Thematic Study | December 2016

21ST ANNUAL WEALTH CREATION STUDY (2011-2016)

FOCUSED INVESTING

Power of allocation in Wealth Creation

HIGHLIGHTS

- Stock allocation (how much to buy) is a powerful tool for portfolio performance, but is under-researched vis-à-vis stock selection (what to buy)
- Kelly's formula offers 3 insights for equity investing: (1) Look for asymmetric payoff (2) Create edge (3) Bet big
- Opportunities for big bets come seldom; Focused Investing is a sound strategy to capitalize on them
- Keys to successful Focused Investing are: (1) Clear portfolio goal (2) Superior stock selection (3) Rational allocation (4) Active monitoring
- Disciplined practice should lead to exceptional returns rather than acceptable returns

"Bet seldom, and only when the odds are strongly in your favor, but when you do, bet big, hold for the long term, and control your downside risk."

– From the book *Concentrated Investing*, by Allan C Benello, Michael Van Biema, Tobias E Carlisle

TOP 10 WEALTH CREATORS (2011-2016)

	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	TCS	2,637	Ajanta Pharma	121	Asian Paints	10	30
2	HDFC Bank	1,475	Welspun India	88	Kotak Mahindra Bank	10	26
3	Hindustan Unilever	1,266	Eicher Motors	70	Sun Pharma	10	25
4	ITC	1,197	Kajaria Ceramics	66	Titan Company	10	23
5	Sun Pharma	1,169	Vakrangee Software	63	Bosch	10	22
6	Infosys	948	Bajaj Finance	59	HDFC Bank	10	21
7	HCL Technologies	819	P I Industries	58	Axis Bank	10	20
8	Kotak Mahindra Bank	760	Symphony	56	Dabur India	10	20
9	Maruti Suzuki	742	Amara Raja Batteries	56	Nestle India	10	17
10	HDFC	682	Aurobindo Pharma	50	Cummins India	10	17

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Motilal Oswal 21st Annual Wealth Creation Study

Abbreviations and Terms used in this report

Abbreviation / Term	Description
2006, 2011, 2016, 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 for the past 21 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, after adjusting for equity dilution.

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).

We present the study highlights in pages 2-3. The detailed findings are presented in pages 20-33. Appendix 1 (pages 34-35) ranks the 100 Wealth Creators by size, and Appendix 2 (pages 36-37) ranks the same 100 Wealth Creators by speed.

A theme study titled "**Focused Investing – Power of allocation in Wealth Creation**" is featured in pages 4-19.

Wealth Creation 2011-2016

Highlights

TCS is the Biggest Wealth Creator for the fourth time in a row

- **TCS** has emerged as the biggest Wealth Creator for the period 2011-16, retaining the top spot it held even in the previous three study periods (2010-15, 2009-14 and 2008-13).
- **HDFC Bank** has inched up to No.2 after 3 years of remaining No.3.

Exhibit 1 **Top 10 Biggest Wealth Creators**

Rank	Company	Wealth Created		CAGR (%)		P/E (x)		RoE (%)	
		INR b	% share	Price	PAT	2016	2011	2016	2011
1	TCS	2,637	9	16	22	21	26	37	37
2	HDFC Bank	1,475	5	18	26	21	27	17	16
3	Hind. Unilever	1,266	4	25	14	46	30	102	76
4	ITC	1,197	4	13	14	28	28	28	30
5	Sun Pharma	1,169	4	30	24	38	26	16	19
6	Infosys	948	3	9	15	20	27	24	26
7	HCL Tech	819	3	28	27	21	20	20	21
8	Kotak Mahindra	760	3	24	17	36	21	10	14
9	Maruti Suzuki	742	3	24	14	25	16	17	16
10	H D F C	682	2	10	18	17	23	20	21
Total of Top 10		**11,695**	**41**	**18**	**19**	**24**	**25**	**23**	**24**
Total of Top 100		**28,436**	**100**	**19**	**16**	**22**	**19**	**20**	**22**

Ajanta Pharma is the Fastest Wealth Creator again

- **Ajanta Pharma** has emerged as the Fastest Wealth Creator for the second time in a row, with 2011-16 stock price multiplier of 53x (121% CAGR).
- **Eicher Motors** is among the top 10 Fastest Wealth Creators for the last 5 studies.

Exhibit 2 **Top 10 Fastest Wealth Creators**

Rank	Company	Price Appn.	CAGR (%)		Mkt Cap (INR b)		P/E (x)	
		(x)	Price	PAT	2016	2011	2016	2011
1	Ajanta Pharma	53	121	52	124	2	31	5
2	Welspun India	23	88	234	100	4	14	226
3	Eicher Motors	14	70	48	520	36	42	20
4	Kajaria Ceramics	13	66	30	76	6	33	9
5	Vakrangee	11	63	52	105	8	27	17
6	Bajaj Finance	10	59	39	373	26	29	10
7	P I Industries	10	58	37	78	7	25	10
8	Symphony	9	56	15	83	9	77	17
9	Amara Raja Batteries	9	56	27	150	16	31	11
10	Aurobindo Pharma	8	50	28	436	57	22	10

Asian Paints is the Most Consistent Wealth Creator

- **Asian Paints** is the Most Consistent Wealth Creator over 2006-16, by virtue of –
  1. Appearing among top 100 Wealth Creators in each of the last 10 studies; and
  2. Highest 10-year Price CAGR of 30%.

Exhibit 3 **Top 10 Most Consistent Wealth Creators**

Rank	Company	Appeared in WC Study (x)	10-yr Price CAGR (%)	10-yr PAT CAGR (%)	P/E (x) 2016	P/E (x) 2006	RoE (%) 2016	RoE (%) 2006
1	Asian Paints	10	30	23	48	29	31	31
2	Kotak Mahindra	10	26	23	36	20	10	24
3	Sun Pharma	10	25	25	38	30	16	41
4	Titan Company	10	23	24	44	45	20	47
5	Bosch	10	22	14	53	27	15	24
6	HDFC Bank	10	21	31	21	28	17	16
7	Axis Bank	10	20	33	13	20	16	18
8	Dabur India	10	20	19	36	32	30	49
9	Nestle India	10	17	11	63	29	32	92
10	Cummins India	10	17	15	32	26	22	23

Consumer/Retail is the biggest Wealth Creating sector

- **Consumer/Retail** has emerged as India's biggest Wealth Creating sector for the second consecutive time, and the third time in the last four years.

Exhibit 4 **Consumer/Retail is the top Wealth Creating sector**

Sector (No of companies)	WC (INR b)	Share of WC % 2016	Share of WC % 2011	CAGR 11-16 (%) Price	CAGR 11-16 (%) PAT	P/E (x) 2016	P/E (x) 2011	RoE (%) 2016	RoE (%) 2011
Consumer/Retail (23)	6,364	22	8	21	15	38	30	31	32
Banking/Finance (14)	4,995	18	24	20	19	19	18	16	19
Technology (7)	4,960	17	14	16	20	20	24	28	29
Auto (15)	4,093	14	5	20	10	20	13	19	32
Healthcare (15)	3,705	13	4	25	18	30	22	18	18
Cement (5)	1,266	4	1	20	3	35	16	9	14
Oil & Gas (3)	670	2	14	21	26	8	10	27	14
Capital Goods (4)	513	2	7	16	11	33	26	17	18
Telecom & Media (2)	394	1	3	17	19	21	23	13	10
Metals / Mining (2)	289	1	15	7	7	11	12	16	17
Utility (1)	203	1	3	9	18	12	18	14	12
Others (9)	984	3	3	21	17	25	21	19	19
Total	**28,436**	**100**	**100**	**19**	**16**	**22**	**19**	**20**	**22**

Commodity collapse drives up Wealth Destruction

- 7 of the top 10 Wealth Destroyers are in the business of global commodities.

Exhibit 5 **Top Wealth Destroying companies**

Company	Wealth Destroyed INR b	Wealth Destroyed % Share	Price CAGR (%)
MMTC	889	6	-47
NMDC	735	5	-19
B H E L	730	5	-23
O N G C	645	4	-6
Jindal Steel	592	4	-39
Vedanta	570	4	-21
State Bank of India	542	4	-7
NTPC	529	3	-8
S A I L	524	3	-24
Coal India	348	2	-3
Total of above	**6,104**	**40**	
Total Wealth Destroyed	**15,146**	**100**	

Exhibit 6 **Top Wealth Destroying Sectors**

Sector	Wealth Destroyed (INR b)	% Share
Metals / Mining	5,058	33
Banking & Finance	2,991	20
Utilities	1,555	10
Capital Goods	1,393	9
Oil & Gas	1,256	8
Constn. / Real Est.	1,012	7
Technology	301	2
Chemicals & Fert.	295	2
Telecom	214	1
Others	1,071	7
Total	**15,146**	**100**

For detailed findings, please see pages 20-33.

