	2.08	2.35	2.66	3.00	3.39	3.84	4.33	4.90	5.53	6.25	
DCFE		**18**	**19**	**20**	**21**	**28**	**34**	**41**	**48**	**55**	**62**	**68**	**73**	**77**	**80**	**1,857**	
Intrinsic Value	**2,500**																
Intrinsic P/E	**30**	**25**															

Key elements explained:

- **Earnings growth rate:** This is the growth in PAT assumed to sustain in the first five years. Post that the growth is tapered to the continuing growth rate of 8%.
- **Continuing growth rate:** This is the rate at which PAT and cash flow are expected to grow beyond the explicit forecast period of 15 years. Theory suggests this should be expected nominal GDP growth rate to perpetuity.
- **Cost of Equity:** This is the market's return expectation on a particular stock. In our model, we have considered Cost of Equity at 13%, the long-period return of India's benchmark stock indices. Another alternative approach is risk-free rate (8%) plus 5% risk premium, which also works out to 13%.
- **Delta PAT:** This is the incremental PAT over previous year.
- **Investment:** This is the investment required each year to generate the Delta PAT next year. This is dependent on RoE, and is determined by Delta PAT ÷ RoE. Thus, to generate Delta PAT of 20 in Year 2, the firm here needs to invest 80 (20÷25%) in Year 1.
- **FCFE:** Free Cash Flow to Equity is PAT less Investment needed.
- **Continuing Value:** This is the value of the firm beyond the explicit forecast period. It is calculated using the present value formula of a growing annuity i.e. Year 15 FCFE x (1+Continuing growth rate) ÷ (Cost of equity – Continuing growth rate).
- **Discount Factor:** This is $(1+\text{Cost of Equity})^n$, where n in the number of year.
- **DFCFE:** Discounted Free Cash Flow to Equity; this is arrived at as Total Cash Flow ÷ Discount Factor.
- **Intrinsic Value:** This is the sum total of all 15-years' DFCFE.
- **Intrinsic P/E:** This is calculated as Intrinsic Value ÷ PAT (of respective year).

Model limitation:

This is a simplified version with a few assumptions –

- Annual depreciation takes care of investments required to main current profits.
- The company is currently operating at full capacity i.e. further growth is possible only through further investment.
- There is no major change in the company's debt position.

4.1 Interplay of RoE and growth determines free cash flow

In business, growth is a choice. Companies can choose whether or not they wish to grow, and if yes, at what rate. Having chosen a growth rate, the level of investment required to achieve the same depends on their RoE. As shown in Exhibit 6, consider a company with PAT of INR 100 in Year 1. It chooses to grow 20% next year i.e. earn additional PAT of INR 20 in Year 2. Now, if it enjoys RoE of 25%, to earn the incremental INR 20 in Year 2, it will need to invest INR 80 (20÷25%) in Year 1 itself. This leaves Year 1 free cash flow of INR 20 (100-80).

If, however, the company enjoyed RoE of 20%, to earn additional PAT of INR 20, it would need to invest INR 100 (20÷20%) in Year 1. This would leave free cash flow of zero (100-100). Likewise, if RoE was 15%, the additional PAT of INR 20 would entail investment of INR 133 (20÷15%), implying Year 1 free cash flow of INR -33 (100-133), which means the company would have to infuse fresh equity of INR 33 to grow by 20%. Thus, if a company's RoE is well above its growth rate, it does not need additional fund raising.

4.1.1 Balance Sheet RoE versus Business RoE

A key issue in valuing a company is which RoE figure to consider – the balance sheet RoE or the core business RoE. Over time, many Indian companies have resorted to holding cash on their balance sheets in excess of their immediate business requirements. Such excess cash barely earns 5% post-tax yield. This causes reported RoE to be muted.

In some cases, the market is efficient enough to compute the core RoE and value companies accordingly. However, in some others, the market fears capital misallocation and hence keeps valuations low. We are convinced companies can improve their valuations by bridging the gap between balance sheet RoE and business RoE through a combination of higher dividend payout and share buyback. From Exhibit 7 below, the top candidates for potential re-rating are: Hindustan Zinc, Bajaj Auto, Hero Motocorp and Infosys.

Exhibit 7 **Leading companies with significant gap between Balance Sheet RoE and Business RoE**

	Net Worth	Cash Equivalents		Return on Equity (%)		Current
Company	(INR bn)	(INR bn)	% of NW	Bal. Sheet	Business	P/E (x)
Hindustan Unilever	73	53	73	75	221	64
Hindustan Zinc	359	222	62	27	123	14
Bajaj Auto	204	171	84	22	92	16
Eicher Motors	70	50	72	32	87	28
Hero Motocorp	120	67	56	32	64	15
Maruti Suzuki	426	342	80	16	58	31
TCS	852	431	51	30	58	24
Infosys	649	262	40	23	37	17
ITC	525	209	40	22	34	32
Bosch	100	64	64	15	32	40

OUR METHODOLOGY

- We calculated the cash equivalents for all the companies.
- In cases where cash equivalents exceeds debt, we deducted 4.5% post-tax yield on the cash from the companies' reported PAT to arrive at their core Business PAT.
- We deducted the cash equivalents from the Net Worth to arrive at the core Business Net Worth.
- We calculated core Business RoE as Business PAT divided by Business Net Worth.
- Exhibit 7 features the top 10 Business RoE companies with excess cash of at least INR 50 billion.

4.2 All growth is not necessarily good

The stock markets are gripped by Earnings growth. In the short- and medium term, all companies with high earnings growth tend to get rewarded by investors by way of rising stock prices and market value. However, our model suggests that all growth is not good –

- If a company's RoE remains below Cost of Equity for long, then high growth actually detracts firm value, as the company has to raise significant levels of capital from its equity holders to fund its growth (the 10% RoE column in Exhibit 8 and 9).
- If a company's RoE is exactly equal to its Cost of Equity, then no amount of growth adds any value whatsoever (the 13% RoE column in Exhibit 8 and 9). The P/E in such case works out to 1÷Cost of Equity, here, 1÷13% = 7.7x.
- Growth adds positive value only when RoE is higher than Cost of Equity.
- Note that at 0% growth, value of a company is the same irrespective of RoE. The P/E in such case again works out to 1÷Cost of Equity, here, 1÷13% = 7.7x.

Exhibit 8 **Firm value for various combinations of RoE and Growth**

		RoE								
		10%	13%	15%	20%	25%	30%	40%	50%	100%
Growth (see note)	0%	770	770	770	770	770	770	770	770	770
	10%	280	770	990	1,340	1,550	1,700	1,870	1,980	2,190
	15%	10	770	1,110	1,650	1,980	2,200	2,480	2,640	2,970
	20%	-310	770	1,250	2,030	2,500	2,820	3,210	3,440	3,910
	25%	-740	770	1,440	2,530	3,180	3,620	4,160	4,490	5,140
	30%	-1,290	770	1,680	3,170	4,060	4,660	5,400	5,850	6,740
	40%	-2,900	770	2,400	5,060	6,650	7,710	9,040	9,830	11,420

Note: Growth rate is for first 5 years; other variables are based on Exhibit 6 on page 9

Exhibit 9 **1-year forward P/E multiples for various combinations of RoE and Growth**

		RoE								
		10%	13%	15%	20%	25%	30%	40%	50%	100%
Growth (see note)	0%	8	8	8	8	8	8	8	8	8
	10%	3	8	10	13	16	17	19	20	22
	15%	0	8	11	17	20	22	25	26	30
	20%	-3	8	13	20	25	28	32	34	39
	25%	-7	8	14	25	32	36	42	45	51
	30%	-13	8	17	32	41	47	54	59	67
	40%	-29	8	24	51	67	77	90	98	114

Note: Growth rate is for first 5 years; other variables are based on Exhibit 6 on page 9

4.3 Beyond a point, growth adds more value than RoE

Iterations in our DFCFE Model suggest that beyond a certain high level of RoE, further increase in RoE adds commensurately less value. Thus, as Exhibit 10 shows, beyond 40-50%, rise in RoE results in much lower rise in P/E. So, once RoEs are comfortably higher than Cost of Equity, investors (and even company managers) should seek Earnings growth to drive value, rather than expanding RoE. At the other end of the spectrum, low RoE companies add much higher value by raising RoE than growth (Exhibit 11).

Exhibit 10 **For a given level of growth, PE flattens out beyond a high level of RoE, say, 40-50%**

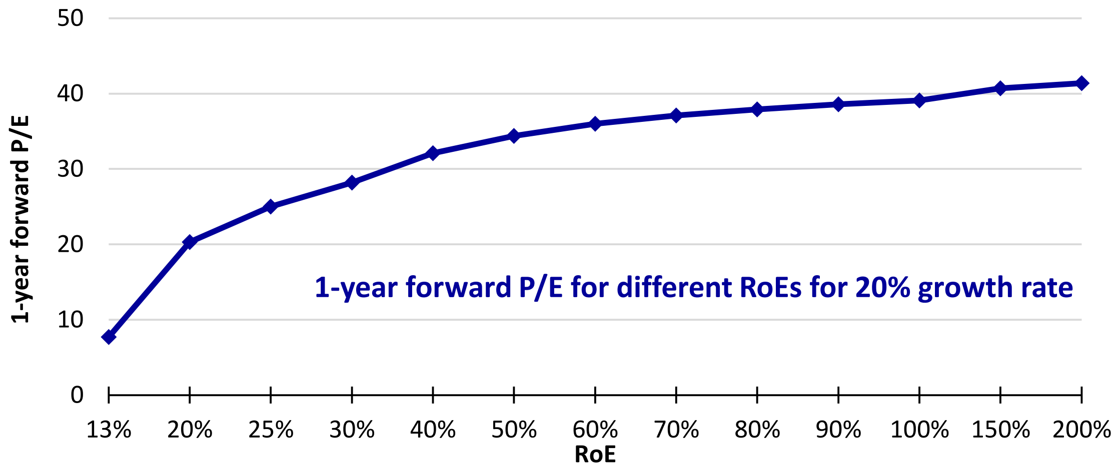


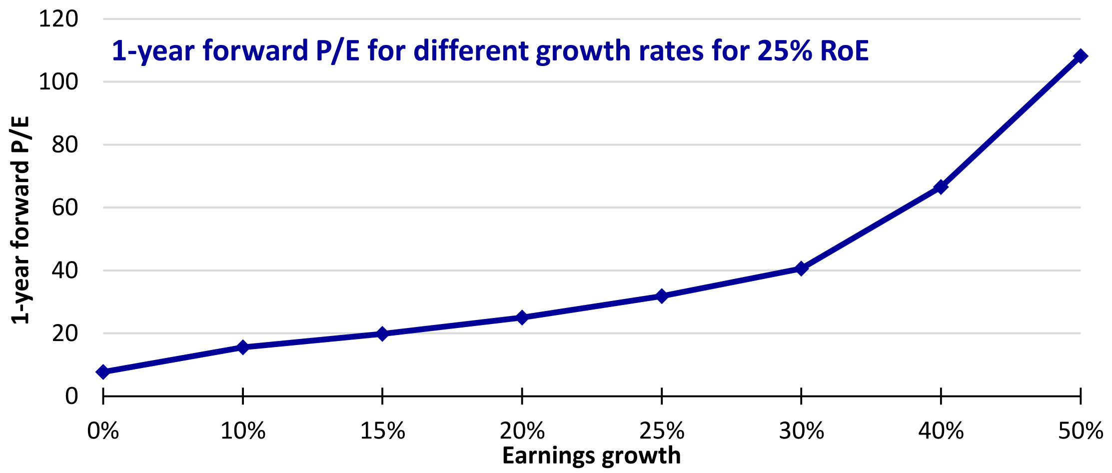
Exhibit 11 **If RoE is high, delta growth adds higher value; if RoE is low, delta RoE adds higher value**

% change in value	Company A 30% RoE | 20% Growth	Company B 16% RoE | 20% Growth
1% higher RoE	**2%**	**12%**
1% higher growth	**5%**	**3%**

4.4 Earnings growth and valuation are exponentially correlated

For any given level of RoE above Cost of Equity, P/E rises exponentially relative to Earnings growth. Thus, as Exhibit 12 shows, at 25% RoE, a 5-year hyper earnings growth of 40% merits a one-year forward P/E of 67x whereas, growth of 50%, merits a much higher P/E of 108x.

Exhibit 12 **For a given RoE above Cost of Equity, P/E is exponentially correlated to earnings growth**



Having determined that RoE and Earnings growth are the key drivers of value, it is relevant to know what drives each of them. We discuss this in an Annexure 1 on page 24.

5. RoE, Earnings growth & Stock returns

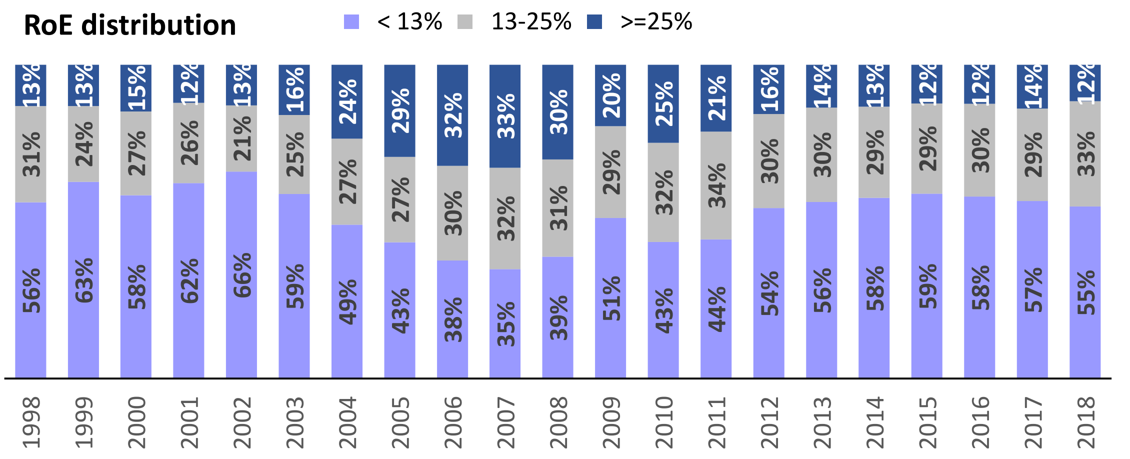
The Indian experience

We processed 20-year data of RoE, Earnings growth and Stock returns of today's top 1,500 listed companies. We list some of the findings here.

5.1 High RoE is rare

On average, 52% of India Inc has RoE lower than 13%. Only 19% of companies manage RoE of over 25%.

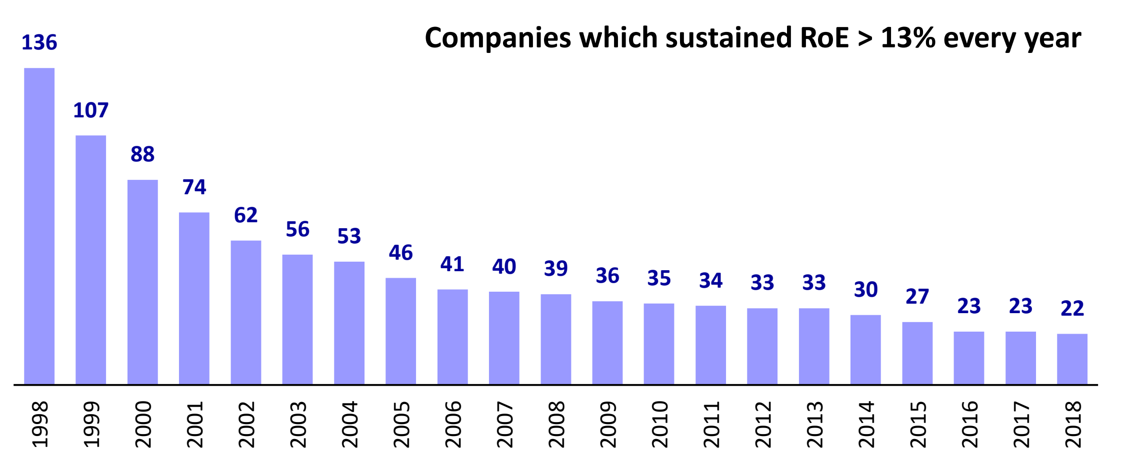
Exhibit 13 **High RoE is rare in India Inc**



5.2 Sustaining RoE above Cost of Equity is a challenge

To consider only meaningful companies, we started with 188 companies with PAT above INR 200 mn in 1998. Of these, a fairly high 136 companies had RoE greater than 13%. However, that figure dropped quite steeply in the initial 7-8 years and more gradually later, all the way down to a mere 22 by 2018.