Theme 2017

Focused Investing

Power of allocation in Wealth Creation

"Bet seldom, and only when the odds are strongly in your favor, but when you do, bet big, hold for the long term, and control your downside risk."

— from the book *Concentrated Investing*, by Allan C Benello, Michael Van Biema, Tobias E Carlisle

1. Backdrop

20 studies on "What to buy"; first one on "How much to buy"

Two key aspects of equity investing are: **(1) What to buy** (i.e. stock selection), and **(2) How much to buy** (i.e. stock allocation or weightage in a given portfolio). Almost all of the past 20 Annual Wealth Creation Studies have covered various aspects of what to buy. In this, the 21st Study, we focus on how much to buy.

The simplistic example of a hypothetical portfolio presented below shows how stock allocation can significantly influence investment performance. For the same set of stocks, 3 portfolios with different allocations turn in total return ranging from as low as -8.5% to as high as +18.5%.

Exhibit 1 **Portfolios with the same stocks can turn in widely different returns based on allocation**

	Stock	Allocation			Portfolio-level Return		
	Return	Portfolio A	Portfolio B	Portfolio C	Portfolio A	Portfolio B	Portfolio C
Stock 1	50%	10%	20%	5%	5.0%	10.0%	2.5%
Stock 2	40%	10%	15%	5%	4.0%	6.0%	2.0%
Stock 3	30%	10%	15%	5%	3.0%	4.5%	1.5%
Stock 4	20%	10%	10%	5%	2.0%	2.0%	1.0%
Stock 5	10%	10%	10%	10%	1.0%	1.0%	1.0%
Stock 6	0%	10%	10%	10%	0.0%	0.0%	0.0%
Stock 7	-10%	10%	5%	10%	-1.0%	-0.5%	-1.0%
Stock 8	-20%	10%	5%	15%	-2.0%	-1.0%	-3.0%
Stock 9	-30%	10%	5%	15%	-3.0%	-1.5%	-4.5%
Stock 10	-40%	10%	5%	20%	-4.0%	-2.0%	-8.0%
Portfolio Total		**100%**	**100%**	**100%**	**5.0%**	**18.5%**	**-8.5%**

Despite the above phenomenon, we are surprised to discover how little literature there is on this critical aspect of investing. Academicians tend to believe that stock allocation, even more than stock selection, borders on art rather than science, and hence, it depends to a great extent on the temperament and style of individual investment practitioners. Investment practitioners, in general, seem prone to allocate stocks more by intuition and emotion than reason.

In this study, we offer some insights on allocation, and suggest a rational approach for the same. In the following sections –

- We first analyze the only semblance of a framework for allocation – **Kelly's formula** – and derive from it insights for equity investing.

- Next, we suggest that the power of allocation is best exploited through **Focused Investing**, which essentially involves placing sizable bets on 15-20 stocks to generate exceptional (rather than acceptable) returns over the long term.
- Finally, we discuss the **4 keys to successful Focused Investing**, incorporating a framework each for –
  1. **What to buy – QGLP** (Quality, Growth, Longevity at favorable Price), and
  2. **How much to buy – CAP** (Confidence-Adjusted Payoff).

2. Kelly's formula – insights for equity investing

Look for asymmetric payoff, Create edge, Bet big

In the mid-1950s, John Larry Kelly Jr, a scientist with Bell Labs, developed a formula for an optimal bet size on a wager with given payoffs (i.e. odds) and win-loss probabilities. The formula is as under:

$$f = (bp - q) \div b$$

where: ***f*** is the fraction of the current bankroll to wager,
b is the net odds (expressed as rupees to be won for every rupee bet) or win-loss ratio,
p is the probability of winning, and
q is the probability of losing.

Betting this fraction repeatedly maximizes the long-term growth of the bankroll.

Example: You are offered a 100-rupee bet that every time a coin is tossed and you call heads or tails correctly, you will win 200 rupees. You have set aside 1,000 rupees for a series of bets. What should be your betting strategy?

Here, b (odds) = 200 ÷ 100 = 2. Given a fair coin, the chances of correctly calling heads or tails is 1-in-2 i.e. 50%. Thus, p (probability of win) is 50% and q (probability of loss) is 50%. With this, the Kelly fraction works out to 25% as under:

$$f = (2 \times 0.5 - 0.5) \div 2 = 25\%$$

Thus, you will bet 25% of 1,000, i.e. 250 rupees in your first bet. The subsequent bet size is dependent on the outcome of your first bet:

- If you win, your bankroll grows to 1,200 rupees, and your next bet size should be 25% of 1,200, i.e. 300 rupees.
- If you lose, your bankroll falls to 900 rupees, and your next bet size should be 25% of 900, i.e. 225 rupees.

For a long enough series of bets, this strategy will maximize the growth in your bankroll.

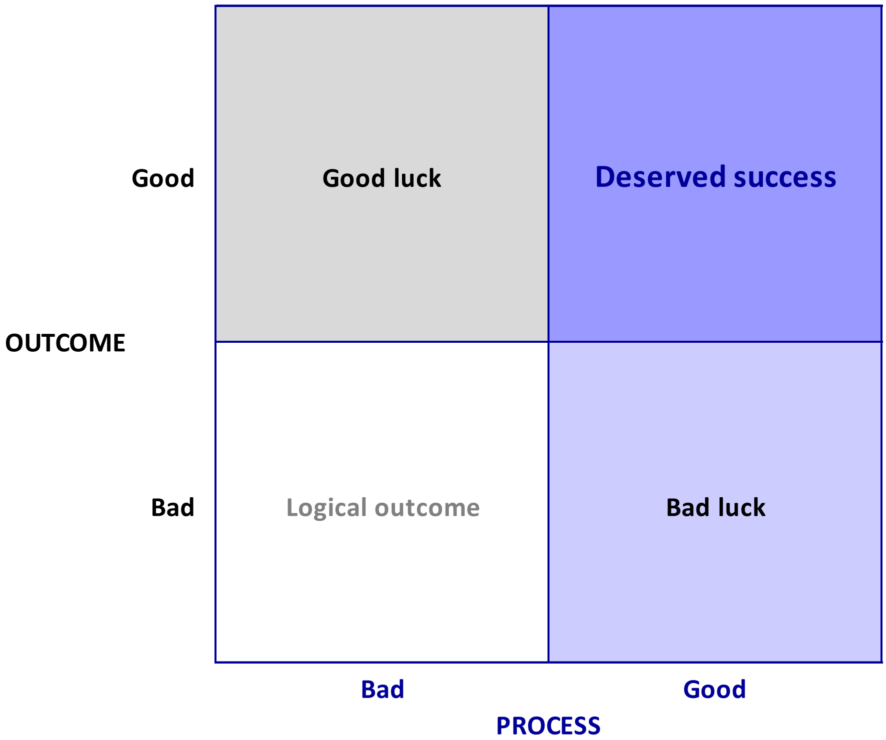
2.1 Kelly's for equities: The meaning is more relevant than the math

Equity investing is starkly different from gambling in several ways.

- **Odds/Payoff and Win-loss probabilities:** In gambling, both the odds/payoff and the win-loss probabilities are a given. In many situations, payoff is 1:1 and win-loss probability is 0.5:0.5. In cases like roulette where the payoff is higher, the probability of win is that much lower. Net-net, win or loss is purely an outcome of luck.

  In contrast, in equity investing, neither payoff nor probability is fixed. Stock prices are known, but every investor has to individually estimate upside-downside and associated probabilities. Investors with superior knowledge, skills and processes can identify favorable payoff with favorable probabilities to win big.

Exhibit 2 **Process-Outcome matrix: In equity investing, having a good process reduces the role of luck**



- **Role of time:** In gambling, the outcome of one's bet – win or loss – is instantaneous. In equities, there is significant time-gap before it can be decided whether the bet was a win or a loss.
- **Nature of bets:** In gambling, bets are sequential. The outcome of one bet can influence the strategy for the next bet. In equities, investors need to make simultaneous bets on multiple stocks.

Given these differences, the mathematical relevance of Kelly is not very high in equities. And yet, two variants of the Kelly's formula offer meaningful insights for equity investing.

2.1.1 Insight #1: Look for asymmetric payoff

One variant of Kelly's formula can be obtained with a suitable modification of b, i.e. odds. In gambling, odds are typically quoted as b:1, i.e. b rupees to be won for every 1 rupee bet. In gambling, if one loses, the loss is always 100% of the amount wagered. Such is not the case in equities, where even if there is a loss, it is rarely 100% (except in case of bankruptcy).

Thus, for equities, it is better to interpret b as upside-downside ratio, say, U/D. Substituting b = U/D in Kelly's formula, we get:

$$f = (U/D \times p - q) \div (U/D)$$

This simplifies to:

$$f = (Up - Dq) \div U$$

where: ***f*** is the fraction of the current bankroll to invest in a stock,
U is the possible Upside in the stock,
p is the probability of such Upside,
D is the possible Downside in the stock, and
q is the probability of such Downside.