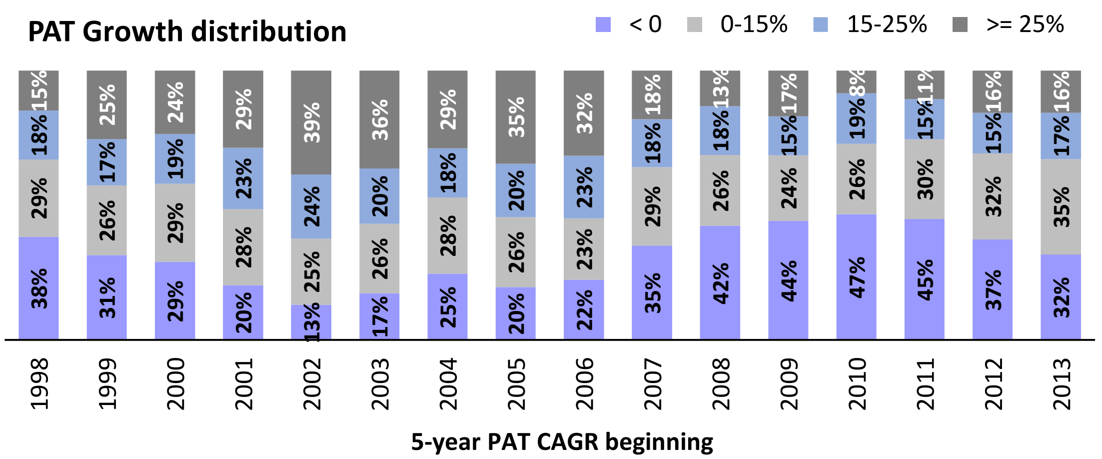
Exhibit 14 **Only 22 companies managed to sustain RoE above 13% every year over the last 20 years**



5.3 Like high RoE, high Earnings growth is also not easy to come by

On average, over 60% of companies in India are likely to clock 5-year PAT CAGR of less than 15%. The balance 40% are almost equally divided between 15-25% PAT CAGR and 25%+.

Exhibit 15 **High Earnings growth is also not easy to come by in India**



5.4 Hyper Earnings growth is rarely sustained beyond 5-6 years

Sustaining hyper Earnings growth beyond 5-6 years is a low probability event. As seen in Exhibit 16, in 1998, 188 companies had PAT above INR 200 mn. Of these, 28 clocked PAT CAGR of 25%+ in the first 5-year period i.e. 1998 to 2003. Of these 28, only 8 sustained 25%+ growth in the second 5-year period (2003-08), and just 1 in the third (2008-13).

Likewise, in 2003, of the 283 companies with PAT above INR 200 mn, as many as 103 clocked PAT CAGR of 25%+ in the first 5-year period i.e. 2003 to 2008. Once again, this figure collapsed to 13 in the second 5-year period (2008-13) and to zero in the third (2013-18).

The above phenomenon can be seen even in 3-year growth periods, when the numbers in the third round are just single digits.

Exhibit 16 **High Earnings growth is rarely sustained beyond 5-6 years**

Year	Companies with PAT >= INR 200 mn	Cos. With PAT CAGR >= 25% in 5-year period			Cos. With PAT CAGR >= 25% in 3-year period			
		1st	2nd	3rd	1st	2nd	3rd	4th
1998	188	28	8	1	35	18	8	2
1999	197	50	14	2	39	17	8	3
2000	221	52	12	2	50	17	10	2
2001	241	69	22	1	83	28	8	2
2002	236	91	16	0	92	34	11	1
2003	283	103	13	0	111	40	8	2

5.5 Implications for stock investing

Stock markets tend to extrapolate recent earnings performance into the future. If a company is currently in the hyper growth mode, the market is likely to end up extrapolating this too far into the future, bidding up valuations. The above data that hyper growth rarely lasts beyond 5-6 years will prevent smart investors from buying into such stocks based on unrealistic growth expectations. Further, investors already holding stocks of companies in the hyper growth mode must seriously consider exiting if valuations hit exuberant levels. (As Section 6 suggests, 2x Market P/E or 3x PEG whichever is higher may be deemed to be exuberant levels.)

5.6 What works – prefer High-RoE-High-Growth stocks

It is possible to classify all stocks on the basis of 10-year average RoE into High (above 15%) and Low (below 15%). Likewise, stocks can also be classified based on 10-year Earnings CAGR into High (above 15%) and Low (below 15%).

Exhibit 17 captures the performance of the four resultant investment strategies for rolling 10-year periods between 1998 and 2018. Exhibit 18 maps the final average performance on to our Quality-Growth Matrix.

Exhibit 17 **Performance of four investment strategies based on RoE and Earnings growth**

	98-08	99-09	00-10	01-11	02-12	03-13	04-14	05-15	06-16	07-17	08-18	Average
Sensex Return	15%	10%	13%	18%	18%	20%	15%	16%	8%	9%	8%	**14%**
Strategy Returns –												
High RoE, High Growth	27%	22%	28%	33%	32%	33%	25%	28%	22%	26%	29%	**27%**
Low RoE, High Growth	33%	16%	22%	30%	28%	29%	19%	16%	14%	15%	14%	**21%**
High RoE, Low Growth	11%	7%	12%	19%	18%	19%	14%	15%	9%	14%	17%	**14%**
Low RoE, Low Growth	10%	2%	8%	12%	9%	11%	7%	4%	0%	4%	3%	**6%**
No. of cos. With PAT of at least INR 200 mn	135	139	186	195	191	239	297	355	427	502	558	

Note: For all the periods, we have considered only companies with PAT of at least INR 200 mn

Key observations –

- The High-RoE-High-Growth strategy has handsomely outperformed the benchmark in all eleven 10-year periods.
- The High-RoE-High-Growth strategy has also outperformed all the other four strategies, except in 1998 to 2008 when a handful of 10 Low-RoE-High-Growth stocks outperformed. This clearly is an aberration.
- We believe the bedrock of high RoE (i.e. High Quality) lends stability to the portfolio.
- The above findings reiterate our belief in our Quality-Growth matrix payoff (Exhibit 18).
- We continue to prefer High-Quality-High-Growth stocks, but with a very strong emphasis on reasonable price. Section 8 covers what constitutes a reasonable price.

Exhibit 18 **Quality-Growth Matrix**

Performance Expectation

GROWTH		QUALITY: Low	QUALITY: High
	High	**GROWTH TRAPS** Transitory Multi-baggers	**TRUE WEALTH CREATORS** Enduring Multi-baggers
	Low	**WEALTH DESTROYERS** Permanent capital loss	**QUALITY TRAPS** Underperformers

Actual Average Returns (see note below)

GROWTH		QUALITY: Low	QUALITY: High
	High	21%	27%
	Low	6%	14%

Note: Actual Average Returns is the "Average" column of Exhibit 17, plotted on the Quality-Growth Matrix. The comparable Sensex performance is 14%.

6. Reasonable Price

What works, what doesn't

Having gleaned some insights on valuation, we proceed to explore some potential pricing strategies. What's the difference between valuation and pricing of any asset, in our case stocks? As stated earlier, valuation essentially is a fundamental assessment of a stock's intrinsic value, based on the expected cash flows arising from the same. In contrast, pricing is more empirical and heuristic. The basis of such pricing is usually based on applying appropriate multiples – P/E, Price/Book, Price/Sales, EV/EBITDA, etc. Pricing is also likely to be relative rather than absolute i.e. depending on what comparable stocks or benchmark is priced.

We studied the alpha track record over 20 years (1998 to 2018) of four pricing techniques – **P/E**, **P/E relative to market**, **PEG** and **Payback Ratio**. Based on the same, we arrive at some idea of what potentially works and what doesn't.

Our methodology for P/E, P/E relative to market and PEG –

- 3-year alpha implies outperformance over the Sensex for the next 3 years. Thus, for 1998, alpha would be outperformance over 1998 to 2001, for 1999, outperformance over 1999 to 2002, and so on till outperformance over 2015 to 2018 for alpha in 2015.
- For each year from 1998 to 2015, we started off with stocks which had market capitalization of at least INR 10 bn.
- For each year, we observed the alpha under each category (e.g. P/E 0-10x, 10-20x, and so on).
- Finally, we averaged the performance of the 18 observation years, 1998 to 2015.
- The observations for each year are presented in Annexure 2, pages 29 & 30.

6.1 P/E

Without doubt, this is the most popular pricing tool. And the most common mantra among investors is "Buy low P/E stocks". As Exhibit 19 shows, this is just barely right.

Exhibit 19 **P/E: What works, what doesn't**

P/E (x)	Average 3-year alpha	Instances from 1998 to 2015	
		Nos.	% of total
0 – 10	**5%**	945	24%
10 – 20	**1%**	1,385	34%
20 – 30	**-2%**	812	20%
30 – 40	**-1%**	355	9%
40 – 50	**-1%**	167	4%
50 – 75	**-8%**	150	4%
> 75	**-18%**	201	5%
TOTAL		**4,015**	

6.1.1 What works

- ✓ Buying single-digit P/E stocks offers a small chance of a statistically not-too-significant alpha. However, even this is not consistent e.g. in 8 of the last 18 years (1998 to 2015), even single-digit P/E stocks returned average negative alpha (see Annexure 2, page 29).

6.1.2 What doesn't work

- ✗ Clearly, buying richly valued stocks doesn't work, especially P/E of 50x and above.
- ✗ More often than not, high P/Es suggest that much of the optimistic information about the stock is already in the price. As Thomas W. Phelps says in his classic *100 to 1 In The Stock Market*, "A lemon that has been flattened by a steam roller has more juice in it than a piece of information the stock market has already discounted."

6.2 P/E relative to market

When markets as a whole are buoyant and individual stocks appear expensive in absolute terms, pegging their valuation to market levels seems justified. It may even be argued that stocks whose fundamentals are superior to that of the benchmark, even merit a premium to market valuation multiples. As Exhibit 20 shows, the odds are stacked against this strategy.

Exhibit 20 **P/E relative to market: What works, what doesn't**

P/E relative to market (x)	Average 3-year alpha	Instances from 1998 to 2015	
		Nos.	% of total
<= 1	**4%**	1,984	49%
1 – 1.5	**0%**	946	24%
1.5 – 2	**0%**	442	11%
2 – 3	**-5%**	330	8%
> 3	**-11%**	313	8%
TOTAL		**4,015**	

6.2.1 What works

- ✓ Buying stocks below market P/E offers some chance of a statistically not-too-significant alpha. However, as was the case with low P/E, even this is not consistent – in 7 of the last 18 years, stocks bought below market P/E returned negative alpha (see Annexure 2, page 29).

6.2.2 What doesn't work

- ✗ Clearly, buying 2x and above market P/E levels is a sure recipe for underperformance.

6.3 PEG

PEG is short for P/E to Growth ratio. We calculate it as TTM (trailing twelve-month) P/E divided by forward earnings growth. It may be calculated for any number of forward year's earnings.

For the purposes of this section, we have used perfect foresight of 3-years' forward earnings to calculate 3-year PEG i.e. TTM P/E divided by next 3-year PAT CAGR. Thus, if March 2015 P/E is 30x and 2015-18 PAT CAGR works out to 25%, then March 2015 PEG is 1.2x (30÷25).

Exhibit 21 presents the 3-year alpha track record of PEG-based stock buying.

Exhibit 21 **PEG: What works, what doesn't**

3-year PEG (x)	Average 3-year alpha	Instances from 1998 to 2015	
		Nos.	% of total
0 – 1	**19%**	1,310	33%
0 – 0.5	**26%**	633	16%
0.5 – 1	**11%**	677	17%
1 – 1.5	**3%**	393	10%
1.5 – 2	**-3%**	227	6%
2 – 3	**-4%**	266	7%
3 +	**-10%**	463	11%
< 0	**-19%**	1,356	34%
TOTAL		**4,015**	

Note: PEG < 0 implies PAT degrowth in the next 3 years

6.3.1 What works

- ✓ Buying stocks at PEG less than 1x is supremely profitable (less than 0.5x even more so).
- ✓ Also interesting is the number of instances of PEG less than 1x. As the "% of total" column in Exhibit 21 suggests, on average, 1 of every 3 stocks is likely to trade at PEG of less than 1x.
- ✓ Finally, what is most remarkable is the efficacy of PEG ratio when it comes to the number of years of growth insight that investors may have. Thus, PEG of less than 1x works for growth forecasts of 1, 2, 3, 4 or 5 years! As Exhibit 22 suggests, PEG of 1x delivered handsome alpha in 14 out of 15 observations. The only time it failed was during the vertical 38% market collapse in 2009 over 2008 following the global financial crisis.

Exhibit 22 **PEG works, whatever be the forecast horizon over 1 to 5 years**

	1-year	2-year	3-year	4-year	5-year
2000-05					
Sensex return	-28%	-17%	-15%	3%	5%
PEG < 1x return	-14%	22%	12%	37%	31%
Alpha	**13%**	**38%**	**27%**	**34%**	**25%**
2008-13					
Sensex return	-38%	6%	8%	3%	4%
PEG < 1x return	-42%	27%	26%	18%	15%
Alpha	**-4%**	**21%**	**19%**	**15%**	**11%**
2013-18					
Sensex return	19%	22%	10%	12%	12%
PEG < 1x return	36%	61%	38%	45%	39%
Alpha	**17%**	**39%**	**28%**	**33%**	**27%**

6.3.2 What doesn't work

- Buying stocks at PEG > 1.5x is avoidable.
- The high level of underperformance at PEG of 3x+ should be a warning signal especially in the current market where stocks which are high on quality (read, high RoE) but low on growth are trading at fancy P/E multiples.

6.4 Payback Ratio

Payback Ratio is a proprietary ratio of Motilal Oswal, and is calculated as –

$$\text{Payback Ratio} = \frac{\text{Current Market Cap}}{\text{Sum of next 5 years' PAT}}$$

Clearly, lower the ratio, higher the stock returns.

For the purposes of this section, we have used next five years of PAT with perfect foresight e.g. in 1998, we calculate Payback Ratio by dividing 1998 Market Cap by the sum of actual PAT of 1999, 2000, 2001, 2002 and 2003.

Exhibit 23 presents the 5-year alpha track record of Payback Ratio based stock buying.

Exhibit 23 **Payback Ratio: What works, what doesn't**

Payback Ratio (x)	Average 5-year alpha	Instances from 1998 to 2013	
		Nos.	% of total
0 – 1	**17%**	454	13%
1 – 1.5	**5%**	421	12%
1.5 – 2	**4%**	353	10%
2 – 3	**0%**	616	18%
3 +	**-12%**	1,153	34%
< 0	**-26%**	375	11%
TOTAL		**3,372**	

Note: Payback < 0 implies the cumulative PAT of next five years is negative

For detailed annual workings, see Annexure 2, page 30

6.4.1 What works

- ✓ Buying stocks with Payback Ratio less than 1x is highly rewarding.
- ✓ There is some chance of outperformance even up to Payback Ratio of 2x.

6.4.2 What doesn't work

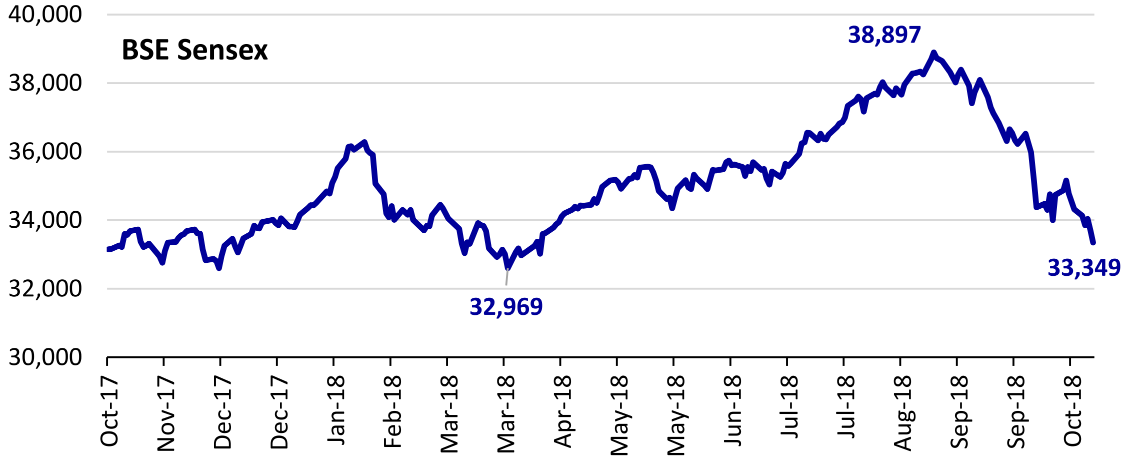
- × Payback Ratio of over 3x is a clear sign of overvaluation.
- × Loss-making companies are best avoided (Payback Ratio < 0 implies the cumulative PAT of next five years is negative.)

7. Brief note on current state of valuations in the market

Implied RoE of 17% and 5-year Earnings CAGR of 16%

In FY19 year-to-date, the Sensex rallied sharply by 18% from 33,000 levels in March 2018 to hit nearly 39,000 by end-August 2018. Since then, it has given up most of its gains, down 14% in the last two months (Exhibit 24).

Exhibit 24 **Sensex – last one year**



The Sensex is currently at a P/E of 21x TTM, about 24% higher than its long-period average of 17x (Exhibit 25). What is more worrisome is that the All-Shares P/E is hovering around its all-time high level of 30-31x, a whopping 88% premium to the long-period average of 16x (Exhibit 26).

One reason for the high All-Shares P/E is the massive losses in state-owned banks. Even excluding them, the All-Shares P/E works out to 24x, 42% higher than the long-period average of 17x (Exhibit 27).