This variant clearly identifies the factors that should influence stock selection and allocation – Upside, Downside and the probabilities of both. The most favorable situation investors should look for is: Asymmetric payoff (high-upside-low-downside) coupled with high probability of win.

2.1.2 Insight #2: Create edge

Yet another variant of Kelly is by author William Poundstone in his book, *Fortune's Formula* –

$$f = \text{edge} / \text{odds}$$

where: ***f*** is the fraction of the current bankroll to invest in a stock,
edge = bp – q or Up – Dq, i.e. the expected value of the financial proposition, and
odds = b or U, i.e. the amount expected to win if one wins.

This variant can be interpreted both mathematically and non-mathematically. Mathematically, f is positive only when the numerator (edge or expected value) is greater than zero, i.e. no edge, no bet. In non-mathematical terms, edge may be defined as knowing something that others don't. So, here again: no edge, no bet.

As markets are fairly efficient, equity investors can expect to make big money only if they create an edge over the market. There are two sources of edge: (1) Information advantage, and (2) Analytical advantage. In modern-day markets, investors are unlikely to enjoy any significant information advantage. Hence, the main source of creating an edge is analytical advantage. This primarily includes time-tested frameworks/processes for analyzing various aspects of business and valuation – nature of industry, competitive landscape, size of opportunity, quality of management, channel checks, earnings forecasts, peer valuation, etc.

2.1.3 Insight #3: Bet big

Whenever investors get an edge in asymmetric payoff situations, the Kelly message is clear: bet big.

Such opportunities for big bets come seldom; hence the need for Focused Investing.

Exhibit 3 **The payoff-edge decision matrix**

PAYOFF		EDGE: No	EDGE: Yes
	High	Speculative Bet	Bet Big
	Low	No Bet	Bet Low

3. What is Focused Investing?

The golden mean of Diversified and Concentrated Investing

An extremely important aspect of investing is risk-return tradeoff. There are two contrasting investment styles around this: (1) Diversified investing, and (2) Concentrated investing.

3.1 Diversified investing

The underlying strategy in diversified investing is to hold a fairly large number of stocks across many sectors so that unexpected adversity in any stock or sector does not unduly hurt overall portfolio performance.

In the active version of diversified investing, portfolio managers constantly buy and sell stocks, attempting to outperform the broader market, measured by benchmark indices such as Nifty 50, BSE Sensex, Nifty 500, etc. This involves a high level of transaction and management costs, leading to the emergence of an alternative approach – Index Investing – in the mid-1980s. Here, portfolio managers follow a relatively passive buy-and-hold strategy of the very stocks that constitute the benchmark indices. The core idea is to perform better than the actively managed funds by keeping costs very low.

The net result of both versions of diversified investing is the same – **modest returns**, typically hovering around the market average. Thus, the fully power of equity to deliver exponential returns remains unharnessed.

Exhibit 4 **Annual Return for Monte Carlo simulation portfolios in S&P Equal Weight Index (1999 to 2014): Higher the number of stocks, lower the standard deviation, and also lower the maximum return**

Returns %	Stocks in portfolio								All
	10	15	20	25	30	50	100	250	Stocks
Average	12.0	12.1	12.1	12.1	12.1	12.2	12.2	12.2	12.2
Minimum	3.7	5.4	5.3	5.9	7.5	8.1	10.1	10.7	12.2
Maximum	21.3	20.0	18.7	17.2	17.3	15.8	14.8	13.5	12.2
Std Deviation	2.7	2.2	1.9	1.7	1.5	1.2	0.8	0.4	0.0

Source: Adapted from the book *Concentrated Investing*, by Allan C Benello, Michael Van Biema and Tobias Carlisle

3.2 Concentrated investing

Propagated by a handful of investors like John Keynes, Warren Buffett, Charlie Munger and Phil Fisher, Concentrated Investing essentially involves choosing a handful of stocks (typically not more than 10) that are expected to produce above-average returns, allocating a bulk of the portfolio to these stocks, and holding them for the long term across market cycles and fluctuations.

Concentrated investors believe that their in-depth knowledge of the businesses they buy into truly reduces the risk of owning them. In his book, *Common Stocks, Uncommon Profits*, Phil Fisher writes, “buying a company without sufficient knowledge of it may be even more dangerous than having inadequate diversification.” Buffett’s words in this regard are, “Diversification serves as a protection against ignorance. It you want to make sure that nothing bad happens to you relative to the market, you should own everything. There is nothing wrong with that. It’s a perfectly sound approach for somebody who doesn’t know how to analyze businesses.”

Concentrated investors indeed tend to outperform the market significantly over the long term, but with relatively high year-to-year volatility.

Exhibit 5 **Charlie Munger’s performance suggests some level of annual volatility …**

%	Return	S&P 500	Alpha
1962	30.1	-7.6	37.7
1963	71.7	20.6	51.1
1964	49.7	18.7	31.0
1965	8.4	14.2	-5.8
1966	12.4	-15.8	28.2
1967	56.2	19.0	37.2
1968	40.4	7.7	32.7
1969	28.3	-11.6	39.9
1970	-0.1	8.7	-8.8
1971	25.4	9.8	15.6
1972	8.3	18.2	-9.9
1973	-31.9	-13.1	-18.8
1974	-31.5	-23.1	-8.4
1975	73.2	44.4	28.8
CAGR	**19.8**	**4.9**	**14.9**

Source: Adapted from the book, Concentrated Investing

Exhibit 6 **… but Buffett’s performance (under Buffett Partnerships) is impeccable**

%	Return	Dow	Alpha
1957	9.3	-8.4	17.7
1958	32.2	38.5	-6.3
1959	20.9	20.0	0.9
1960	18.6	-6.2	24.8
1961	35.9	22.4	13.5
1962	11.9	-7.6	19.5
1963	30.5	20.6	9.9
1964	22.3	18.7	3.6
1965	36.9	14.2	22.7
1966	16.8	-15.6	32.4
1967	28.4	19.0	9.4
1968	45.6	7.7	37.9
CAGR	**25.3**	**4.9**	**20.4**

Source: Buffett’s letters to partners

3.3 Diversified v/s Concentrated Investing and the nature of capital

The nature of capital being managed seems to be a key determinant as to which of the two styles of investing will be practiced. Public money, largely in the form of open-ended mutual funds, tends to be managed based on a Diversified Investing strategy, whereas Concentrated Investing seems better suited for private / close-ended source of capital.

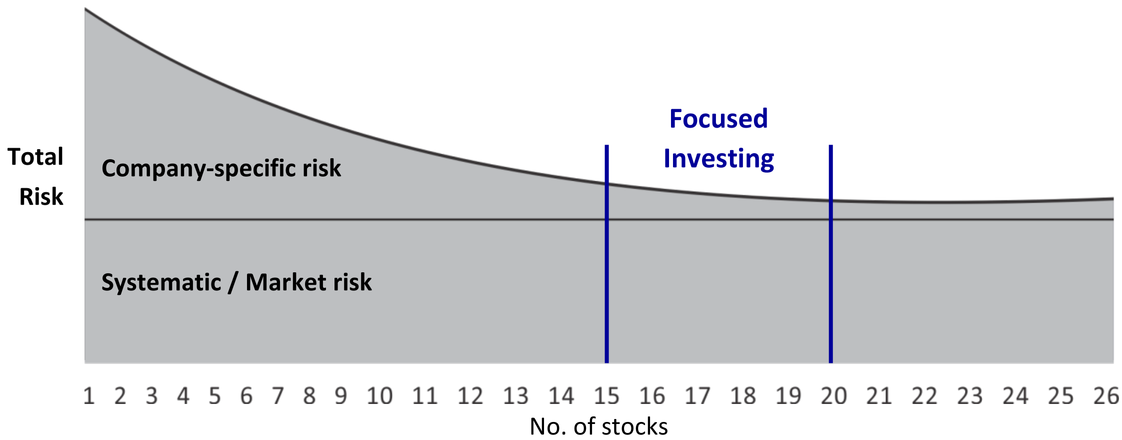
The obvious reason is that public money tends to be fickle and guided more by short-term performance. An open-ended mutual fund with a poor short-term performance faces the very real prospect of a run on its assets. This, in turn, makes such portfolio managers averse to short-term volatility that typically accompanies concentrated stock positions – they settle for safer but lower returns, instead.

3.4 Focused Investing: The golden mean

We posit Focused Investing as the golden mean of the above two investment styles. Compared to 50+ stocks under Diversified Investing and 10 or fewer stocks under Concentrated Investing, we recommend a focused portfolio of 15-20 stocks. This offers the best of both worlds – adequate risk diversification and meaningful return magnification.

On the risk front, several studies have established that company-specific risks are sufficiently diversified by owning 15-20 stocks across sectors (depicted in Exhibit 6). Additional prudent allocation norms (e.g. not having more than 10% under any single stock) can further reduce volatility of performance.