Exhibit 25 **Sensex PE at 21x is 24% higher than long-period average of 17x**

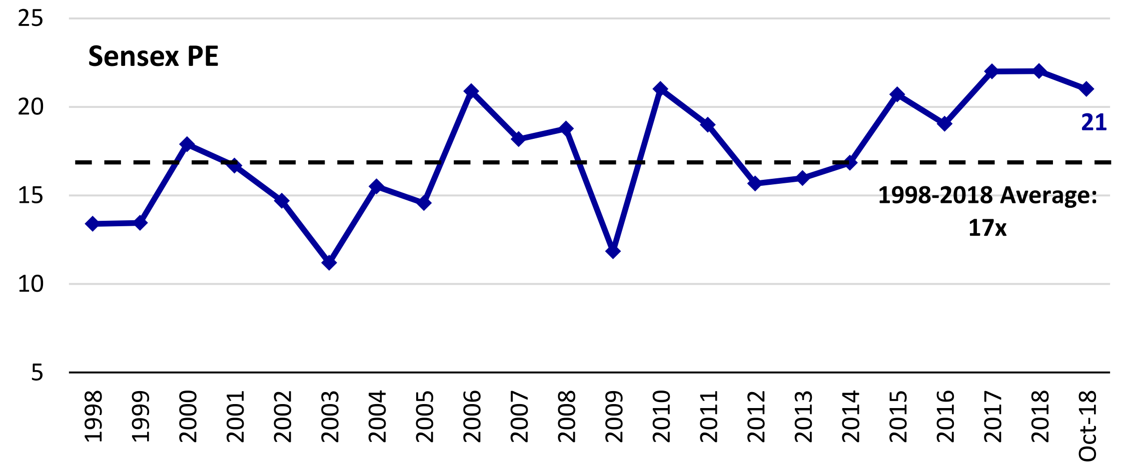


Exhibit 26 **All-Shares PE at 30x is 88% higher than long-period average of 16x**

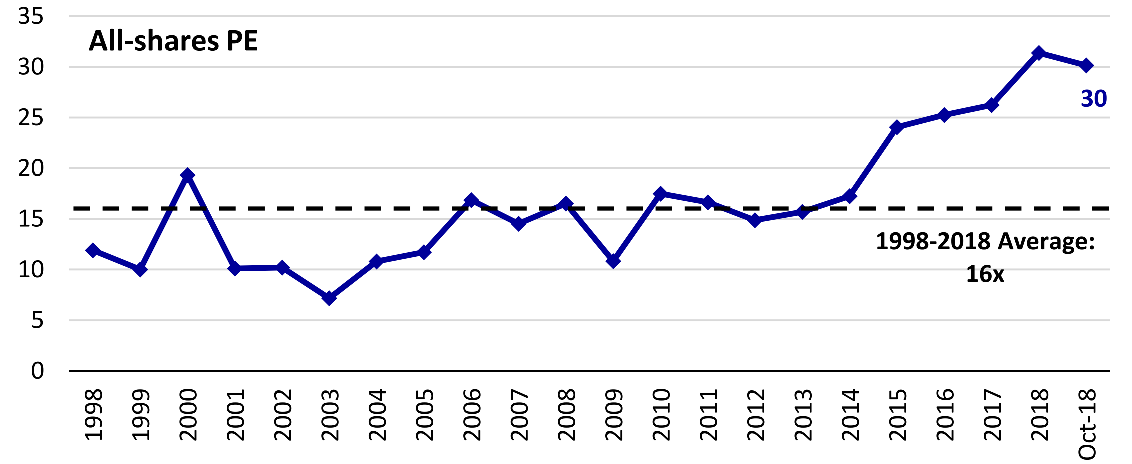
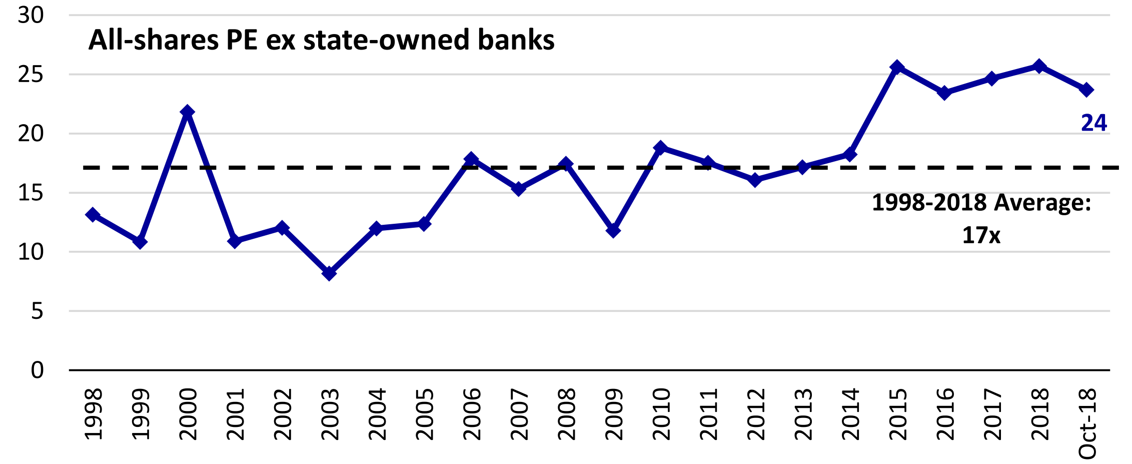
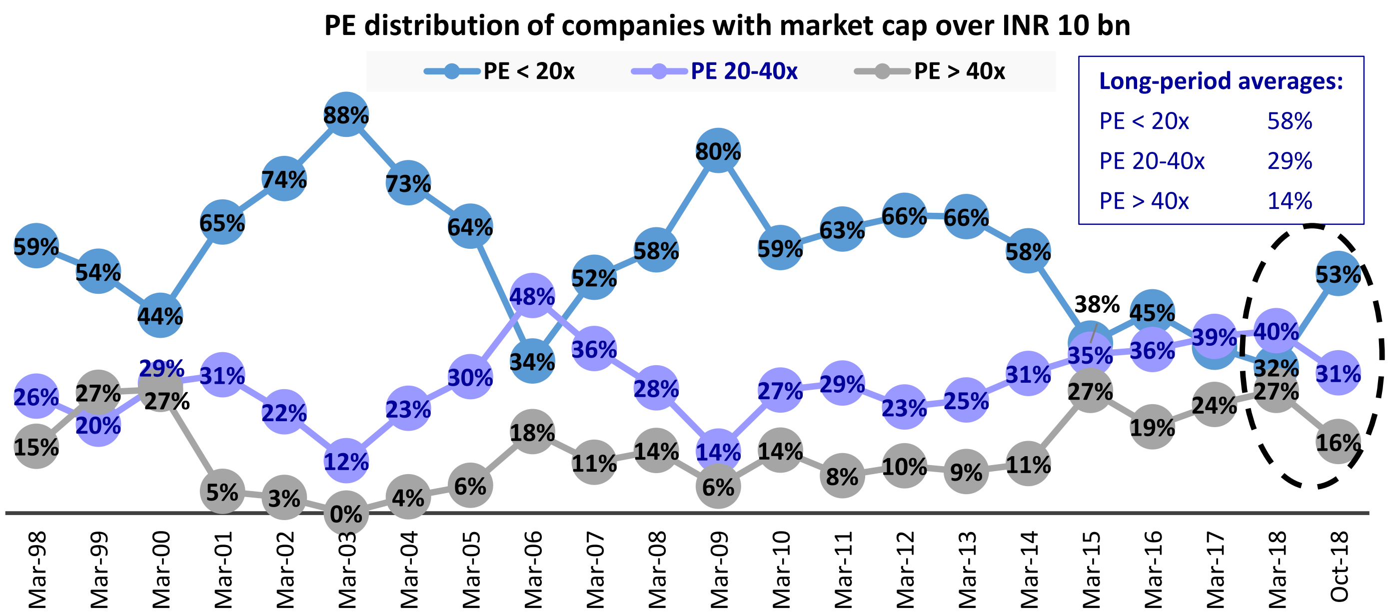


Exhibit 27 **All-Shares PE ex state-owned banks at 24x is 42% higher than long-period average of 17x**



Finally, consider the distribution trend of P/Es (Exhibit 28). In March 2018, a high 27% of the companies were trading at P/E above 40x versus the long-period average of only 14%. Likewise, 40% of the companies were trading at P/E of 20-40x versus the long-period average of only 29%. In fact, number of companies with P/E of 0-20x was at all-time low of 32%. The above excesses have significantly corrected in the ongoing fall in market levels.

Exhibit 28 **Recent market fall has led to significant correction of valuation excesses as of March 2018**



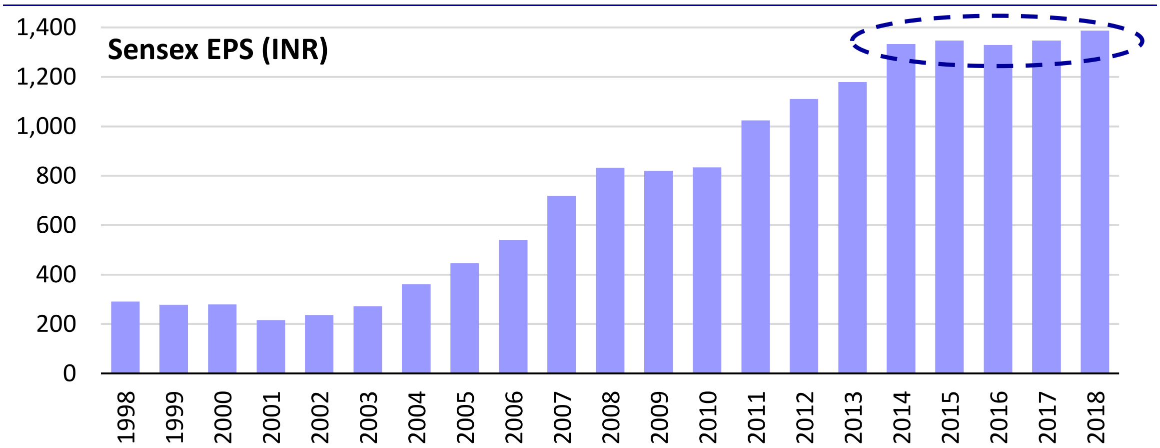
7.1 Calculating built-in expectations in the current Sensex valuations

We used our DFCFE Model to calculate the built-in expectations in the current Sensex valuations (for the purpose, we raised the Continuing growth rate from 8% to 10%). Iterations suggest –

- Implied Sensex RoE of 17% (v/s 14% currently) and
- 5-year earnings CAGR of 16% (v/s 3% in the last five years 2013 to 2018, Exhibit 29).

As robust corporate profit growth remains elusive, expect markets to remain soft.

Exhibit 29 **Sensex EPS is virtually flat for the past 5 years, 2013 to 2018**



8. Conclusions

Buy QGLP – Quality, Growth, Longevity at reasonable Price

- The two key drivers of value are RoE and Earnings growth.
- Companies create Intrinsic Value only when they earn RoE higher than Cost of Equity. If RoE is exactly equal to Cost of Equity, any level of growth creates no value.
- Low RoE companies must focus on increasing RoE, high RoE companies on increasing growth.
- Both high RoE and high Earnings growth are difficult to sustain, especially Earnings growth. Hence, stocks whose rich valuations factor in such high growth rates to sustain will most likely disappoint.
- PEG less than 1x is a near-infallible formula for healthy outperformance.
- Any growth insight is valuable, even if it means only for the next one year.
- Valuations above 50x P/E have a very low probability of generating market outperformance.
- Buy **QGLP** – stocks with high-**Q**uality business run by high-**Q**uality management, with healthy earnings **G**rowth to be sustained over a **L**ong period (at least 5-6 years), at reasonable **P**rice, preferably PEG less than 1x.
- And finally, investors must seriously consider selling stocks in their portfolio trading at 3x PEG or 2x relative to market, whichever is higher.

Exhibit 30 **Summary**

Pricing heuristic	WHAT WORKS ...		WHAT DOESN'T ...	
	Metric	Alpha	Metric	Alpha
PEG	< 1x	19%	> 3x	-10%
Payback	< 1x	17%	> 3x	-12%
P/E	< 10x	5%	> 50x	-14%
P/E relative to market	< 1x	4%	> 2x	-8%

ANNEXURE 1: RoE & Earnings growth drivers

Having determined that RoE and Earnings growth are the key drivers of value, it is relevant to know what drives each of them. We briefly discuss this here.

A. What drives RoE

Industry structure & Company strategy

Two major factors drive RoE of any company, one external to it and the other internal –

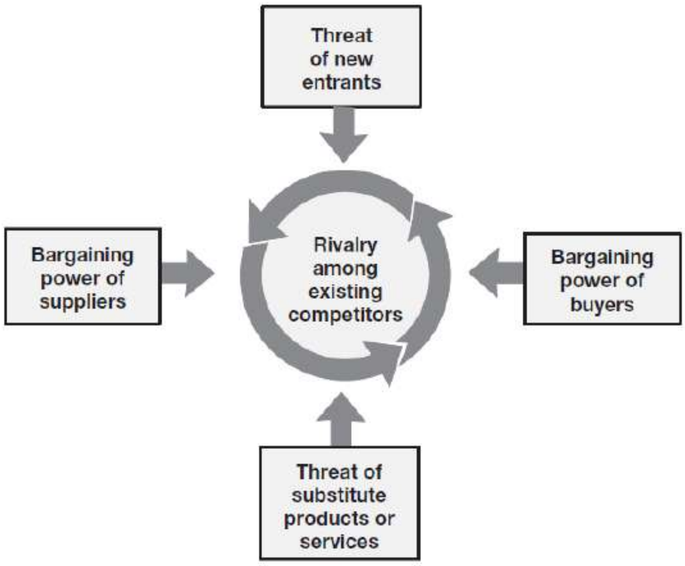
1. External: Attractiveness of industry structure, and
2. Internal: Effectiveness of a company's own strategy.

A.1 Attractiveness of industry structure

RoE varies across sectors depending on the competitive dynamics governing them. The Five Forces framework of Michael Porter is ideal to assess the attractiveness of industry structure (Exhibit A). The higher each force is, the lower is the industry attractiveness, and vice versa e.g. higher the rivalry among existing competitors, lower is the industry attractiveness, and vice versa.

In Exhibit B, we present our Industry Structure Score for major industries in India. Companies in sectors with score of 3.5 or higher are likely to enjoy higher RoE than those in low-scoring sectors.

Exhibit A **Porter's Five Forces framework**



NOTE: In their book *Playing to Win*, authors A G Lafley and Roger Martin highlight that –

(1) The interplay of forces along the vertical axis decides how much value will get created in the industry; and
(2) The interplay of forces along the horizontal axis decides how the industry value will get distributed among the players, the customers and the suppliers.

SCORING METHODOLOGY:

Each of the Five Forces is rated 0 or 1 with a middle score of 0.5.

As an illustration, for an industry, if Bargaining Power of Customers is high, that industry gets 0 for that Force. Conversely, if Bargaining Power of Customers is low, the industry gets 1. If Bargaining Power is balanced, the industry gets 0.5.

Every Force is rated this way, and the sum total of all Five Forces is the Industry Structure Score.

Exhibit B **Industry Structure Score for major industries in India based on Porter's Five Forces**

	Inter-firm	Bargaining Power of		Threat of		TOTAL
Sector	Rivalry	Customers	Suppliers	Entrants	Substitutes	SCORE
Agri & related	0	1	1	0	0.5	2.5
Alcoholic Beverages	0.5	0.5	1	1	1	4.0
Auto Ancillaries	0.5	0	0	1	1	2.5
Automobiles – 2-wheelers	0.5	1	1	0.5	1	4.0
Automobiles – Cars/UVs	0	0.5	1	0.5	1	3.0
Automobiles – LCVs/HCVs	0	0.5	1	0	1	2.5
Automobiles – Tractors	0	0.5	1	1	1	3.5
Aviation	0	1	0	0.5	1	2.5
Banks – Private Sector	0	0.5	1	0.5	1	3.0
Banks – Public Sector	0	0.5	1	0.5	1	3.0
Cables	0	0	0	0.5	0.5	1.0
Capital Goods	0	0	1	0	1	2.0
Cement	0	1	1	0	1	3.0
Ceramic Products	0	0.5	0.5	0.5	1	2.5
Chemicals	0	0	1	0	1	2.0
Cigarettes	1	1	1	1	1	5.0
Construction	0	0	0.5	0	1	1.5
Consumer – FMCG	0.5	1	1	1	1	4.5
Consumer Durables	0	0.5	1	0	1	2.5
Engineering	0	0	1	0	1	2.0
Fertilizers	0	1	0	1	1	3.0
Gas Distribution	1	1	0	1	0.5	3.5
Gems & Jewelry	0	0.5	0.5	0	1	2.0
Hospitals/Diagnostics	0.5	0.5	0.5	0	1	2.5
Hotels & Restaurants	0	0	1	0.5	1	2.5
IT – Software	1	0	1	1	0	3.0
Logistics	0	0	0.5	0	1	1.5
Media – Print/TV	0	0	1	0.5	0.5	2.0
Mining & Mineral products	0.5	0.5	0.5	0.5	1	3.0
NBFC	0	0.5	0.5	0	1	2.0
NBFC – Housing	0	1	0.5	0	1	2.5
NBFC – Insurance	0	0.5	1	0.5	1	3.0
Non Ferrous Metals	0.5	1	0.5	0	0.5	2.5
Oil & Gas – Downstream	1	1	0.5	1	0.5	4.0
Oil & Gas – Upstream	0.5	1	0	0.5	1	3.0
Packaging	0	0	0	0.5	0.5	1.0
Paints	1	1	1	1	1	5.0
Paper	0	0	0.5	1	1	2.5
Pharmaceuticals	0.5	1	1	0	0.5	3.0
Plastic Products	0	0.5	0	0.5	1	2.0
Ports & related	0.5	0.5	1	1	1	4.0
Power	0	1	0.5	0	0	1.5
Realty	0	0	1	0	1	2.0
Retail	0.5	0	0.5	0.5	0.5	2.0
Shipping	0	0	0.5	0.5	0.5	1.5
Steel	0	0.5	1	0	0.5	2.0
Sugar	0	0	0	0	1	1.0
Telecom	0	0.5	0.5	1	1	3.0
Textiles	0	0	0	0	1	1.0
Travel	0	0	0.5	0.5	1	2.0
Tyres	0.5	0	0	0.5	1	2.0

A.2 Effectiveness of a company's own strategy

Even within the same industry, RoEs vary widely among companies. This suggests that individual company strategy also plays a key role in determining RoE. Strategy is all about creating, maintaining, and ideally, improving competitive advantage over rivals. Companies with a sound strategy are likely to enjoy and sustain high RoE and vice versa. According to Michael Porter, there are 3 broad strategies – (1) Differentiation, (2) Low cost, and (3) Focus.

A.2.1 Differentiation

A differentiated strategy is all about offering customers a unique value proposition which is not easy to replicate by competition. This leads to customer loyalty, ensuring healthy sales, profits and RoE.

Example: Most consumer-facing companies follow a strategy of differentiation. Be it products like toothpaste, cola and biscuits, or even services like restaurants, banks and airlines, companies aspire to offer a unique product/service/experience to customers to retain their loyalty.

A.2.2 Low cost

In sectors where customers are unable to differentiate between products/services offered by the various players, having the lowest cost compared to peers is the only way to sustain competitive advantage and RoE.

Example: Commodity products like steel, cement and paper are undifferentiated in the eyes of the customer. Hence, companies in these sectors will need to aspire to be among the lowest cost producers in order to maintain or gain market share.

A.2.3 Focus

This is a special case of companies focused on just one segment of product, customers or geography i.e. a niche.

Example: Companies like Symphony, which is focused only on air-coolers or Jammu & Kashmir Bank, which is focused only in the state of Jammu & Kashmir.

A.2.4 Stuck-in-the-middle

Porter uses "Stuck-in-the-middle" to describe companies which do not seem to have adopted any of the above strategies.

Example: Many state-owned Indian companies fall into this category – neither differentiated nor low-cost nor focused.

A.3 What hurts RoE

A company's prevailing RoE trend could be adversely affected by disruptive competition, prolonged business downcycle, regulatory shocks (all three external factors), and capital misallocation by the management (e.g. unrelated business diversification, mega acquisition, etc).

B. What drives Earnings growth

Industry growth & Company Growth mindset

Two major factors drive Earnings growth for any company, one external to it and the other internal –

1. External: Industry growth, and
2. Internal: Company Growth Mindset.

B.1 Industry growth

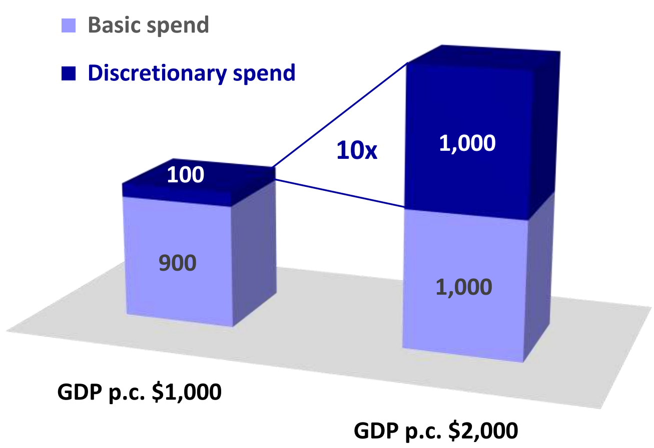
The major factors driving industry growth are:

1. Global and domestic economic growth
2. Value Migration
3. Low product penetration and
4. Emergence of a new industry or industry segment.

B.1.1 Global and domestic economic growth

This forms the base rate of growth for most industries. Domestically, rising per capita incomes lead to exponentially higher spend on discretionary goods and services (Exhibit C). Further, a healthy rate of savings and investment leads to higher derived demand for capital goods, construction, engineering, etc.

Exhibit C **Linear growth in per capita income leads to exponential growth for discretionaries**



B.1.2 Value Migration

In his book ***Value Migration***, author Adrian J Slywotzky says, “Value migrates from outmoded business designs to new ones that are better able to satisfy customers’ most important priorities.” Value Migration results in a gradual yet major shift in how the current and future profit pool in an industry is shared. Value Migration is one of the most potent drivers of growth, as it creates a sizable and sustained business opportunity for its beneficiaries.

Exhibit D **Examples of Value Migration**

Sector	Value migration from	Value migration to
IT Services	Developed world	Low labor-cost countries
Pharmaceuticals	Developed world	Low-cost chemistry countries
Banking	State-owned banks	Private banks
Telecom	Fixed line networks	Wireless networks
e-tailing	Brick-and-mortar retailing	Online retailing
Gems & Jewelry	Unorganized jewelry market	Organized jewelry retailing
Aviation	Full service airlines and railways	Low cost airlines

B.1.3 Low product penetration

Industries whose products have a low penetration enjoy high level of growth for a prolonged period. For instance, penetration of products like cars and air-conditioners in India is very low compared to peer countries like China. Companies in such industries will enjoy healthy growth for long period.

B.1.4 Emergence of new industry or industry segment

Completely new industries or industry segments will have a long runway of growth till they reach the maturity phase. Examples are electric cars globally, and compact air-coolers in India.

B.2 Company Growth Mindset

External factors apart, a company's Growth mindset has a significant influence on its GAP.

What is Growth mindset? Psychologists talk of two kinds of mindset: (1) Fixed mindset and (2) Growth mindset. At the personal level, a "Fixed mindset" assumes that our character, intelligence, and creative ability are static givens which we cannot change in any meaningful way. Such a mindset views success as an affirmation of that inherent intelligence. Hence, all efforts are towards avoiding failure at any cost. A "Growth mindset," on the other hand, thrives on challenge and sees failure not as evidence of unintelligence but as an opportunity for growth and for stretching existing abilities. Hence, companies with Growth mindset are likely to be more entrepreneurial and risk-taking than companies with Fixed mindset.

A company's Growth mindset may take several forms, mainly, (1) Aggressive capacity expansion, (2) Periodic new product launches and/or new business initiatives, (3) Active inorganic growth strategy, and (4) Operating/financial leverage.

B.3 What hurts Earnings growth

A company's prevailing Earnings growth trend may slow down due to one or more of the following factors: industry maturity, weakening of the company's competitive advantage, and high-base effect.

ANNEXURE 2: Detailed alpha performance of PE, PE relative to market, PEG and Payback ratio

We present here the detailed alpha performance of the various pricing techniques covered in Section 6 – P/E, P/E relative to market, PEG and Payback Ratio.
Alpha implies outperformance over the Sensex for the next 3/5 years, as the case may be.
For every year, we have considered only companies with market cap greater than INR 10 billion.

1. P/E – 3-year alpha for various categories across years

PE (x)	Average	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
0 - 10	5%	-9%	23%	30%	28%	23%	9%	-5%	-16%	-4%	10%	3%	10%	-4%	-14%	-6%	-2%	17%	1%
10 - 20	1%	0%	-1%	1%	1%	7%	-1%	-7%	-5%	-9%	5%	-3%	7%	-7%	-6%	4%	9%	13%	11%
20 - 30	-2%	-6%	4%	-12%	-2%	-3%	-32%	-7%	-3%	-10%	-2%	-4%	-4%	0%	4%	5%	7%	15%	7%
30 - 40	-1%	45%	-2%	-4%	-17%	-15%	-15%	-22%	-9%	-11%	-11%	-5%	10%	-3%	-1%	7%	15%	18%	5%
40 - 50	-1%	17%	-5%	-3%	-11%	-17%	N.A.	3%	16%	-6%	-5%	-3%	5%	-12%	-2%	-5%	0%	8%	0%
50 - 75	-8%	-21%	3%	-2%	N.A.	-15%	N.A.	8%	1%	-17%	0%	-10%	-35%	-19%	-18%	-7%	0%	0%	3%
> 75	-18%	N.A.	-8%	-37%	N.A.	N.A.	N.A.	N.A.	-24%	-22%	-20%	-19%	-23%	-18%	-25%	-24%	-19%	-2%	3%
No. of companies		54	56	73	62	58	69	112	162	255	285	324	219	352	375	362	347	375	475

2. P/E relative to market – 3-year alpha for various categories across years

PE Relative to Market (x)	Average	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<= 1	4%	-2%	16%	21%	17%	17%	8%	-5%	-14%	-8%	9%	0%	10%	-5%	-8%	-2%	3%	15%	8%
1 - 1.5	0%	-6%	2%	-4%	-5%	3%	4%	-10%	0%	-9%	-2%	-3%	7%	-1%	1%	4%	6%	13%	9%
1.5 - 2	0%	-6%	12%	-9%	3%	1%	-6%	-1%	-2%	-12%	-9%	-6%	2%	-4%	3%	7%	11%	19%	2%
2 - 3	-5%	25%	-6%	-4%	-15%	-15%	-32%	-14%	-12%	-9%	-10%	-7%	0%	-15%	-14%	2%	12%	14%	1%
> 3	-11%	3%	-1%	-32%	N.A.	-16%	-15%	8%	2%	-21%	-8%	-16%	-20%	-20%	-19%	-19%	-11%	-1%	4%
No. of companies		54	56	73	62	58	69	112	162	255	285	324	219	352	375	362	347	375	475

ANNEXURE 2 (continued): Detailed workings of PE, PE relative to market, PEG and Payback ratio

1. PEG – 3-year alpha for various categories across years

PEG (x)	Average	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
0 - 1	**19%**	19%	31%	25%	26%	16%	12%	7%	5%	-1%	18%	17%	19%	15%	14%	22%	27%	37%	30%
0 - 0.5	26%	41%	35%	34%	35%	26%	16%	17%	8%	5%	22%	26%	25%	23%	13%	26%	34%	48%	39%
0.5 - 1	11%	8%	26%	14%	9%	3%	-6%	-3%	0%	-5%	13%	8%	9%	10%	14%	19%	22%	30%	25%
1 - 1.5	**3%**	8%	7%	16%	0%	-8%	-4%	-21%	-17%	-3%	-2%	5%	10%	6%	4%	13%	13%	20%	12%
1.5 - 2	**-3%**	0%	-9%	12%	-15%	-3%	-23%	-5%	-24%	-9%	-7%	-5%	-7%	-4%	3%	11%	13%	17%	8%
2 - 3	**-4%**	-1%	-8%	1%	19%	-14%	N.A.	-32%	-33%	-1%	-7%	-6%	-2%	-1%	-2%	-2%	9%	11%	10%
3 +	**-10%**	-12%	-7%	-10%	-17%	-14%	-5%	-32%	-28%	-21%	-9%	-13%	0%	-10%	-2%	-3%	2%	5%	-1%
< 0	**-19%**	-22%	-11%	-22%	-25%	-6%	-31%	-30%	-33%	-26%	-15%	-21%	-15%	-22%	-19%	-13%	-13%	-3%	-10%
No. of companies		**54**	**56**	**73**	**62**	**58**	**69**	**112**	**162**	**255**	**285**	**324**	**219**	**352**	**375**	**362**	**347**	**375**	**475**

Note: PEG < 0 implies PAT degrowth in the next 3 years

2. Payback Ratio – 5-year alpha for various categories across years

Payback Ratio (x)	Average	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
0 - 1	**17%**	15%	29%	31%	19%	14%	11%	8%	9%	17%	14%	11%	7%	16%	23%	23%	25%
1 - 1.5	**5%**	15%	11%	13%	-11%	-6%	-11%	-1%	2%	1%	8%	12%	6%	6%	10%	15%	15%
1.5 - 2	**4%**	8%	10%	17%	10%	-3%	-10%	-3%	-3%	1%	5%	2%	-1%	6%	4%	7%	13%
2 - 3	**0%**	7%	5%	11%	-2%	-12%	-17%	-8%	-2%	-1%	0%	1%	-3%	4%	4%	5%	6%
3 +	**-12%**	-6%	-10%	-11%	-16%	-19%	-28%	-14%	-13%	-11%	-11%	-15%	-20%	-11%	-4%	-3%	-2%
< 0	**-26%**	-19%	N.A.	-58%	-26%	N.A.	-61%	-4%	-22%	-26%	-26%	-24%	-28%	-23%	-19%	-16%	-17%
No. of companies		**55**	**57**	**78**	**66**	**61**	**73**	**116**	**167**	**260**	**299**	**341**	**237**	**377**	**404**	**388**	**393**

Note: Payback < 0 implies the cumulative PAT of next five years is negative

NOTES

2013-18 Wealth Creation Study: Detailed findings

#1 Trend in Wealth Creation

INR 44.9 trillion Wealth Created during 2013-18

- The top 100 Wealth Creators created INR 44.9 trillion of wealth during 2013-18.
- This is the highest ever quantum of Wealth Created by far.
- Pace of Wealth Creation is also robust at 23% CAGR whereas the benchmark Sensex CAGR is only 12%.

Exhibit 1 **2013-18 Wealth Created at INR 44.9 trillion is the highest ever**

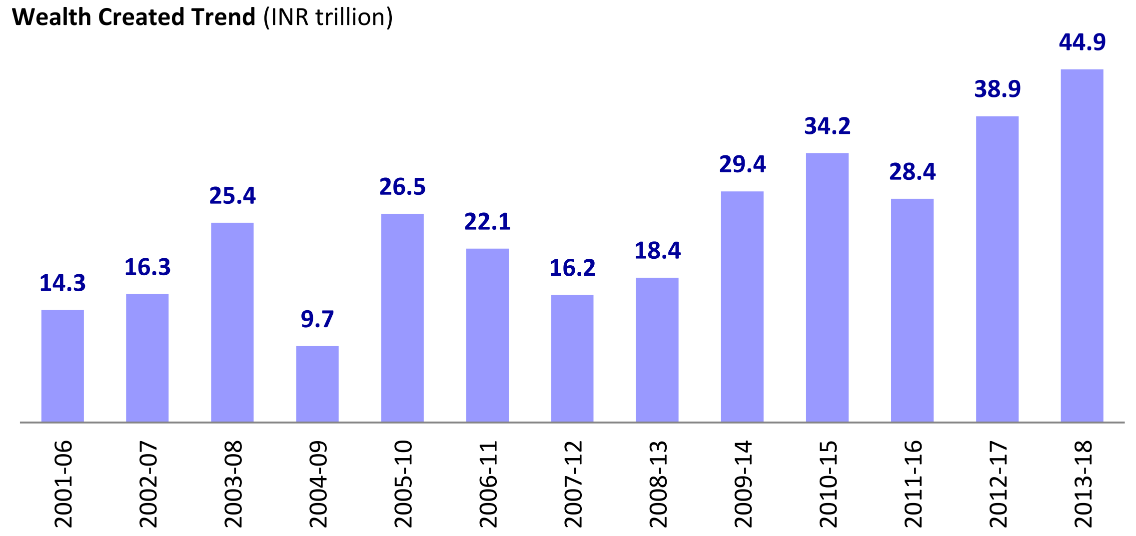
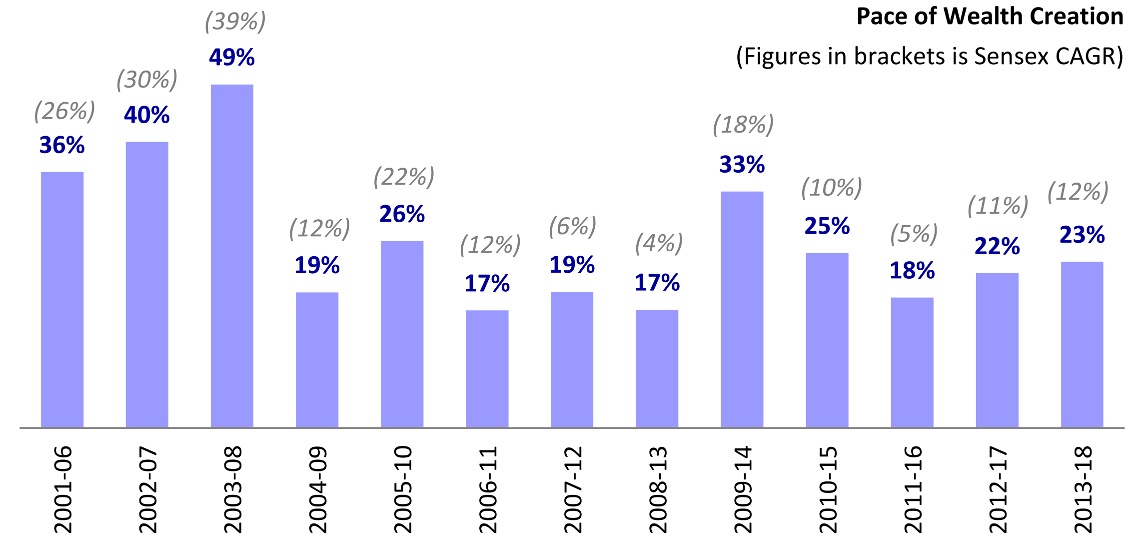


Exhibit 2 **2013-18 pace of Wealth Creation is healthy at 23% CAGR vis-à-vis benchmark's 12% CAGR**



Key Takeaway

Muted markets no deterrent for robust Wealth Creation

For the past four study periods, benchmark indices have delivered muted 5-year return CAGR of 10-12%. Yet, Wealth Creation has been robust in all these periods, reinforcing our pet take on market timing, "Forget markets, think stocks."