Exhibit 7 **15-20 stocks from across sectors are sufficient to near-fully diversify company-specific risks**



On the return front, having only 15-20 businesses allows meaningful allocations in high-conviction stock ideas, magnifying overall portfolio return. An interesting 2012 study in the US showed that portfolios consisting of only the high-conviction bets of fund managers outperformed the very fund from which they were derived, and that too without significantly higher risk/volatility.

Exhibit 8 **Portfolios of high-conviction stocks outperformed the very portfolios from which they were carved out**

Portfolios	Return % *	Std Dev. %
Top 5	10.8	26.3
Top 10	9.4	23.4
Top 15	8.7	21.8
Top 20	8.1	20.7
Top 25	7.8	19.8
Top 30	7.4	19.1
All Funds	6.3	19.5
Own Index	5.1	20.0

* 1999 to 2009

Source: Working paper *Diversification versus Concentration … and the Winner is?* (Yeung et al 2012)

3.5 Diversified v/s Focused Investing – The Indian scenario

The Indian mutual fund industry has about 286 schemes actively managing INR 4 trillion in assets. Diversified investing is clearly the dominant style. A high 56% of the schemes and an even higher 86% of assets are under portfolios with 41+ stocks. In contrast, only 13% of the schemes and 3% of the assets are under portfolios of 25 stocks or fewer.

Exhibit 9 **Only 36 Focused portfolios ….**

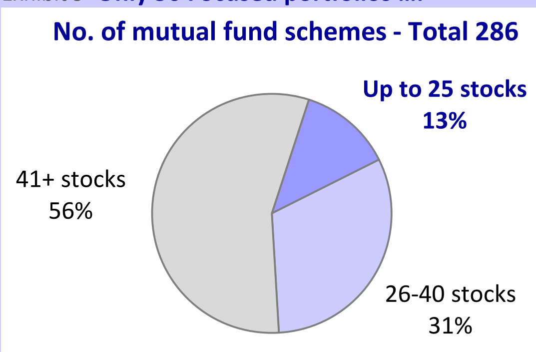
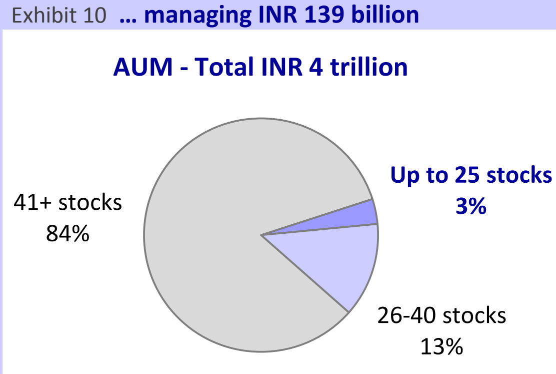


Exhibit 10 **… managing INR 139 billion**



Source: Based on mutual fund data from ICRA Online

4. Four keys to successful Focused Investing

Portfolio goal, Selection, Allocation, Monitoring & Improvement

We believe there are 4 keys to successful Focused Investing:

1. Clear portfolio goal,
2. Superior stock selection,
3. Rational allocation, and
4. Active monitoring and improvement.

We discuss these below, incorporating a framework each for –

- **What to buy – QGLP** (Quality, Growth, Longevity at favorable Price), and
- **How much to buy – CAP** (Confidence-Adjusted Payoff).

4.1 Clear portfolio goal

We believe setting a simple, clear and measurable portfolio goal should be the starting point of any investing process. A portfolio goal can be expressed in terms of absolute performance or relative to a suitable benchmark. For Focused Investing, an absolute performance goal is preferred. The portfolio goal will serve as a useful guidepost for both stock selection and stock allocation.

4.2 Superior stock selection – QGLP

Having decided on the portfolio goal, the next step is superior stock selection. In Focused Investing, this is of utmost importance, as in a portfolio of 15-20 stocks, average allocation in each stock is meaningful enough to influence portfolio performance. So, investors are better off using a time-tested investment philosophy / process of stock selection. The end objective is to –

- Find asymmetric payoff (i.e. high upside potential with low downside risk),
- Create edge (i.e. have an information and/or analytical advantage over the market),
- Meet portfolio goal, and
- Diversify risk (i.e. select stocks from different sectors, not highly correlated to each other).

For most selections, we recommend a philosophy captured by the acronym **QGLP** –
Q – Quality of business and Quality of management,
G – Growth in earnings,
L – Longevity of Quality & Growth, and
P – favorable Price of purchase.

4.2.1 Q = Quality of business x Quality of management

Expressing Quality as a product implies that if either Quality of Business or Quality of Management is zero, overall Q ends up as zero.

Exhibit 11 **Key indicators of Q**

Quality of Business	Quality of Management
• Preferably secular business	• **Unquestionable integrity**
• Large profit pool	– Impeccable corporate governance
• Size of opportunity	– Concern for all stakeholders
• Competitive landscape	– Preferably paying full tax and a well-articulated dividend policy
– Monopoly, Oligopoly	• **Demonstrable competence**
– Dominant market share	– Excellence in strategy & execution
• Niche / Strategic opportunity	– Sustaining competitive advantage
• Favorable demand-supply (especially in case of commodities)	• **Growth mindset**
• RoE and RoCE	– Long-range profit outlook
• Operating cash flow and Free cash flow	– Efficient capital allocation

Clearing the Quality filter significantly lowers risk of permanent capital loss.

4.2.2 G = Growth in earnings

Growth in earnings is a key driver of value in a stock. However, growth is unique to each company, and hence, does not yield itself to any standard frameworks. Certain favorable high-growth situations include –

- Exponential opportunity in discretionary expenditure amidst linear growth in GDP
- Value Migration (from outdated business models to new ones, e.g. wired telephony to wireless)
- Sustained industry tailwind
- Small base with large opportunity
- New large investment getting commissioned
- Inorganic growth through M&A
- Consolidation of competition
- Operating & Financial leverage
- Turnaround from loss to profit

4.2.3 L = Longevity of Quality & Growth

As Focused Investing is essentially a buy-and-hold strategy, selected stocks should ideally sustain their quality and growth for a long time into the future.

4.2.4 P = Price (favorable)

A thorough analysis of Q-G-L will likely give investors an edge in terms of understanding the company’s business, management and its earnings growth prospects. However, it is valuation analysis that will finally help investors determine whether the stock meets the portfolio goal, and decide whether it merits selection.

4.3 Rational allocation – CAP

Having selected 15-20 stocks, most of which meet the portfolio goal, the next step is rational allocation of the same in a portfolio. The governing principles here are –

- Bet big when odds are strongly in favor, and at the same time,
- Increase the certainty of achieving the portfolio goal.

To achieve both these objectives, we suggest the framework **CAP (Confidence-Adjusted Payoff)**. This framework draws inspiration from the allocation methodology pursued by Warren Buffett in managing the investment portfolio at Buffett Partnerships during the 1960s. He says, “The question always is, ‘How much do I put in number one (ranked by expectation of relative performance) and how much do I put in number eight?’" (see Annexure for a fuller extract from his 1966 letter to partners on diversification and allocation).

The steps for CAP-based allocation are:

- Rank all the selected stocks in descending order of their expected 3 or 5-year upside.
- To this upside, apply a Confidence factor range from 0 to 100%. The main idea behind the Confidence factor is to deflate the expected upside for risks that may not have been explicitly captured in the upside calculations. (Note: If the Confidence factor is very low, perhaps the very selection may need to be questioned.)
- For each stock, arrive at Confidence-Adjusted Payoff (CAP) i.e. Upside x Confidence factor.
- Rank the stocks in descending order of CAP, and align the final allocation.

The more accurate the assessment of CAP, the higher will be the portfolio performance based on this allocation, rather than any other (e.g. equal weight).

Additional norms could include –

- not having any stock with allocation more than 10% of the portfolio value
- not having any stock with allocation less than 3% of the portfolio value
- not having more than 5% equity of any company

4.4 Active monitoring & improvement

Having constructed the portfolio, the next step is active monitoring and improvement. This is very important, as odds on stocks change frequently due to change in underlying fundamentals, or stock price, or both.

Monitoring and improvement includes several things such as –

- estimating quarterly and annual earnings for companies in the portfolio and reviewing the actuals vis-à-vis estimates to ascertain whether the original investment thesis is on track
- staying updated on the latest developments in the company and sector, including periodic interaction with company management
- maintaining corroborative evidence on the company wherever possible, e.g. via interactions with competitors, dealers, customers, suppliers, ex-employees, etc
- watching out for irrational stock price movements, up or down, and an appropriate action plan for such cases
- constant search for investment ideas that may be superior to the ones currently held.

4.5 Common mistakes of allocation

The three common mistakes of allocation to be avoided are: (1) over-allocation, (2) under-allocation, and (3) overstaying with winners and losers. These mistakes can be associated with common psychological/behavioral biases as shown below.