#2 The Biggest Wealth Creators

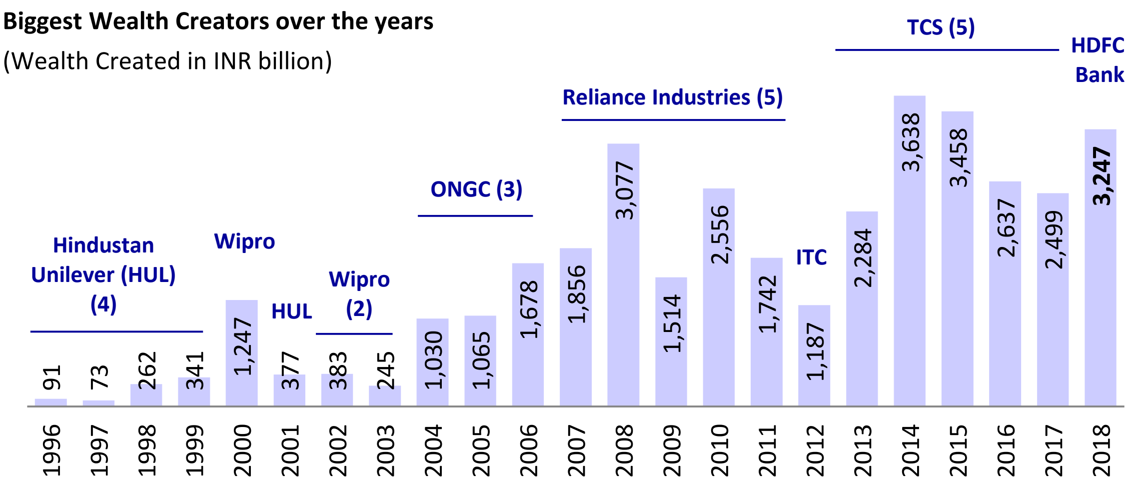
HDFC Bank is the Biggest Wealth Creator for the first time ever

- After consistently hugging the second and third rank for the last 6 studies, **HDFC Bank** has finally broken through to emerge the biggest Wealth Creator over 2013-18.
- HDFC Bank has dethroned **TCS**, suggesting that it is difficult to sustain the top spot beyond five 5-year periods. **Reliance Industries** had a 5-year run earlier (see Exhibit 4).
- **Bajaj Finance** holds the unique distinction of featuring in the top 10 of both Biggest and Fastest Wealth Creators.

Exhibit 3 **Top 10 Biggest Wealth Creators (2013-18)**

Rank	Company	Wealth Created		CAGR (%)		P/E (x)		RoE (%)	
		INR b	% share	Price	PAT	2018	2013	2018	2013
1	HDFC Bank	3,247	7.2	25	22	27	22	17	19
2	Reliance Inds	3,094	6.9	18	13	15	13	12	11
3	TCS	2,532	5.6	13	13	21	22	30	36
4	Maruti Suzuki	2,308	5.1	47	25	41	17	15	11
5	Hind. Unilever	1,883	4.2	23	10	55	31	72	113
6	HDFC	1,640	3.7	17	16	22	19	16	21
7	Kotak Mah. Bank	1,345	3.0	26	23	32	22	12	14
8	IOC	1,008	2.2	20	38	8	15	19	7
9	Larsen & Toubro	990	2.2	17	14	21	18	16	13
10	Bajaj Finance	902	2.0	73	35	38	10	16	18
Total of Top 10		**18,948**	**42**	**21**	**18**	**21**	**18**	**17**	**15**
Total of Top 100		**44,883**	**100**	**24**	**19**	**22**	**18**	**16**	**14**

Exhibit 4 **Five-year successive run of Biggest Wealth Creator broken again**



Key Takeaway

The Value Migration run continues

HDFC Bank has broken TCS's 5-year run as the Biggest Wealth Creator, but the Value Migration run continues. Simply stated, Value Migration means that value (i.e. profit and market cap) moves from outmoded business models to superior ones. In IT, value migrated from "Boston to Bangalore" (i.e. developed economies to emerging economies). In banking, value is relentlessly migrating from state-owned banks to private banks. HDFC Bank is a key beneficiary.

#3 The Fastest Wealth Creators

Indiabulls Ventures is the Fastest Wealth Creator

- **Indiabulls Ventures** has emerged as the Fastest Wealth Creator, with 2013-18 stock price multiplier of 30x (97% CAGR).
- **Eicher Motors** is among the top 10 Fastest Wealth Creators in the last 7 studies, and **Bajaj Finance** in the last 5.
- 8 of the top 10 Fastest Wealth Creators had base 2013 market cap of less than INR 20 billion.
- 5 of the 10 stocks were trading at single-digit P/E in 2013.
- INR 100,000 invested equally in 2013 in these 10 stocks would have grown to almost INR 1.7 million in 2018, delivering a return CAGR of 75%. Over the same period, INR 100,000 invested in the Sensex would have grown to only INR 175,000 (12% return CAGR).

Exhibit 5 **Top 10 Fastest Wealth Creators (2013-18)**

Rank	Company	Price Appn. (x)	CAGR (%)		Mkt Cap (INR b)		P/E (x)	
			Price	PAT	2018	2013	2018	2013
1	Indiabulls Ventures	30	97	30	127	2	54	3
2	Dalmia Bharat	19	81	23	257	12	48	6
3	TVS Motor	19	80	40	293	15	44	12
4	HEG	19	79	48	127	7	12	4
5	Sterlite Technologies	17	75	67	125	9	37	35
6	Bajaj Finance	15	73	35	1,023	57	38	10
7	Motilal Oswal	13	67	42	146	11	26	11
8	IIFL Holdings	12	64	27	224	18	25	7
9	NBCC	12	64	11	171	15	48	7
10	Eicher Motors	11	62	45	772	69	39	23

Exhibit 6 **History of Fastest Wealth Creators**

Year	Company	5-yr Price Multiple (x)	5-yr Price CAGR %
1996	Dr Reddy's Labs	30	97
1997	Cipla	7	48
1998	Satyam Computers	23	87
1999	Satyam Computers	75	137
2000	SSI	223	195
2001	Infosys	66	131
2002	Wipro	69	133
2003	e-Serve	50	119
2004	Matrix Labs	75	137
2005	Matrix Labs	136	167
2006	Matrix Labs	182	183
2007	B F Utilities	665	267

Year	Company	5-yr Price Multiple (x)	5-yr Price CAGR %
2008	Unitech	837	284
2009	Unitech	54	122
2010	Unitech	28	95
2011	Sanwaria Agro	50	119
2012	TTK Prestige	24	89
2013	TTK Prestige	28	95
2014	Eicher Motors	27	94
2015	Ajanta Pharma	50	119
2016	Ajanta Pharma	53	121
2017	Ajanta Pharma	29	96
2018	Indiabulls Ventures	30	97

Key Takeaway

Beware of over-valuation and overstaying

Charlie Munger has said, “Anything that compounds for a long time must decompound at some point of time.” Most of the Fastest Wealth Creators have seen massive valuation re-rating. In some cases, their P/Es may have even reached unsustainable levels, leaving no margin of safety. In such situations of over-valuation, selling the stock(s) is the best way to lock in the supernormal returns. Overstaying in these winners runs the risk of eroding much of the gains.

#4 The Most Consistent Wealth Creators

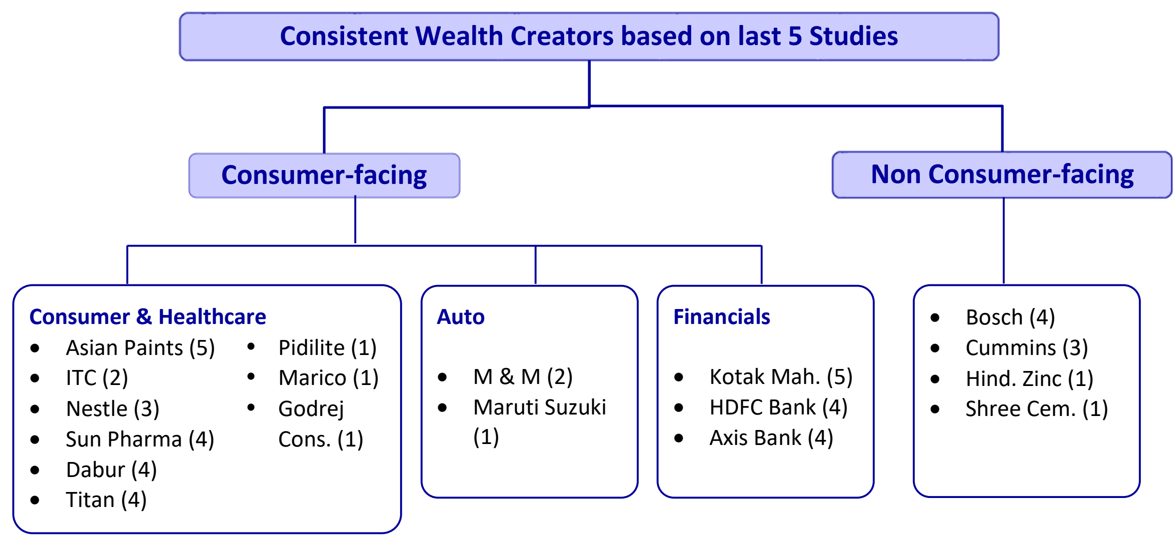
Titan Company is the Most Consistent Wealth Creator

- **Titan Company** has emerged the Most Consistent Wealth Creator by virtue of –
  1. Appearing among top 100 Wealth Creators in each of the last 10 studies; and
  2. Recording the highest Price CAGR of 33% over the 10-year period 2008 to 2018, fractionally ahead of **Godrej Consumer**.
- All the top 10 Consistent Wealth Creators are consumer-facing companies.
- A surprising finding is that except for **HDFC Bank**, 2018 RoE is lower than 2008 RoE. The main reason is hoarding of surplus cash.

Exhibit 7 **Top 10 Most Consistent Wealth Creators (2008-18)**

		Appeared in	10-yr Price	10-yr PAT	P/E (x)		RoE (%)	
Rank	Company	WC Study (x)	CAGR (%)	CAGR (%)	2018	2008	2018	2008
1	Titan Company	10	33	22	73	30	22	35
2	Godrej Consumer	10	33	25	51	20	24	93
3	Shree Cement	10	31	17	42	13	15	42
4	Pidilite Inds.	10	30	19	49	20	27	28
5	Maruti Suzuki	10	27	14	41	14	15	20
6	Marico	10	26	17	54	26	31	51
7	Asian Paints	10	25	17	54	28	24	42
8	HDFC Bank	10	22	28	27	29	17	14
9	Kotak Mah. Bank	10	21	20	32	22	12	17
10	Dabur India	10	20	15	42	29	24	53

Exhibit 8 **Consumer-facing companies more likely to be Consistent Wealth Creators**



NOTE: Bracket indicates number of times appeared within top 10 in last 5 Wealth Creation Studies

Key Takeaway

The re-rating bonus may not be that consistent

Most of the Consistent Wealth Creators have steady earnings growth. However, in the last couple of years, valuation re-rating has significantly amplified returns. Expecting this re-rating bonus to sustain is rather unrealistic.

#5 Wealth Creators Index (Wealthex) v/s BSE Sensex

Superior earnings and price performance over benchmark

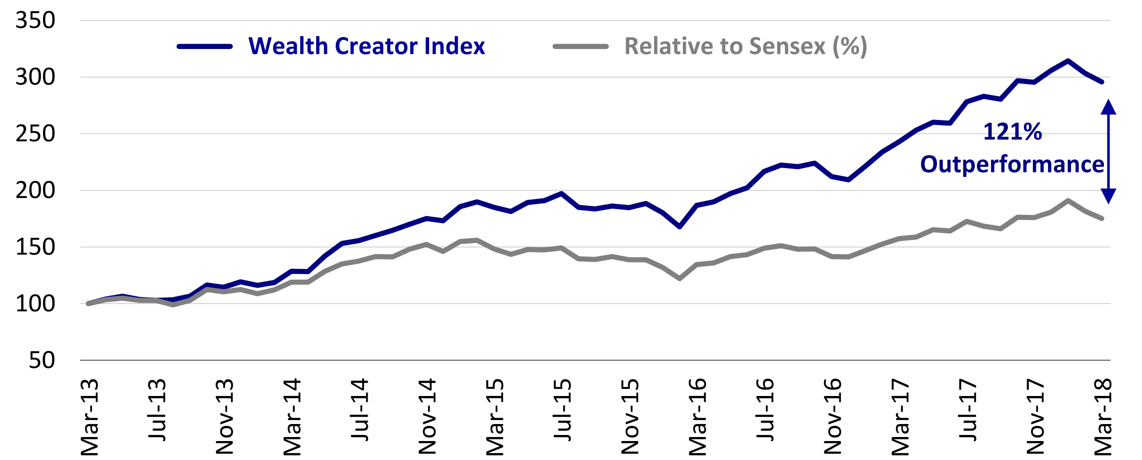
We compare Wealthex (top 100 Wealth Creators Market Cap index) with the BSE Sensex on 3 parameters - (1) market performance, (2) earnings growth and (3) valuation.

- **Market performance:** Over 2013-18, Wealth Creating companies have delivered return CAGR of 24% v/s 12% for the BSE Sensex. March 2018 over March 2013, Wealthex is up 196% whereas the Sensex is up 75% i.e. 121% outperformance over 5 years.
- **Earnings growth:** Wealthex clocked 5-year earnings CAGR of 19% v/s 3% for BSE Sensex. Further, YoY earnings growth for Wealthex is higher in all the 5 years 2013 through 2018.
- **Valuation:** Valuation re-rating has contributed 8% to Sensex CAGR of 12%. In contrast, much of Wealthex's 24% CAGR is led by the 19% earnings CAGR.

Exhibit 9 **Wealthex v/s Sensex: Superior market performance on the back of higher earnings growth**

	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	5 Year CAGR (%)
BSE Sensex	18,836	22,386	27,957	25,342	29,621	32,969	**12**
YoY (%)		19	22	10	12	12	
Wealthex - based to Sensex	18,836	24,207	34,847	35,147	45,754	55,680	**24**
YoY (%)		29	44	1	30	22	
Sensex EPS (INR)	1,179	1,334	1,348	1,330	1,347	1,387	**3**
YoY (%)		13	1	-1	1	3	
Wealthex EPS (INR)	1,042	1,333	1,372	1,628	2,093	2,494	**19**
YoY (%)		28	3	19	29	19	
Sensex PE (x)	16	17	21	19	22	24	**8**
Wealthex PE (x)	**18**	**18**	**25**	**22**	**22**	**22**	**4**

Exhibit 10 **Wealthex invariably outperforms benchmark indices handsomely**



Key Takeaway

Sensex – a weak earnings machine; QGLP stocks invariably outperform

Ever since the Lehman crisis of 2008, Sensex has been a weak earnings machine with single digit earnings growth in most years. As our theme study suggests, QGLP stocks – stocks with Quality, Growth, Longevity, at reasonable Price – invariably outperform the Sensex.