Exhibit 12 **Allocation mistakes can be traced to psychological/behavioral biases**

Allocation mistake	Associated biases
• **Under-allocation**	• **Risk aversion:** People prefer to avoid or minimize uncertainty, even at the cost of lower payoff.
• **Over-allocation**	• **Overconfidence bias:** People in general overestimate their knowledge and skills. • **Confirmation bias:** People tend to search for and interpret information in a way that confirms one's pre-existing beliefs or hypotheses, while disregarding contrary information and alternative possibilities. Both these biases combined are a potent recipe for over-allocation.
• **Overstaying with winners**	• **Ownership bias:** Simply stated, this is the tendency to overvalue what you own simply because you own it.
• **Overstaying with losers**	• **Loss aversion:** People feel twice as bad about losing money as they feel about winning it. This causes investors to hold on to bad choices far too long, hoping that things will eventually improve and the loss will be avoided.

5. Summary & conclusions

Adopt Focused Investing for exceptional rather than acceptable returns

In closing, we highlight the following points from the theme study –

- The prime focus of most investors is stock selection. In this, the power of stock allocation to enhance portfolio performance remains untapped.

- Kelly's formula offers a semblance of a framework for portfolio sizing. However, it is suited for gambling situations where payoffs and probabilities are a given. For equity investing, the takeaways from analyzing Kelly are –
  1. Look for stocks with asymmetric payoff i.e. high upside potential with low downside risk
  2. Create edge i.e. have an information and/or analytical advantage over the market
  3. When both (1) and (2) coincide, bet big.

- As stocks markets are fairly efficient, opportunities for such big bets come seldom. Focused investing is a sound strategy to capitalize on these opportunities. By investing in 15-20 stocks with strongly favorable odds, investors can enjoy the golden mean of risk diversification and return magnification.

- We believe there are 4 keys to successful Focused Investing:
  1. Clear portfolio goal, which sets a guidepost for both stock selection and allocation
  2. Superior stock selection based on a time-tested investment philosophy or process
  3. Rational allocation
  4. Active monitoring and improvement.

- Disciplined practice of the above should lead to exceptional returns rather than acceptable returns.

ANNEXURE: Warren Buffett on diversification and allocation

(extract from letter dated 20 January 1966 to partners in Buffett Partnership Limited; key sections are highlighted in bold by us)

Diversification

Last year in commenting on the inability of the overwhelming majority of investment managers to achieve performance superior to that of pure chance, I ascribed it primarily to the product of: "(1) group decisions - my perhaps jaundiced view is that it is close to impossible for outstanding investment management to come from a group of any size with all parties really participating in decisions; (2) a desire to conform to the policies and (to an extent) the portfolios of other large well-regarded organizations; (3) an institutional framework whereby average is "safe" and the personal rewards for independent action are in no way commensurate with the general risk attached to such action; (4) an adherence to certain diversification practices which are irrational; and finally and importantly, (5) inertia."

This year in the material which went out in November, I specifically called your attention to a new Ground Rule reading, "**7. We diversify substantially less than most investment operations. We might invest up to 40% of our net worth in a single security under conditions coupling an extremely high probability that our facts and reasoning are correct with a very low probability that anything could drastically change the underlying value of the investment.**"

We are obviously following a policy regarding diversification which differs markedly from that of practically all public investment operations. Frankly, there is nothing I would like better than to have 50 different investment opportunities, all of which have a mathematical expectation (this term reflects the range of all possible relative performances, including negative ones, adjusted for the probability of each - no yawning, please) of achieving performance surpassing the Dow by, say, 15 percentage points per annum. If the 50 individual expectations were not intercorelated (what happens to one is associated with what happens to the other) I could put 2% of our capital into each one and sit back with a very high degree of certainty that our overall results would be very close to such a 15 percentage point advantage.

It doesn't work that way.

We have to work extremely hard to find just a very few attractive investment situations. Such a situation by definition is one where my expectation (defined as above) of performance is **at least 10 percentage points per annum superior to the Dow**. Among the few we do find, the expectations vary substantially. The question always is, "How much do I put in number one (ranked by expectation of relative performance) and how much do I put in number eight?" This depends to a great degree on the wideness of the spread between the mathematical expectation of number one versus number eight. It also depends upon the probability that number one could turn in a really poor relative performance. **Two securities could have equal mathematical expectations, but one might have .05 chance of performing 15 percentage points or more worse than the Dow, and the second might have only .01 chance of such performance. The wider range of expectation in the first case reduces the desirability of heavy concentration in it**.

The above may make the whole operation sound very precise. It isn't. Nevertheless, our business is that of ascertaining facts and then applying experience and reason to such facts to reach expectations. Imprecise and emotionally influenced as our attempts may be, that is what the business is all about. The results of many years of decision-making in securities will demonstrate how well you are doing on making such calculations – whether you consciously realize you are making the calculations or not. I believe the investor operates at a distinct advantage when he is aware of what path his thought process is following.

There is one thing of which I can assure you. **If good performance of the fund is even a minor objective, any portfolio encompassing one hundred stocks (whether the manager is handling one thousand dollars or one billion dollars) is not being operated logically. The addition of the one hundredth stock simply can't reduce the potential variance in portfolio performance sufficiently to compensate for the negative effect its inclusion has on the overall portfolio expectation**.

Anyone owning such numbers of securities after presumably studying their investment merit (and I don't care how prestigious their labels) is following what I call the **Noah School of Investing - two of everything**. Such investors should be piloting arks. While Noah may have been acting in accord with certain time-tested biological principles, the investors have left the track regarding mathematical principles. (I only made it through plane geometry, but with one exception, I have carefully screened out the mathematicians from our Partnership.)

Of course, the fact that someone else is behaving illogically in owning one hundred securities doesn't prove our case. While they may be wrong in overdiversifying, we have to affirmatively reason through a proper diversification policy in terms of our objectives.

The optimum portfolio depends on the various expectations of choices available and the degree of variance in performance which is tolerable. The greater the number of selections, the less will be the average year-to-year variation in actual versus expected results. Also, the lower will be the expected results, assuming different choices have different expectations of performance.

I am willing to give up quite a bit in terms of leveling of year-to-year results (remember when I talk of "results," I am talking of performance relative to the Dow) in order to achieve better overall long-term performance. Simply stated, this means **I am willing to concentrate quite heavily in what I believe to be the best investment opportunities recognizing very well that this may cause an occasional very sour year - one somewhat more sour, probably, than if I had diversified more**. While this means our results will bounce around more, I think it also means that our long-term margin of superiority should be greater.

Space for Notes

2011-16 Wealth Creation Study: Detailed findings

#1 Trend in Wealth Creation

INR28.4 trillion Wealth Created during 2011-16

- The top 100 Wealth Creators created INR 28.4 trillion of wealth during 2011-16.
- This is the third highest ever quantum of Wealth Created.
- Pace of Wealth Creation is highly correlated to market returns. During 2011-16, pace of Wealth Creation was relatively slower at 18% CAGR given muted market CAGR of 5%.

Exhibit 1 **During 2011-16, Wealth Created is high despite muted market performance**

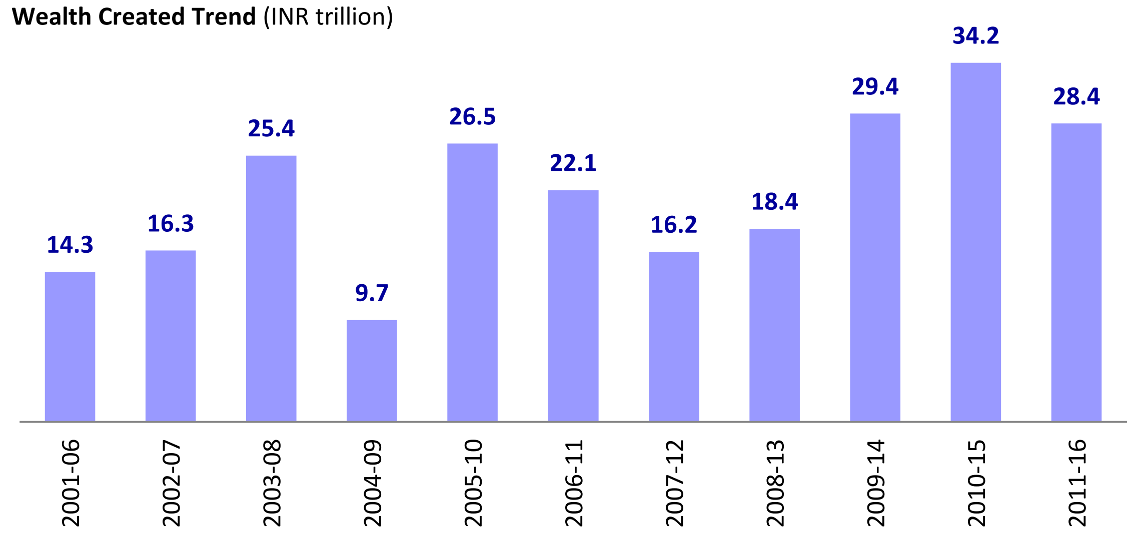
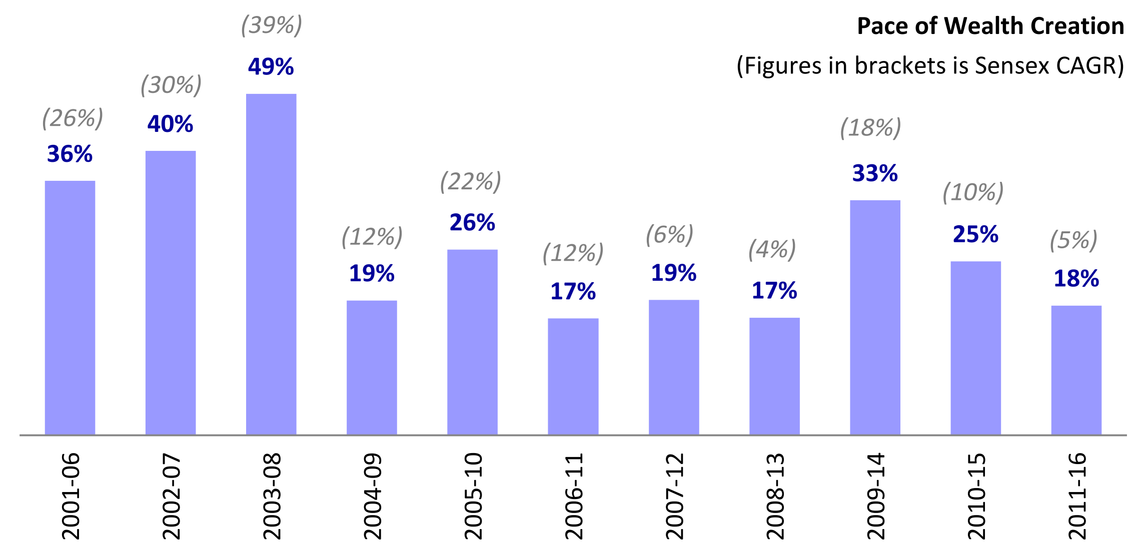


Exhibit 2 **2011-16 pace of Wealth Creation lower in line with market conditions**



Key Takeaway

Forget markets, think stocks

The above data proves that Wealth Creation happens in all kinds of market conditions. So, investors are better off focusing on which stocks to invest in, rather than timing the markets.

#2 The Biggest Wealth Creators

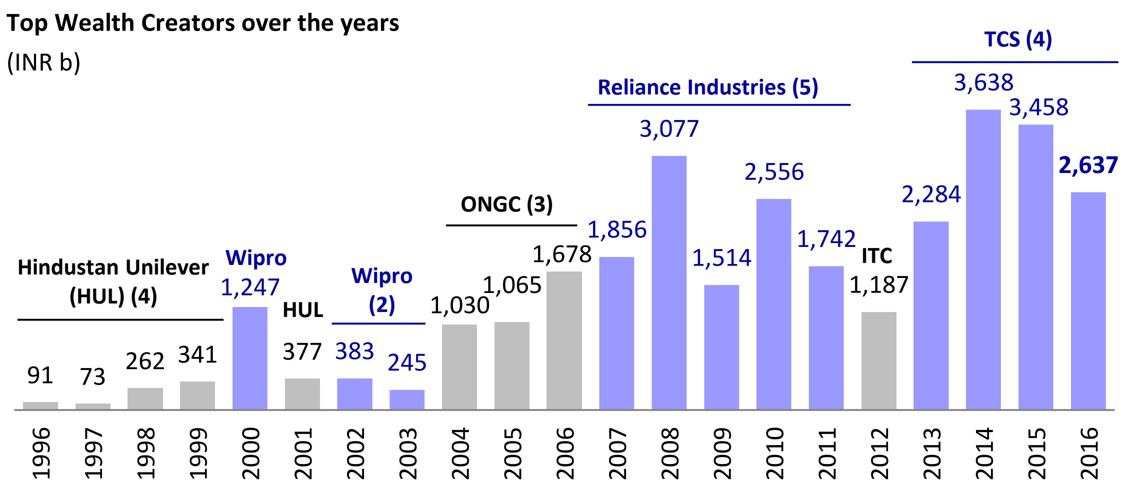
TCS is the Biggest Wealth Creator for the fourth time in a row

- **TCS** has emerged as the biggest Wealth Creator for the period 2011-16, retaining the top spot it held even in the previous three study periods (2010-15, 2009-14 and 2008-13).
- **HDFC Bank** has inched up to No.2 after 3 years of remaining No.3.
- **Hindustan Unilever** and **ITC** both clocked PAT CAGR of 14%. However, the former has pushed back ITC to No.4 on the back of massive 50% stock rerating from 30x to 46x.
- 8 of the top 10 Wealth Creators are the same as of last year. **Kotak Mahindra Bank** and **Maruti Suzuki** have entered the top 10 displacing **Axis Bank** and **Tata Motors.**

Exhibit 3 **Top 10 Biggest Wealth Creators**

Rank	Company	Wealth Created		CAGR (%)		P/E (x)		RoE (%)	
		INR b	% share	Price	PAT	2016	2011	2016	2011
1	TCS	2,637	9	16	22	21	26	37	37
2	HDFC Bank	1,475	5	18	26	21	27	17	16
3	Hind. Unilever	1,266	4	25	14	46	30	102	76
4	ITC	1,197	4	13	14	28	28	28	30
5	Sun Pharma	1,169	4	30	24	38	26	16	19
6	Infosys	948	3	9	15	20	27	24	26
7	HCL Tech	819	3	28	27	21	20	20	21
8	Kotak Mahindra	760	3	24	17	36	21	10	14
9	Maruti Suzuki	742	3	24	14	25	16	17	16
10	H D F C	682	2	10	18	17	23	20	21
Total of Top 10		**11,695**	**41**	**18**	**19**	**24**	**25**	**23**	**24**
Total of Top 100		**28,436**	**100**	**19**	**16**	**22**	**19**	**20**	**22**

Exhibit 4 **TCS is the biggest Wealth Creator for the fourth year in a row**



Key Takeaway

HDFC Bank persistently rising up the charts

HDFC Bank is climbing up the rank charts purely led by earnings growth. In fact, during 2011-16, its P/E actually fell from 27x to 21x. In the last 3 studies, TCS's Wealth Created has fallen from INR 3.6 trillion to INR 2.6 trillion. In contrast, HDFC Bank's Wealth Created is up from INR 1.3 trillion to INR 1.5 trillion.

#3 The Fastest Wealth Creators

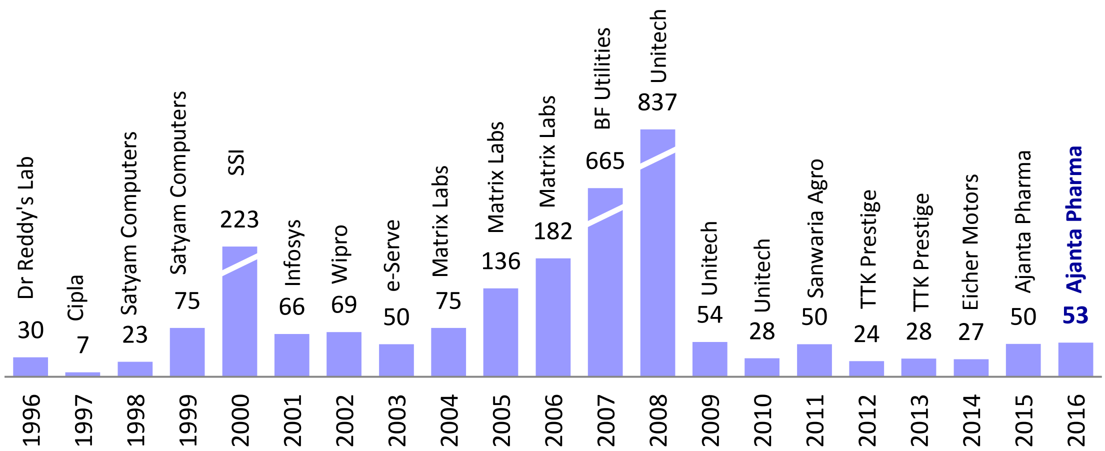
Ajanta Pharma is the Fastest Wealth Creator again

- **Ajanta Pharma** has emerged as the Fastest Wealth Creator for the second time in a row, with 2011-16 stock price multiplier of 53x (121% CAGR).
- **Eicher Motors** is among the top 10 Fastest Wealth Creators for the last 5 studies.
- Except **Welspun** which is virtually a turnaround case, all the other 9 Fastest Wealth Creators have seen massive P/E re-rating on the back of hyper earnings growth.
- The base 2011 market cap of 7 stocks was less than INR 20 billion, including 6 of them in single-digit billion.