#6 Wealth Creation: Sector analysis

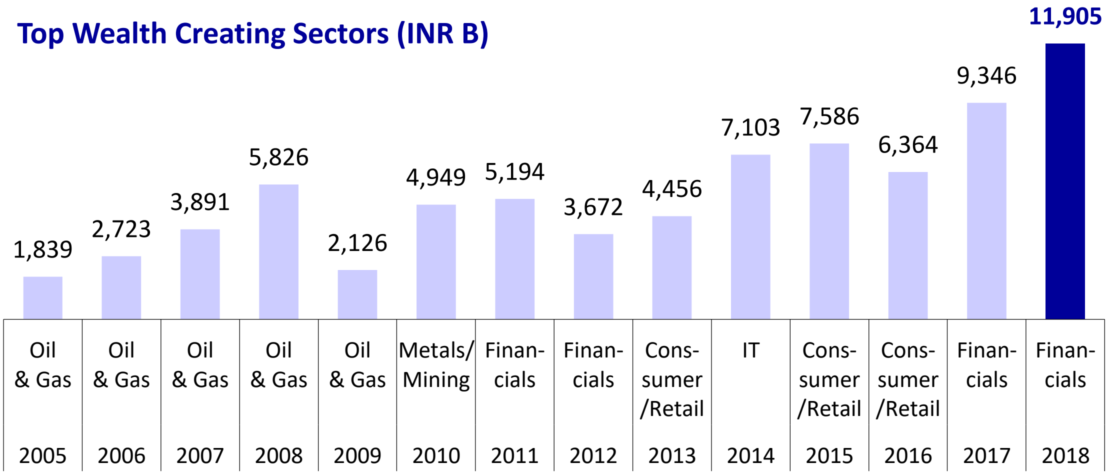
Financials is the biggest Wealth Creating sector for the second consecutive year

- **Financials** has emerged as India's biggest Wealth Creating sector over 2013-18 for the second consecutive year. The surge in Wealth Creation in the sector has been led by private banks and NBFCs.
- In terms of share of Wealth Created, **IT** is the biggest loser over the last 5 years, and **Auto** is the biggest gainer.
- **Wealth Creation was highly concentrated** – top 5 sectors accounted for a high 79% of total Wealth Created.

Exhibit 11 **Financials is the top Wealth Creating sector**

Sector (No of companies)	WC (INR b)	Share of WC % 2018	Share of WC % 2013	CAGR 13-18 (%) Price	CAGR 13-18 (%) PAT	P/E (x) 2018	P/E (x) 2013	RoE (%) 2018	RoE (%) 2013
Financials (22)	11,905	27	20	28	15	27	16	13	17
Cons. & Retail (21)	6,994	16	24	25	13	54	34	30	38
Auto (13)	5,906	14	6	20	21	12	13	16	10
Oil & Gas (5)	5,684	13	9	39	23	34	19	18	16
Technology (4)	3,932	9	23	15	15	20	20	27	34
Healthcare (13)	2,392	6	1	22	17	25	20	17	13
Cement (5)	2,105	5	2	26	53	12	33	14	3
Capital Goods (5)	1,560	4	11	31	40	18	25	18	10
Metals / Mining (2)	1,536	4	4	23	4	36	16	7	14
Telecom & Media (3)	839	2	1	17	17	30	29	17	10
Utilities (1)	471	1	-	16	13	13	11	15	16
Others (6)	1,560	4	1	29	16	26	15	18	18
Total	**44,883**	**100**	**100**	**24**	**19**	**22**	**18**	**16**	**14**

Exhibit 12 **Financials sector significantly beats its own previous high of Wealth Creation**



Key Takeaway

Financials should rule the roost for the next few years

India's Financials sector offers a huge opportunity. In Banking, there's massive Value Migration on from state-owned to private banks. Further, insurance and asset management are emerging as high-growth segments. Expect Financials to rule the roost in Wealth Creation for the next few years at least.

#7 Wealth Creation: Ownership – Private v/s PSU

PSUs remain insignificant in Wealth Creation, but there are signs of bottoming out

- PSUs' (public sector undertakings) Wealth Creation performance during 2013-18 continues to be weak. However, there are some signs of the same bottoming out:
  - The number of PSUs in the top 100 Wealth Creators is 11, up from 5 three years ago
  - Wealth Created by these 11 PSUs is 9% of total, again higher than 2% a few studies earlier.
  - Finally, unlike in the past, PSUs' 2013-18 PAT CAGR at 24% is higher than private sector's 18%. This has led to PSUs' price CAGR at 22% almost matching that of the private sector.
- The 11 Wealth Creating PSUs are **IOC, BPCL**, **HPCL**, **GAIL**, **Power Grid Corporation, Concor, Petronet LNG**, **Indraprastha Gas, LIC Housing, Bharat Electronics,** and **NBCC**.

Exhibit 13 **PSUs remain insignificant in Wealth Creation**

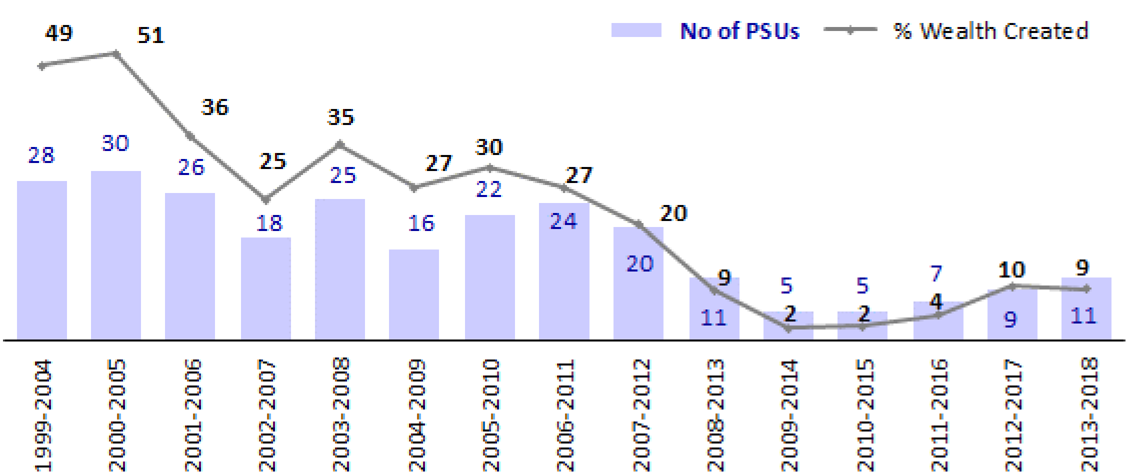
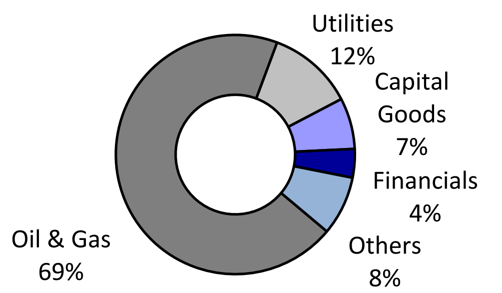


Exhibit 14 **Robust PAT CAGR of 24% is the key driver of Wealth Creation for the 11 PSUs**

	2013-2018	
	PSU	Private
No. of Wealth Creators in Top 100	11	89
Share of Wealth Created (%)	9	91
5-year Sales CAGR (%)	0	11
5-year PAT CAGR (%)	24	18
5-year Price CAGR (%)	22	24
P/E - 2013 (x)	12	19
P/E - 2018 (x)	11	25
RoE - 2013 (%)	11	14
RoE - 2018 (%)	19	16

Exhibit 15 **6 of the 11 PSU Wealth Creators are in Oil & Gas (IOC, BPCL, HPCL, PLNG, GAIL, IGL)**



Key Takeaway

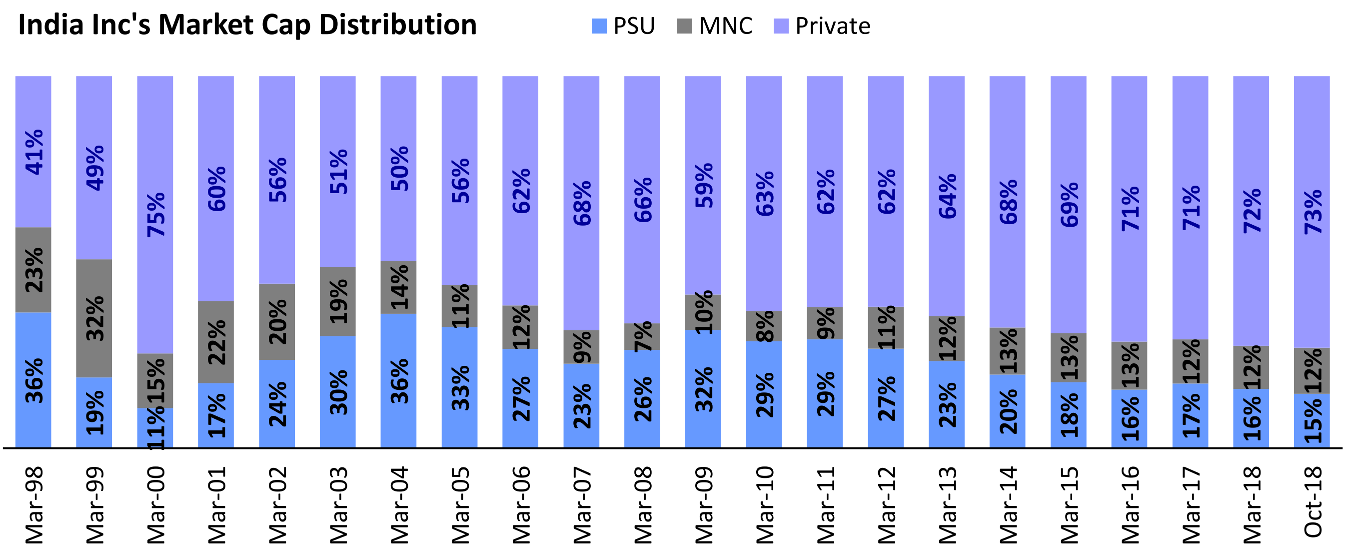
Only monopolistic PSUs are Wealth Creators

Only those PSUs are creating wealth, which face minimal competition from the private sector. The 3 oil marketing companies, GAIL, Power Grid, Concor, Indraprastha Gas, etc, are all monopolistic. Bharat Electronics and NBCC also get nominated business from the government. In general, PSUs find it challenging to successfully compete against the private sector.

The rise and rise of the Indian entrepreneur

- We observed India's market cap distribution over the last 20 years into 3 categories – PSUs, MNCs and private entrepreneurs.
- As Exhibit 16 shows, there is a clear and continuous migration of value from PSUs and MNCs to private entrepreneurs.
- PSUs' share of market cap is down from 36% in 1998 to 15% currently. Likewise, share of MNCs is down from 23% to 12%. Both their losses have been the gain of the Indian private entrepreneur, with market cap share rising from 41% in 1998 to 73% currently.
- Expect the above trend to continue as –
  1. MNCs increasingly prefer the unlisted route to expand their presence in India and
  2. PSUs continue to see their competitive advantage eroding.

Exhibit 16 **Indian private entrepreneurs are gaining significant share of India's market cap**



#8 Wealth Creation: Market Cap Rank Analysis

In our 2015 Wealth Creation Study, we called large, mid and small cap stocks as **Mega**, **Mid** and **Mini**, defined as under:

- **Mega** – Top 100 stocks by market cap rank for any given year
- **Mid** – Next 200 stocks by market cap rank
- **Mini** – All stocks below the top 300 ranks.

Market cap ranks of companies change constantly. Over time, companies also cross over from one category to another. For the period 2013-18, the market cap ranks crossover matrix stands as under –

Exhibit 17 **2013-18: Market cap ranks crossovers: No. of companies and average returns**

TO (in 2018)	FROM (in 2013): Mini	Mid	Mega
Mega	1	16	71
Avg Return	*80%*	*43%*	*15%*
Mid	46	98	26
Avg Return	*61%*	*23%*	*0%*
Mini	2,462	83	3
Avg Return	*18%*	*-3%*	*-20%*
Merged / De-listed	600	3	0
TOTAL	3,109	200	100

How to read the table

- In 2013, there were 3,109 Mini companies (i.e. ranked beyond 300). Of these, 1 moved to the Mega category by 2018, delivering a 5-year return CAGR of 80%. Another 46 moved to Mid category by 2018, delivering an average 5-year return CAGR of 61% in the process. Next, 2,462 Mini companies stayed as Mini and delivered average 18% return CAGR. 600 companies were merged or de-listed.
- Of the 200 Mid companies in 2013, 16 moved to Mega by 2018, delivering an average 43% return CAGR in the process. 98 Mid companies stayed as Mid (23% return CAGR) and 83 slipped to the Mini category (-3% return CAGR). 3 companies were merged or de-listed.
- Finally, of the 100 Mega companies in 2013, 71 stayed as Mega (15% return CAGR), 26 slipped to Mid (0% return CAGR), and 3 slipped to the Mini category (-20% return CAGR).

We specifically analyzed the 3 positive crossovers –

1. Mini-to-Mega
2. Mini-to-Mid and
3. Mid-to-Mega.

8.1 Mini-to-Mega: 1 company

- During 2013-18, there was one company, TVS Motor, which moved from Mini to Mega. It ranks 47th in our list of top 100 Wealth Creators, and is the third fastest Wealth Creator.

Exhibit 18 **Mini-to-Mega (2013-18): 1 stock, and it features among our top 100 Wealth Creators**

	Mkt Cap Rank		WC Rank *		Price	PAT	P/E (x)	
	2018	2013	Biggest	Fastest	CAGR %	CAGR %	2018	2013
TVS Motor	97	342	47	3	80	40	44	12

* 2013-18 Wealth Creation Rank

8.2 Mini-to-Mid: 46 companies, 61% average Price CAGR

- During 2013-18, 46 companies crossed over from Mini to Mid category, generating an average return CAGR of 61%, v/s 12% for the Sensex.
- Of these 46 Mini-to-Mid stocks, 11 feature in our list of 100 Biggest Wealth Creators.
- 7 of the top 10 fastest Wealth Creators are featured in the list.

Exhibit 19 **Mini-to-Mid (2013-18): 11 of 46 Mini-to-Mid stocks feature among top 100 Wealth Creators**

	Mkt Cap Rank		WC Rank *		Price	PAT	P/E (x)	
	2018	2013	Biggest	Fastest	CAGR %	CAGR %	2018	2013
Indiabulls Ventures	199	899	97	1	97	30	54	3
Dalmia Bharat	110	388	51	2	81	23	48	6
HEG	200	497	93	4	79	48	12	4
Sterlite Tech.	205	443	94	5	75	67	37	35
Motilal Oswal	178	408	86	7	67	42	26	11
IIFL Holdings	123	310	58	8	64	27	25	7
NBCC	158	350	80	9	64	11	48	7
Symphony	206	380	95	11	58	26	67	21
Graphite India	182	341	90	13	56	52	14	12
Bharat Financial	168	372	89	14	55	L to P	34	–
Natco Pharma	184	366	96	15	54	54	20	17
AVERAGE					**68**	**38**	**35**	**11**

* 2013-18 Wealth Creation Rank

8.3 Mid-to-Mega: 16 companies, 43% average Price CAGR

- During 2013-18, 16 companies crossed over from Mid to Mega.
- All the 16 made it to this year's list of 100 Biggest Wealth Creators.
- The Mid-to-Mega portfolio delivered average return CAGR of 43% over 2013-18 v/s 12% for Sensex.

Exhibit 20 **Mid-to-Mega (2013-18): 16 companies, all of who feature among top 100 Wealth Creators**

	Mkt Cap Rank		WC Rank *		Price	PAT	P/E (x)	
	2018	2013	Biggest	Fastest	CAGR %	CAGR %	2018	2013
Bajaj Finance	27	159	10	6	73	35	38	10
Eicher Motors	38	134	14	10	62	45	39	23
Britannia Inds	52	146	21	12	57	33	59	26
Aurobindo Pharma	87	187	44	19	50	52	13	14
Bharat Forge	88	178	46	22	47	23	40	16
Ashok Leyland	69	157	34	25	46	60	25	36
Biocon	79	163	41	28	45	-1	108	16
UPL	76	171	48	30	44	22	18	7
MRF	92	174	49	31	43	14	27	9
H P C L	61	110	28	36	40	83	7	27
Bharat Electronics	81	111	45	42	32	10	24	10
Piramal Enterprises	67	103	39	44	32	L to P	9	–
Havells India	94	125	56	48	30	11	46	20
P & G Hygiene	93	123	55	49	30	13	82	40
Petronet LNG	80	107	53	56	28	13	17	9
Bajaj Holdings	98	106	62	63	23	11	9	5
AVERAGE					**43**	**28**	**35**	**18**

* 2013-18 Wealth Creation Rank

Key Takeaway

Mid-to-Mega is a potent investment strategy

Every year, our analysis of market cap crossovers lead to the same findings –

- Companies leap-frogging from Mini to Mega is very rare.
- A fair number of companies move from Mini to Mid and deliver supernormal returns. However, they need to be identified from a large base of about 500 companies.
- The most potent and focused hunting ground for high-performing stocks is the Mid category i.e. 200 stocks with market cap rank 100 to 300.
- Over the next five years, 16-20 of these stocks will cross over to the Mega category and deliver handsome returns in the process.

#9 Wealth Creation: Valuation parameters analysis

Payback ratio < 1 offers distinctly superior returns

- During 2013-18, most valuation norms held true i.e. lower the valuation, higher the returns.
- Every study invariably suggests that the highest return is generated when Payback ratio is less than 1x.

  (Payback is a proprietary ratio of Motilal Oswal, defined as current market cap divided by estimated profits over the next five years. For 2013, we calculate this ratio based on the actual profits reported over the next five years).

Exhibit 21 **Payback ratio less than 1x remains a sure shot formula for multi-baggers**

Range	No. of	WC	% Share	CAGR (%)		RoE (%)	
in 2013	Cos.	(INR b)	of WC	Price	PAT	2018	2013
P/E							
<10	22	6,367	14	33	30	14	8
10-15	25	10,025	22	22	14	13	13
15-20	12	8,144	18	25	22	17	14
20-25	13	10,432	23	21	17	19	23
25-30	7	2,284	5	36	40	24	10
>30	21	7,631	17	23	15	24	21
Total	**100**	**44,883**	**100**	**24**	**19**	**16**	**14**
Price / Book							
<1	13	2,959	7	37	L to P	14	–
1-2	26	14,577	32	25	17	14	12
2-3	17	4,904	11	27	15	15	17
3-4	7	3,419	8	31	17	13	15
4-5	9	6,939	15	23	18	17	21
5-6	8	2,162	5	23	15	18	20
>6	20	9,923	22	19	13	31	37
Total	**100**	**44,883**	**100**	**24**	**19**	**16**	**14**
Price / Sales							
<1	29	13,310	30	27	28	15	8
1-2	22	7,074	16	31	17	17	17
2-3	17	5,391	12	24	6	12	20
3-4	14	7,230	16	22	18	17	16
4-5	10	9,876	22	21	16	20	23
> 5	8	2,003	4	19	12	18	24
Total	**100**	**44,883**	**100**	**24**	**19**	**16**	**14**
Payback ratio							
< 1	22	6,710	15	39	33	19	11
1-2	37	17,703	39	26	15	14	13
2-3	23	13,267	30	20	15	18	20
> 3	18	7,203	16	21	40	17	6
Total	**100**	**44,883**	**100**	**24**	**19**	**16**	**14**

PEG < 1x is also a solid formula for superior returns

- For the purposes of this section, PEG (P/E to Growth ratio) is obtained by dividing trailing 12-month P/E by future 5-year earnings CAGR.
- We have used perfect foresight of 5 years' earnings to calculate PEG. Thus, if a stock's P/E in 2013 was 20x, and its 2013-18 PAT CAGR is 25%, its 2013 PEG works out to 0.8x (20 ÷ 25).
- Clearly, lower the PEG, higher the likely return.
- Our theme study this year (see pages 4 to 31) has almost conclusively established that stocks with PEG less than 1x tend to significantly outperform the market.
- As tabled below, the story was no different for the 2018 Wealth Creators. Nearly half the Wealth Creators were trading at PEG of less than 1x in 2013, and delivered the highest return.

Exhibit 22 **PEG less than 1x is a solid formula for high returns**

PEG Range	No. of	WC	% Share	CAGR (%)		RoE (%)	
in 2013 (x)	Cos.	(INR b)	of WC	Price	PAT	2018	2013
<0.5	**23**	7,427	17	**38**	34	19	10
0.5-1	**26**	17,803	40	**28**	17	15	14
1-1.5	11	5,093	11	20	13	18	18
1.5-2	11	4,952	11	16	13	25	26
2-3	9	2,091	5	22	10	11	16
>3	14	5,365	12	20	6	18	23
L to P	3	682	2	24	L to P	13	-20
PAT decline	3	1,470	3	19	-17	3	16
Total	**100**	**44,883**	**100**	**24**	**19**	**16**	**14**

Note: PEG here is calculated as P/E of March 2013 divided by 2013-18 PAT CAGR

#10 Those who missed the Wealth Creators' list

The big who didn't beat the market

- During 2013-18, the Sensex return CAGR was 11.8%.
- 11 companies (Exhibit 23) created enough wealth to qualify among the 100 biggest Wealth Creators, but failed to make it to the final list as their stock return CAGR was lower than the Sensex.
- They made way for 11 others to join the list (Exhibit 24).

Exhibit 23 **Those who missed the list …**

2013-18	WC * (INR b)	Price CAGR (%)	Potential Size Rank **
Infosys	949	**9.4**	10
ITC	641	**4.4**	18
ICICI Bank	571	**7.9**	23
Bharti Airtel	419	**6.5**	33
M & M	391	**11.4**	35
Wipro	332	**5.2**	43
SBI	296	**3.8**	48
Bajaj Auto	276	**8.9**	55
NTPC	228	**3.6**	63
United Spirits	185	**10.5**	72
Cipla	131	**7.4**	99

Exhibit 24 **… and those who made it**

2013-18	WC * (INR b)	Price CAGR (%)	Size Rank
Graphite India	127	56	90
Honeywell Auto	126	46	91
WABCO India	124	42	92
HEG	120	79	93
Sterlite Tech.	116	75	94
Symphony	113	58	95
Natco Pharma	112	54	96
Indiabulls Ventures	112	97	97
Supreme Inds	111	31	98
Bayer Crop Science	111	28	99
The Ramco Cement	111	24	100

* - Wealth Created; ** Size rank had the stock outperformed the benchmark

The fast who didn't make it big

- The 100th biggest Wealth Creator created Wealth of INR 111 billion. Over 1,500 more companies beat the benchmark return CAGR of 11.8% but did not make it to the list as they created absolute wealth less than INR 111 billion.
- Exhibit 25 lists the top 20 fastest among them.

Exhibit 25 **The fast who didn't make it big**

2013-18	Price CAGR (%)	Price Mult. (x)	WC (INR b)	2013-18	Price CAGR (%)	Price Mult. (x)	WC (INR b)
Minda Inds	**103**	34.8	88	L T Foods	**79**	18.3	22
Eveready Inds	**86**	22.3	26	TVS Srichakra	**79**	18.2	23
Garware-Wall Ropes	**85**	21.6	19	Navin Fluorine	**78**	18.1	36
Aegis Logistics	**83**	20.4	82	Optiemus Infra	**78**	17.7	20
Maithan Alloys	**82**	20.1	21	Ahluwalia Contracts	**77**	17.3	24
KRBL	**82**	19.9	97	Tata Metaliks	**77**	17.2	18
Orient Paper	**81**	19.5	7	Phillips Carbon	**76**	16.8	35
Johnson Con. Hitachi	**81**	19.4	64	Escorts	**75**	16.5	94
Excel Crop Care	**81**	19.3	32	CEAT	**74**	16.0	53
Can Fin Homes	**80**	19.1	59	Balaji Amines	**74**	16.0	17

Note: In choosing these companies, the condition is that base 2013 market cap is at least INR 1 billion

#11 Wealth Destruction: Companies & Sectors

The cyclical downturn continues

- The total Wealth Destroyed during 2013-18 is INR 4.9 trillion, 11% of the total Wealth Created by top 100 companies. Thanks to buoyant markets, especially mid- and small-caps, both the quantum and the percentage of Wealth Destroyed in the last two studies are much lower than in the previous two studies (Exhibit 26).
- The broader theme of Wealth Destruction is **PSUs and Financials** (Exhibits 27 and 28).
- The Financials sector has the unusual distinction of being the biggest Wealth Creator (thanks to private banks and NBFCs) and the biggest Wealth Destroyer (thanks to state-owned banks).

Exhibit 26 **Level of Wealth Destruction sharply down**

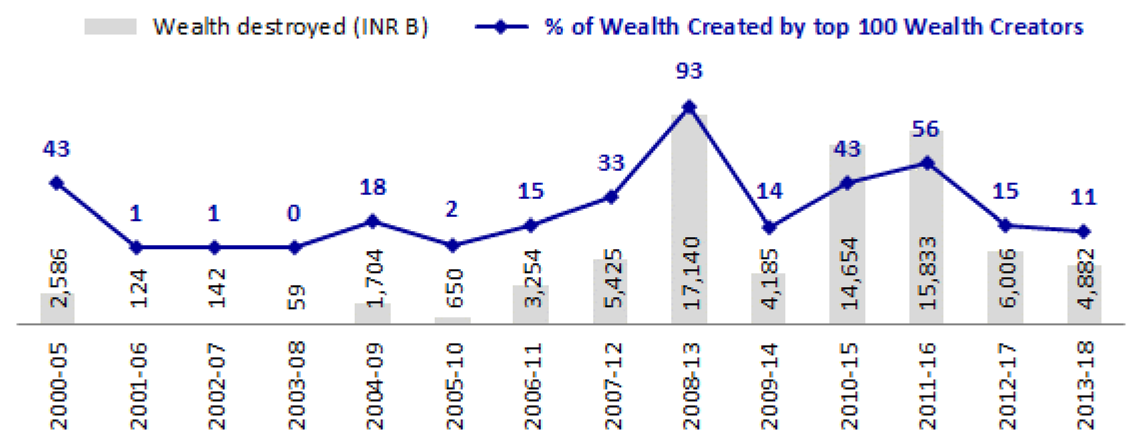


Exhibit 27
6 of top 10 Wealth Destroyers are PSUs

Company	Wealth Destroyed		Price
	INR b	% Share	CAGR (%)
O N G C	384	8	-3
Bank of India	180	4	-19
Coal India	156	3	-2
Idea Cellular	151	3	-8
Punjab National Bank	146	3	-8
MMTC	144	3	-23
I D F C	141	3	-7
Wockhardt	140	3	-18
B H E L	134	3	-7
Jindal Steel	122	2	-9
Total of Above	**1,698**	**35**	
Total Wealth Destroyed	**4,882**	**100**	

Exhibit 28
Financials, Cyclicals top Wealth Destroyers

Sector	Wealth Destroyed (INR b)	% Share
Financials	1,345	28
Metals / Mining	591	12
Oil & Gas	448	9
Constn / Real Est.	365	7
Telecom	350	7
Capital Goods	348	7
Utilities	320	7
Trading	246	5
Healthcare	191	4
Others	677	14
Total	**4,882**	**100**

Key Takeaway

Cyclicals – best avoided?

For the past several studies, Wealth Destruction has been dominated by cyclical sectors – Metals/Mining, Construction, Real Estate, Capital Goods, etc. Sure, stocks in these sectors may turn Wealth Creators someday. But still, timing one's entry and exit in cyclicals is crucial. Considering the difficulty in achieving this, perhaps cyclicals are best avoided altogether.

Appendix 1: MOSL 100: Biggest Wealth Creators (2013-2018)

Rank	Company	Wealth Created		CAGR (2013-18, %)			RoE (%)		P/E (x)	
		INR b	Share (%)	Price	PAT	Sales	2018	2013	2018	2013
1	HDFC Bank	3,247	7.2	25	22	19	17	19	27	22
2	Reliance Industries	3,094	6.9	18	13	0	12	11	15	13
3	TCS	2,532	5.6	13	13	14	30	36	21	22
4	Maruti Suzuki	2,308	5.1	47	25	12	15	11	41	17
5	Hindustan Unilever	1,883	4.2	23	10	6	72	113	55	31
6	HDFC	1,640	3.7	17	16	14	16	21	22	19
7	Kotak Mahindra Bank	1,345	3.0	26	23	18	12	14	32	22
8	IOC	1,008	2.2	20	38	-2	19	7	8	15
9	Larsen & Toubro	990	2.2	17	14	10	16	13	21	18
10	Bajaj Finance	902	2.0	73	35	34	16	18	38	10
11	HCL Technologies	831	1.9	19	16	15	24	31	16	14
12	IndusInd Bank	812	1.8	35	28	20	15	14	30	20
13	Hindustan Zinc	760	1.7	20	8	12	25	19	14	8
14	Eicher Motors	703	1.6	62	45	7	28	17	39	23
15	Bajaj Finserv	702	1.6	46	12	31	13	20	30	8
16	BPCL	650	1.4	28	35	-1	25	12	10	14
17	Titan Company	608	1.4	30	9	10	22	37	73	31
18	Asian Paints	604	1.3	18	13	11	24	32	54	43
19	Axis Bank	598	1.3	14	-40	11	1	16	315	12
20	UltraTech Cement	571	1.3	16	-1	8	9	16	46	20
21	Britannia Industries	534	1.2	57	33	10	29	44	59	26
22	JSW Steel	534	1.2	34	42	13	23	7	11	13
23	Motherson Sumi	519	1.2	40	31	17	17	19	38	26
24	Godrej Consumer	479	1.1	23	17	9	24	20	51	39
25	Power Grid Corpn	471	1.0	13	13	18	15	16	13	11
26	Yes Bank	466	1.0	29	27	20	16	22	17	12
27	Adani Ports	449	1.0	21	19	26	18	24	20	18
28	HPCL	428	1.0	40	83	0	29	3	7	27
29	Shree Cement	422	0.9	32	8	12	15	24	42	15
30	Hero Motocorp	400	0.9	18	14	6	30	38	20	16
31	Tech Mahindra	372	0.8	19	22	35	19	25	17	10
32	Zee Entertainment	352	0.8	22	15	13	19	18	39	28
33	Nestle India	348	0.8	12	3	4	36	59	65	41
34	Ashok Leyland	348	0.8	46	60	18	23	5	25	36
35	Pidilite Industries	337	0.7	28	19	11	27	25	49	33
36	Dabur India	335	0.7	19	13	5	24	36	42	32
37	GAIL (India)	332	0.7	13	2	1	12	15	15	9
38	Vedanta	322	0.7	12	27	102	12	13	14	6
39	Piramal Enterprises	316	0.7	32	L to P	25	19	-2	9	-48
40	Bharti Infratel	308	0.7	14	22	-8	15	5	24	36
41	Biocon	302	0.7	45	-1	11	6	13	108	16
42	Bosch	289	0.6	15	9	6	14	16	39	31
43	Marico	284	0.6	25	16	7	31	19	54	37
44	Aurobindo Pharma	284	0.6	50	52	23	21	11	13	14
45	Bharat Electronics	280	0.6	32	10	11	18	14	24	10
46	Bharat Forge	278	0.6	47	23	10	18	13	40	16
47	TVS Motor Company	278	0.6	80	40	17	25	14	44	12
48	UPL	273	0.6	44	22	14	23	17	18	7
49	MRF	256	0.6	43	14	5	12	20	27	9
50	Hindalco Industries	251	0.6	19	12	8	9	8	10	6
Rank	Company	Wealth Created		CAGR (2013-18, %)			RoE (%)		P/E (x)	
		INR b	Share (%)	Price	PAT	Sales	2018	2013	2018	2013

Appendix 1: MOSL 100: Biggest Wealth Creators (2013-2018) ... continued

Rank	Company	Wealth Created		CAGR (2013-18, %)			RoE (%)		P/E (x)	
		INR b	Share (%)	Price	PAT	Sales	2018	2013	2018	2013
51	Dalmia Bharat	239	0.5	81	23	25	9	6	48	6
52	Tata Steel	239	0.5	14	L to P	0	9	-24	12	-4
53	Petronet LNG	238	0.5	28	13	-1	21	26	17	9
54	Cadila Healthcare	235	0.5	21	22	13	20	23	22	23
55	P & G Hygiene	224	0.5	30	13	8	47	26	82	40
56	Havells India	224	0.5	30	11	1	18	28	46	20
57	Page Industries	216	0.5	47	25	24	41	53	73	33
58	IIFL Holdings	205	0.5	64	27	8	18	14	25	7
59	Kansai Nerolac	205	0.5	32	19	11	16	16	55	32
60	Vakrangee	197	0.4	46	46	33	26	20	34	32
61	Grasim Industries	193	0.4	18	5	15	5	12	24	11
62	Bajaj Holdings	190	0.4	23	11	23	15	18	9	5
63	Cholamandalam Inv.	183	0.4	40	26	16	19	16	23	13
64	Berger Paints	181	0.4	30	16	9	20	23	55	31
65	Balkrishna Industries	181	0.4	51	15	6	17	24	30	8
66	Rajesh Exports	181	0.4	43	23	43	18	19	17	8
67	Voltas	180	0.4	52	24	3	15	12	36	13
68	Sun TV Network	179	0.4	17	10	9	24	25	30	22
69	Siemens	176	0.4	14	12	-3	10	11	51	45
70	3M India	176	0.4	39	43	10	20	8	70	81
71	Edelweiss Financial	175	0.4	50	38	32	13	7	25	13
72	GRUH Finance	173	0.4	41	20	21	26	30	58	26
73	Shriram Transport	169	0.4	16	0	12	12	20	22	11
74	ABB	169	0.4	21	25	4	12	5	64	74
75	Container Corporation	167	0.4	18	3	9	11	15	28	14
76	Whirlpool India	164	0.4	47	22	13	20	21	55	22
77	Divi's Labs	159	0.4	17	8	13	15	24	33	22
78	Indraprastha Gas	157	0.3	38	14	6	19	24	28	11
79	LIC Housing Finance	157	0.3	19	14	14	16	16	13	11
80	NBCC	156	0.3	64	11	17	18	22	48	7
81	M & M Financial	154	0.3	19	2	16	10	20	29	12
82	Torrent Pharma	152	0.3	29	7	13	14	32	33	13
83	Emami	152	0.3	22	4	8	18	40	66	29
84	L&T Fin. Holdings	149	0.3	16	20	21	12	11	21	21
85	Gillette India	148	0.3	27	21	3	33	14	93	75
86	Motillal Oswal	135	0.3	67	42	42	25	8	26	11
87	Sundaram Finance	133	0.3	32	5	10	15	22	26	9
88	Dewan Housing	133	0.3	44	21	21	14	14	14	5
89	Bharat Financial	127	0.3	55	L to P	43	15	-76	34	-4
90	Graphite India	127	0.3	56	52	11	38	7	14	12
91	Honeywell Auto	126	0.3	46	24	10	18	12	59	27
92	WABCO India	124	0.3	42	15	22	17	20	59	20
93	HEG	120	0.3	79	48	11	58	18	12	4
94	Sterlite Technologies	116	0.3	75	67	1	29	2	37	35
95	Symphony	113	0.3	58	26	16	31	30	67	21
96	Natco Pharma	112	0.2	54	54	26	22	15	20	17
97	Indiabulls Ventures	112	0.2	97	30	40	12	29	54	3
98	Supreme Industries	111	0.2	31	8	8	23	33	35	14
99	Bayer Crop Science	111	0.2	28	1	0	17	15	48	16
100	The Ramco Cement	111	0.2	24	7	3	14	17	31	15
	TOTAL / AVG	**44,883**	**100.0**	**34**	**21**	**14**	**20**	**19**	**38**	**19**
Rank	**Company**	**Wealth Created**		**CAGR (2013-18, %)**			**RoE (%)**		**P/E (x)**	
		INR b	**Share (%)**	**Price**	**PAT**	**Sales**	**2018**	**2013**	**2018**	**2013**