Exhibit 5 **Top 10 Fastest Wealth Creators (2011-16)**

Rank	Company	Price Appn.	CAGR (%)		Mkt Cap (INR b)		P/E (x)	
		(x)	Price	PAT	2016	2011	2016	2011
1	Ajanta Pharma	53	121	52	124	2	31	5
2	Welspun India	23	88	234	100	4	14	226
3	Eicher Motors	14	70	48	520	36	42	20
4	Kajaria Ceramics	13	66	30	76	6	33	9
5	Vakrangee	11	63	52	105	8	27	17
6	Bajaj Finance	10	59	39	373	26	29	10
7	P I Industries	10	58	37	78	7	25	10
8	Symphony	9	56	15	83	9	77	17
9	Amara Raja Batteries	9	56	27	150	16	31	11
10	Aurobindo Pharma	8	50	28	436	57	22	10

Exhibit 6 **History of Fastest Wealth Creators (5-year Price multiplier, x)**



Key Takeaway

Small size + Scalability + Sound management = Superior Wealth Creation

All the Fastest Wealth Creators were small in the base year (i.e. 2011) and operating in a large sector (e.g. pharmaceuticals, finance, autos) or scalable niche (air-coolers, ceramic tiles). Under a sound management, such companies are able to clock a scorching pace of earnings growth. This in turn also drives up valuations, leading to superior Wealth Creation.

#4 The Most Consistent Wealth Creators

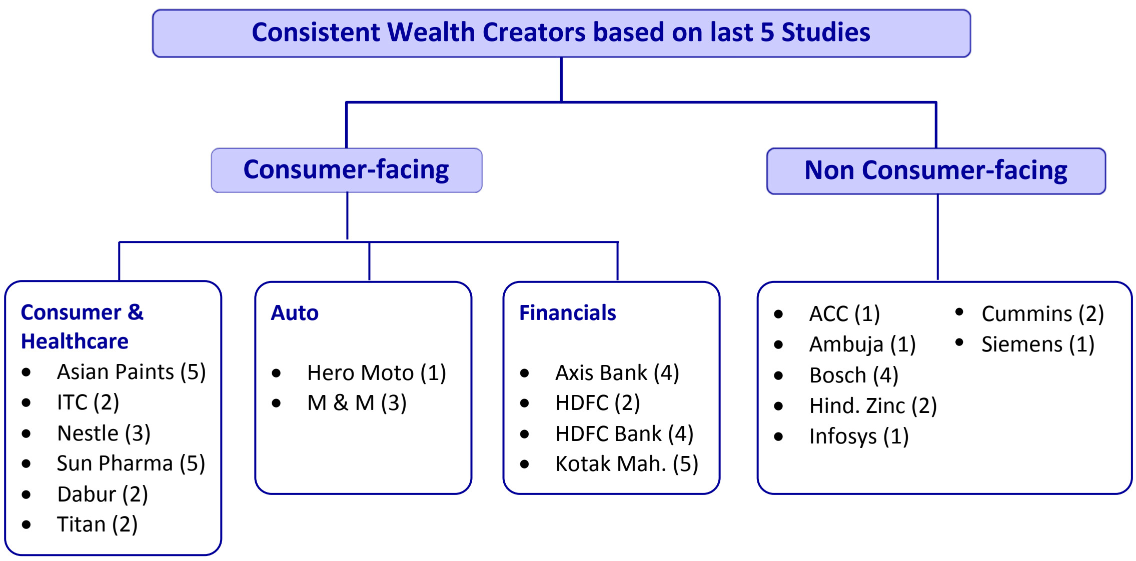
Asian Paints is the Most Consistent Wealth Creator

- **Asian Paints** is the Most Consistent Wealth Creator over the 10-year period 2006-16, by virtue of –
  3. Appearing among top 100 Wealth Creators in each of the last 10 studies; and
  4. Highest 10-year Price CAGR of 30%.
- 8 of the top 10 Most Consistent Wealth Creators are consumer-facing companies, with **Bosch** and **Cummins India** the only exceptions.

Exhibit 7 **Top 10 Most Consistent Wealth Creators**

Rank	Company	Appeared in WC Study (x)	10-yr Price CAGR (%)	10-yr PAT CAGR (%)	P/E (x) 2016	P/E (x) 2006	RoE (%) 2016	RoE (%) 2006
1	Asian Paints	10	30	23	48	29	31	31
2	Kotak Mahindra	10	26	23	36	20	10	24
3	Sun Pharma	10	25	25	38	30	16	41
4	Titan Company	10	23	24	44	45	20	47
5	Bosch	10	22	14	53	27	15	24
6	HDFC Bank	10	21	31	21	28	17	16
7	Axis Bank	10	20	33	13	20	16	18
8	Dabur India	10	20	19	36	32	30	49
9	Nestle India	10	17	11	63	29	32	92
10	Cummins India	10	17	15	32	26	22	23

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

Strong discretionary brand = Consistent Wealth Creation

Strong brands in basic goods (e.g. Colgate) fail to feature among Consistent Wealth Creators given the missing element of growth. In contrast, discretionary brands like Asian Paints enjoy steady growth, translating to Consistent Wealth Creation, fairly agnostic to purchase price.

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

Superior earnings and price performance over benchmark

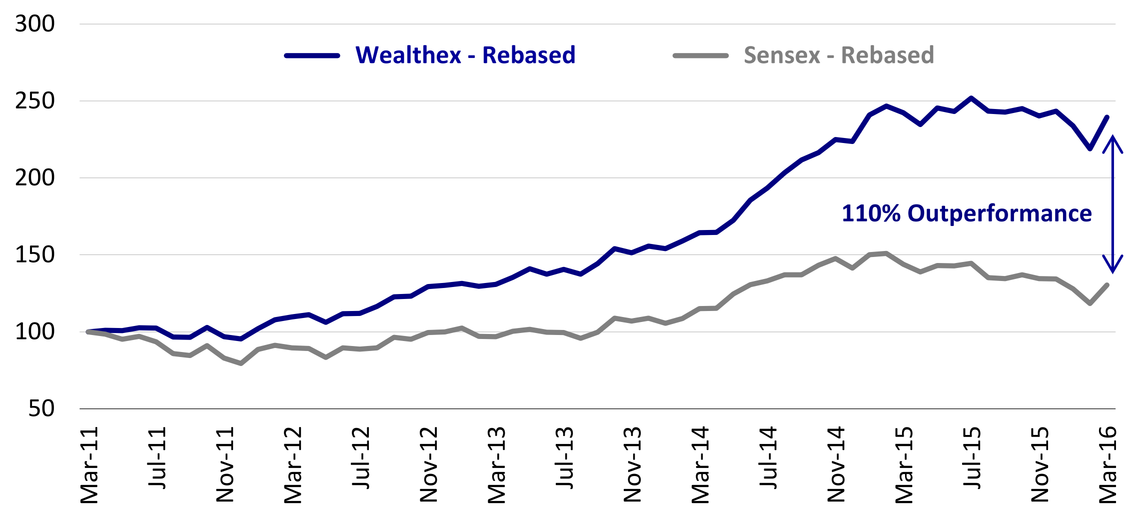
We compare Wealthex (top 100 Wealth Creators Market Cap index) with the BSE Sensex on 3 parameters - (1) market performance, (2) earnings growth and (3) valuation.

- **Market performance:** Over 2011-16, Wealth Creating companies have delivered return CAGR of 19% v/s 5% for the BSE Sensex. March 2016 over March 2011, Wealthex is up 140% whereas the Sensex is up 30% i.e. 110% outperformance over 5 years.
- **Earnings growth:** Wealthex clocked 5-year earnings CAGR of 13% v/s 5% for BSE Sensex. Further, YoY earnings growth for Wealthex is higher for every year except 2011.
- **Valuation:** Wealthex P/E has seen a marginal re-rating vis-à-vis the Sensex. Thus, the 14pp outperformance of Wealthex is explained largely by the 8pp higher earnings CAGR.

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

	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	5 Year CAGR (%)
BSE Sensex	19,445	17,404	18,836	22,386	27,957	25,342	5
YoY (%)		*-10*	*8*	*19*	*25*	*-9*	
Wealthex - based to Sensex	**19,445**	**21,323**	**25,455**	**31,956**	**47,123**	**46,573**	**19**
YoY (%)		*10*	*19*	*26*	*47*	*-1*	
Sensex EPS (INR)	1,024	1,120	1,181	1,337	1,356	1,330	5
YoY (%)		*9*	*5*	*13*	*1*	*-2*	
Wealthex EPS (INR)	**1,120**	**1,147**	**1,376**	**1,580**	**1,840**	**2,084**	**13**
YoY (%)		*2*	*20*	*15*	*16*	*13*	
Sensex PE (x)	19	16	16	17	21	19	0
Wealthex PE (x)	**17**	**19**	**19**	**20**	**26**	**22**	**5**

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



Key Takeaway

“What not to buy” is as important as “What to buy”

Of the 30 Sensex stocks in 2011, as many as 18 underperformed over the next 5 years, down an average 12% CAGR. If an investor had avoided these and only bought the remaining 12, the average return CAGR would be 14%, handsomely higher than the Sensex’s 5%.