Note: L to P stands for Loss to Profit

Appendix 2: MOSL 100: Fastest Wealth Creators (2013-2018)

Rank	Company	2013-18 Price		CAGR 13-18 (%)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2018	2013	2018	2013
1	Indiabulls Ventures	97.0	29.6	30	40	112	0.2	12	29	54	3
2	Dalmia Bharat	81.0	19.4	23	25	239	0.5	9	6	48	6
3	TVS Motor Company	80.2	19.0	40	17	278	0.6	25	14	44	12
4	HEG	79.5	18.6	48	11	120	0.3	58	18	12	4
5	Sterlite Technologies	75.3	16.5	67	1	116	0.3	29	2	37	35
6	Bajaj Finance	72.6	15.3	35	34	902	2.0	16	18	38	10
7	Motilal Oswal	67.3	13.1	42	42	135	0.3	25	8	26	11
8	IIFL Holdings	64.1	11.9	27	8	205	0.5	18	14	25	7
9	NBCC	63.5	11.7	11	17	156	0.3	18	22	48	7
10	Eicher Motors	61.9	11.1	45	7	703	1.6	28	17	39	23
11	Symphony	58.2	9.9	26	16	113	0.3	31	30	67	21
12	Britannia Industries	56.8	9.5	33	10	534	1.2	29	44	59	26
13	Graphite India	55.8	9.2	52	11	127	0.3	38	7	14	12
14	Bharat Financial	55.3	9.0	L to P	43	127	0.3	15	-76	34	-4
15	Natco Pharma	54.5	8.8	54	26	112	0.2	22	15	20	17
16	Voltas	52.4	8.2	24	3	180	0.4	15	12	36	13
17	Balkrishna Industries	51.1	7.9	15	6	181	0.4	17	24	30	8
18	Edelweiss Financial	50.4	7.7	38	32	175	0.4	13	7	25	13
19	Aurobindo Pharma	50.2	7.6	52	23	284	0.6	21	11	13	14
20	Maruti Suzuki	47.3	6.9	25	12	2,308	5.1	15	11	41	17
21	Whirlpool India	47.0	6.9	22	13	164	0.4	20	21	55	22
22	Bharat Forge	46.9	6.8	23	10	278	0.6	18	13	40	16
23	Page Industries	46.8	6.8	25	24	216	0.5	41	53	73	33
24	Bajaj Finserv	46.4	6.7	12	31	702	1.6	13	20	30	8
25	Ashok Leyland	45.9	6.6	60	18	348	0.8	23	5	25	36
26	Vakrangee	45.8	6.6	46	33	197	0.4	26	20	34	32
27	Honeywell Auto	45.7	6.6	24	10	126	0.3	18	12	59	27
28	Biocon	45.4	6.5	-1	11	302	0.7	6	13	108	16
29	Dewan Housing	44.4	6.3	21	21	133	0.3	14	14	14	5
30	UPL	44.1	6.2	22	14	273	0.6	23	17	18	7
31	MRF	43.2	6.0	14	5	256	0.6	12	20	27	9
32	Rajesh Exports	43.0	6.0	23	43	181	0.4	18	19	17	8
33	WABCO India	42.4	5.9	15	22	124	0.3	17	20	59	20
34	GRUH Finance	40.6	5.5	20	21	173	0.4	26	30	58	26
35	Motherson Sumi	40.4	5.4	31	17	519	1.2	17	19	38	26
36	H P C L	40.3	5.4	83	0	428	1.0	29	3	7	27
37	Cholamdalam Inv.	39.8	5.3	26	16	183	0.4	19	16	23	13
38	3M India	38.8	5.2	43	10	176	0.4	20	8	70	81
39	Indraprastha Gas	38.3	5.1	14	6	157	0.3	19	24	28	11
40	IndusInd Bank	34.7	4.4	28	20	812	1.8	15	14	30	20
41	JSW Steel	33.8	4.3	42	13	534	1.2	23	7	11	13
42	Bharat Electronics	32.5	4.1	10	11	280	0.6	18	14	24	10
43	Kansai Nerolac	32.4	4.1	19	11	205	0.5	16	16	55	32
44	Piramal Enterprises	32.1	4.0	L to P	25	316	0.7	19	-2	9	-48
45	Shree Cement	31.9	4.0	8	12	422	0.9	15	24	42	15
46	Sundaram Finance	31.5	3.9	5	10	133	0.3	15	22	26	9
47	Supreme Industries	30.5	3.8	8	8	111	0.2	23	33	35	14
48	Havells India	30.4	3.8	11	1	224	0.5	18	28	46	20
49	P & G Hygiene	30.2	3.7	13	8	224	0.5	47	26	82	40
50	Berger Paints	29.7	3.7	16	9	181	0.4	20	23	55	31
Rank	Company	2013-18 Price		CAGR 13-18 (%)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2018	2013	2018	2013

Appendix 2: MOSL 100: Fastest Wealth Creators (2013-2018) … continued

Rank	Company	2013-18 Price		CAGR (13-18, %)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2018	2013	2018	2013
51	Titan Company	29.7	3.7	9	10	608	1.4	22	37	73	31
52	Torrent Pharma	29.1	3.6	7	13	152	0.3	14	32	33	13
53	Yes Bank	28.9	3.6	27	20	466	1.0	16	22	17	12
54	Pidilite Industries	28.4	3.5	19	11	337	0.7	27	25	49	33
55	Bayer Crop Science	28.4	3.5	1	0	111	0.2	17	15	48	16
56	Petronet LNG	27.9	3.4	13	-1	238	0.5	21	26	17	9
57	BPCL	27.7	3.4	35	-1	650	1.4	25	12	10	14
58	Gillette India	26.6	3.3	21	3	148	0.3	33	14	93	75
59	Kotak Mahindra Bank	26.3	3.2	23	18	1,345	3.0	12	14	32	22
60	Marico	25.2	3.1	16	7	284	0.6	31	19	54	37
61	HDFC Bank	24.8	3.0	22	19	3,247	7.2	17	19	27	22
62	The Ramco Cement	23.8	2.9	7	3	111	0.2	14	17	31	15
63	Bajaj Holdings	23.5	2.9	11	23	190	0.4	15	18	9	5
64	Hindustan Unilever	23.4	2.9	10	6	1,883	4.2	72	113	55	31
65	Godrej Consumer	22.9	2.8	17	9	479	1.1	24	20	51	39
66	Zee Entertainment	22.3	2.7	15	13	352	0.8	19	18	39	28
67	Emami	21.7	2.7	4	8	152	0.3	18	40	66	29
68	ABB	21.3	2.6	25	4	169	0.4	12	5	64	74
69	Adani Ports	20.6	2.6	19	26	449	1.0	18	24	20	18
70	Cadila Healthcare	20.6	2.6	22	13	235	0.5	20	23	22	23
71	IOC	20.2	2.5	38	-2	1,008	2.2	19	7	8	15
72	Hindustan Zinc	20.0	2.5	8	12	760	1.7	25	19	14	8
73	HCL Technologies	19.5	2.4	16	15	831	1.9	24	31	16	14
74	Tech Mahindra	19.2	2.4	22	35	372	0.8	19	25	17	10
75	Dabur India	19.0	2.4	13	5	335	0.7	24	36	42	32
76	LIC Housing Finance	18.9	2.4	14	14	157	0.3	16	16	13	11
77	M & M Financial	18.9	2.4	2	16	154	0.3	10	20	29	12
78	Hindalco Industries	18.5	2.3	12	8	251	0.6	9	8	10	6
79	Hero Motocorp	18.1	2.3	14	6	400	0.9	30	38	20	16
80	Grasim Industries	18.0	2.3	5	15	193	0.4	5	12	24	11
81	Reliance Industries	17.9	2.3	13	0	3,094	6.9	12	11	15	13
82	Asian Paints	17.9	2.3	13	11	604	1.3	24	32	54	43
83	Container Corpn	17.7	2.3	3	9	167	0.4	11	15	28	14
84	Divi's Labs	17.2	2.2	8	13	159	0.4	15	24	33	22
85	HDFC	17.2	2.2	16	14	1,640	3.7	16	21	22	19
86	Larsen & Toubro	16.7	2.2	14	10	990	2.2	16	13	21	18
87	Sun TV Network	16.7	2.2	10	9	179	0.4	24	25	30	22
88	L&T Fin. Holdings	16.3	2.1	20	21	149	0.3	12	11	21	21
89	UltraTech Cement	16.1	2.1	-1	8	571	1.3	9	16	46	20
90	Shriram Transport	15.7	2.1	0	12	169	0.4	12	20	22	11
91	Bosch	14.9	2.0	9	6	289	0.6	14	16	39	31
92	Axis Bank	14.4	2.0	-40	11	598	1.3	1	16	315	12
93	Siemens	14.3	2.0	12	-3	176	0.4	10	11	51	45
94	Tata Steel	13.9	1.9	L to P	0	239	0.5	9	-24	12	-4
95	Bharti Infratel	13.7	1.9	22	-8	308	0.7	15	5	24	36
96	GAIL (India)	12.9	1.8	2	1	332	0.7	12	15	15	9
97	Power Grid Corpn	12.8	1.8	13	18	471	1.0	15	16	13	11
98	TCS	12.6	1.8	13	14	2,532	5.6	30	36	21	22
99	Vedanta	12.3	1.8	27	102	322	0.7	12	13	14	6
100	Nestle India	12.3	1.8	3	4	348	0.8	36	59	65	41
	TOTAL / AVG	**34.5**	**5.4**	**21**	**14**	**44,883**	**100.0**	**20**	**19**	**38**	**19**
Rank	**Company**	**2013-18 Price**		**CAGR (13-18, %)**		**Wealth Created**		**RoE (%)**		**P/E (x)**	
		CAGR (%)	**Times (x)**	**PAT**	**Sales**	**INR b**	**Share (%)**	**2018**	**2013**	**2018**	**2013**

Note: L to P stands for Loss to Profit

Appendix 3: MOSL 100 – Alphabetical order

Company	WC Rank		2013-18 Wealth Created			Company	WC Rank		2013-18 Wealth Created		
	Biggest	Fastest	INR b	Price CAGR %	Price Mult. (x)		Biggest	Fastest	INR b	Price CAGR %	Price Mult. (x)
3M India	70	38	176	38.8	5.2	Indiabulls Ventures	97	1	112	97.0	29.6
ABB	74	68	169	21.3	2.6	Indraprastha Gas	78	39	157	38.3	5.1
Adani Ports	27	69	449	20.6	2.6	IndusInd Bank	12	40	812	34.7	4.4
Ashok Leyland	34	25	348	45.9	6.6	JSW Steel	22	41	534	33.8	4.3
Asian Paints	18	82	604	17.9	2.3	Kansai Nerolac	59	43	205	32.4	4.1
Aurobindo Pharma	44	19	284	50.2	7.6	Kotak Mahindra	7	59	1,345	26.3	3.2
Axis Bank	19	92	598	14.4	2.0	L&T Fin. Holdings	84	88	149	16.3	2.1
BPCL	16	57	650	27.7	3.4	Larsen & Toubro	9	86	990	16.7	2.2
Bajaj Finance	10	6	902	72.6	15.3	LIC Housing Finance	79	76	157	18.9	2.4
Bajaj Finserv	15	24	702	46.4	6.7	M & M Financial	81	77	154	18.9	2.4
Bajaj Holdings	62	63	190	23.5	2.9	Marico	43	60	284	25.2	3.1
Balkrishna Industries	65	17	181	51.1	7.9	Maruti Suzuki	4	20	2,308	47.3	6.9
Bayer Crop Science	99	55	111	28.4	3.5	Motherson Sumi	23	35	519	40.4	5.4
Berger Paints	64	50	181	29.7	3.7	Motilal Oswal	86	7	135	67.3	13.1
Bharat Electronics	45	42	280	32.5	4.1	MRF	49	31	256	43.2	6.0
Bharat Financial	89	14	127	55.3	9.0	Natco Pharma	96	15	112	54.5	8.8
Bharat Forge	46	22	278	46.9	6.8	NBCC	80	9	156	63.5	11.7
Bharti Infratel	40	95	308	13.7	1.9	Nestle India	33	100	348	12.3	1.8
Biocon	41	28	302	45.4	6.5	P & G Hygiene	55	49	224	30.2	3.7
Bosch	42	91	289	14.9	2.0	Page Industries	57	23	216	46.8	6.8
Britannia Industries	21	12	534	56.8	9.5	Petronet LNG	53	56	238	27.9	3.4
Cadila Healthcare	54	70	235	20.6	2.6	Pidilite Industries	35	54	337	28.4	3.5
Cholamandalam Inv.	63	37	183	39.8	5.3	Piramal Enterprises	39	44	316	32.1	4.0
Container Corpn.	75	83	167	17.7	2.3	Power Grid Corpn	25	97	471	12.8	1.8
Dabur India	36	75	335	19.0	2.4	Rajesh Exports	66	32	181	43.0	6.0
Dalmia Bharat	51	2	239	81.0	19.4	Reliance Industries	2	81	3,094	17.9	2.3
Dewan Housing	88	29	133	44.4	6.3	Shree Cement	29	45	422	31.9	4.0
Divi's Labs	77	84	159	17.2	2.2	Shriram Transport	73	90	169	15.7	2.1
Edelweiss Financial	71	18	175	50.4	7.7	Siemens	69	93	176	14.3	2.0
Eicher Motors	14	10	703	61.9	11.1	Sterlite Technologies	94	5	116	75.3	16.5
Emami	83	67	152	21.7	2.7	Sun TV Network	68	87	179	16.7	2.2
GAIL (India)	37	96	332	12.9	1.8	Sundaram Finance	87	46	133	31.5	3.9
Gillette India	85	58	148	26.6	3.3	Supreme Industries	98	47	111	30.5	3.8
Godrej Consumer	24	65	479	22.9	2.8	Symphony	95	11	113	58.2	9.9
Graphite India	90	13	127	55.8	9.2	Tata Steel	52	94	239	13.9	1.9
Grasim Industries	61	80	193	18.0	2.3	TCS	3	98	2,532	12.6	1.8
GRUH Finance	72	34	173	40.6	5.5	Tech Mahindra	31	74	372	19.2	2.4
HDFC	6	85	1,640	17.2	2.2	The Ramco Cement	100	62	111	23.8	2.9
HPCL	28	36	428	40.3	5.4	Titan Company	17	51	608	29.7	3.7
Havells India	56	48	224	30.4	3.8	Torrent Pharma	82	52	152	29.1	3.6
HCL Technologies	11	73	831	19.5	2.4	TVS Motor Company	47	3	278	80.2	19.0
HDFC Bank	1	61	3,247	24.8	3.0	UltraTech Cement	20	89	571	16.1	2.1
HEG	93	4	120	79.5	18.6	UPL	48	30	273	44.1	6.2
Hero Motocorp	30	79	400	18.1	2.3	Vakrangee	60	26	197	45.8	6.6
Hindustan Unilever	5	64	1,883	23.4	2.9	Vedanta	38	99	322	12.3	1.8
Hindustan Zinc	13	72	760	20.0	2.5	Voltas	67	16	180	52.4	8.2
Hindalco Industries	50	78	251	18.5	2.3	WABCO India	92	33	124	42.4	5.9
Honeywell Auto	91	27	126	45.7	6.6	Whirlpool India	76	21	164	47.0	6.9
IOC	8	71	1,008	20.2	2.5	Yes Bank	26	53	466	28.9	3.6
IIFL Holdings	58	8	205	64.1	11.9	Zee Entertainment	32	66	352	22.3	2.7

Explanation of Investment Rating	
Investment Rating	**Expected return (over 12-month)**
BUY	>=15%
SELL	< - 10%
NEUTRAL	> - 10 % to 15%
UNDER REVIEW	Rating may undergo a change
NOT RATED	We have forward looking estimates for the stock but we refrain from assigning recommendation

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