#6 Wealth Creation: Sector analysis

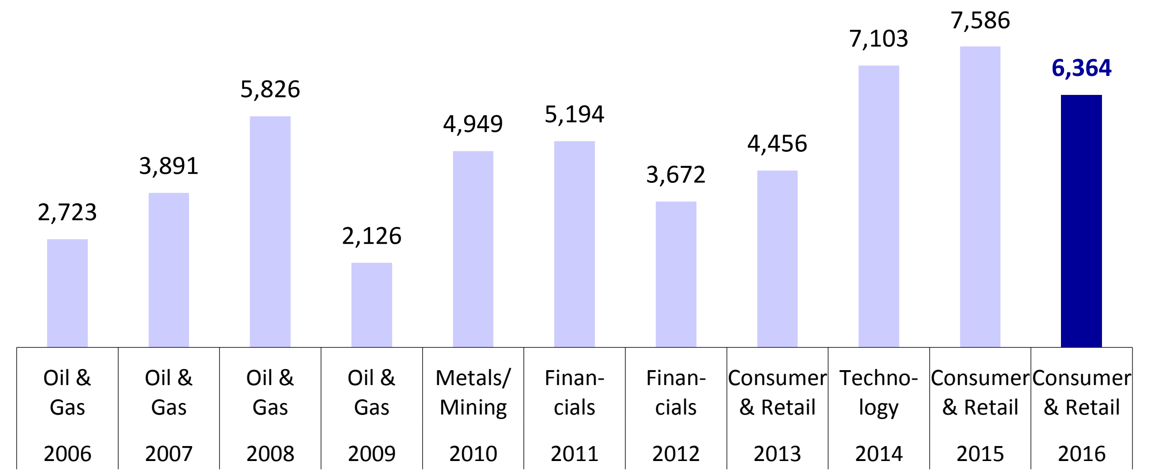
Consumer/Retail is the biggest Wealth Creating sector again

- **Consumer/Retail** has emerged as India's biggest Wealth Creating sector for the second consecutive time, and the third time in the last four years.
- Deep cyclicals (**Metals/Mining**, **Oil & Gas**, **Capital Goods**) have significantly lost out to secular and quasi-secular sectors.
- **Wealth Creation was highly concentrated** – top 5 sectors accounted for 74% of Wealth Creators and 85% of Wealth Created.

Exhibit 11 **Consumer/Retail is the top Wealth Creating sector**

Sector	WC	Share of WC %		CAGR 11-16 (%)		P/E (x)		RoE (%)	
(No of companies)	(INR b)	2016	2011	Price	PAT	2016	2011	2016	2011
Consumer/Retail (23)	6,364	22	8	21	15	38	30	31	32
Banking/Finance (14)	4,995	18	24	20	19	19	18	16	19
Technology (7)	4,960	17	14	16	20	20	24	28	29
Auto (15)	4,093	14	5	20	10	20	13	19	32
Healthcare (15)	3,705	13	4	25	18	30	22	18	18
Cement (5)	1,266	4	1	20	3	35	16	9	14
Oil & Gas (3)	670	2	14	21	26	8	10	27	14
Capital Goods (4)	513	2	7	16	11	33	26	17	18
Telecom & Media (2)	394	1	3	17	19	21	23	13	10
Metals / Mining (2)	289	1	15	7	7	11	12	16	17
Utility (1)	203	1	3	9	18	12	18	14	12
Others (9)	984	3	3	21	17	25	21	19	19
Total	**28,436**	**100**	**100**	**19**	**16**	**22**	**19**	**20**	**22**

Exhibit 12 **Consumer/Retail: Biggest Wealth Creator for the second consecutive time (INR b)**



Key Takeaway

Value Migration is increasingly becoming the key driver of rapid Wealth Creation

Three of the top 5 Wealth Creating sectors – Financials, Technology and Healthcare – are beneficiaries of Value Migration i.e. flow of value from outmoded business designs to new business designs. In Financials, value is migrating from public sector banks to private banks. In Technology and Healthcare, value is migrating from developed world to emerging markets.

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

PSUs remain insignificant in Wealth Creation

- PSUs' (public sector undertakings) Wealth Creation performance continues to be dismal during 2011-16:
  - The number of PSUs in the top 100 Wealth Creators is only 7.
  - Wealth Created by these 7 PSUs is 4%, marginally higher than the previous two studies.
- The 7 Wealth Creating PSUs are **BPCL**, **HPCL**, **Petronet LNG**, **Concor, LIC Housing, Bharat Electronics** and **Power Grid Corporation**.
- Average Price CAGR of PSU Wealth Creators is 15% v/s 19% for private sector counterparts.

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

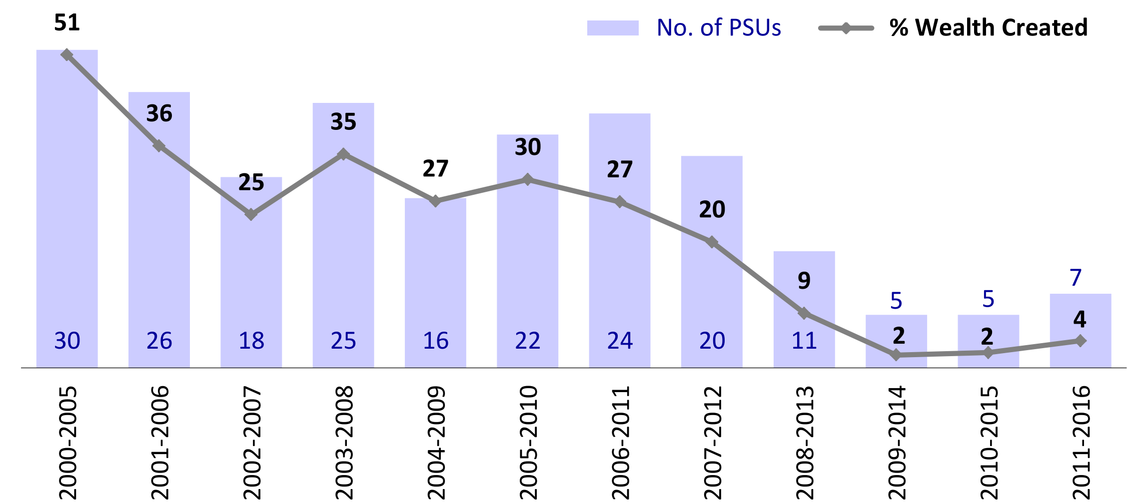
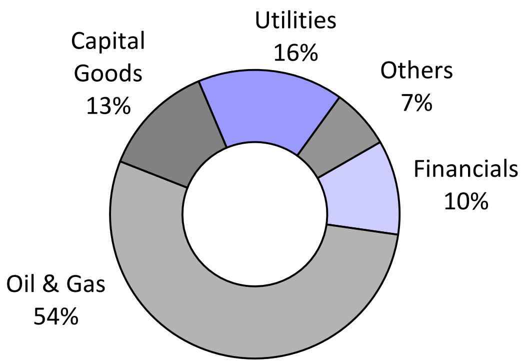


Exhibit 14 **Robust PAT CAGR of 20% is the key driver of Wealth Creation for the 7 PSUs**

	2011-2016	
	PSU	**Private**
No. of Wealth Creators in Top 100	**7**	93
Share of Wealth Created (%)	**4**	96
5-year Sales CAGR (%)	**7**	18
5-year PAT CAGR (%)	**20**	16
5-year Price CAGR (%)	**15**	19
P/E - 2011 (x)	**13**	20
P/E - 2016 (x)	**11**	24
RoE - 2011 (%)	**14**	23
RoE - 2016 (%)	**20**	20

Exhibit 15 **3 of the 7 PSU Wealth Creators are from Oil & Gas (BPCL, HPCL, Petronet LNG)**



Key Takeaway

Can industrial recovery and government focus lead to mean reversion for PSUs?

Fortunes of many PSUs hinge on performance of the economy, especially the industrial sector – Coal India, BHEL, SBI, SAIL, etc. Measures to boost industrial recovery – "Make in India", rate cuts – bode well for the fortunes of such PSUs. Further, the government too is focused on reviving PSUs e.g. merger of SBI associate banks. These, coupled with low valuations of PSUs, hold the potential to trigger mean reversion in Wealth Creation by PSUs.

#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 2011-16, the market cap crossover matrix stands as under –

Exhibit 16 **2011-16: Market cap crossovers: No. of companies and average returns**

TO (in 2016) \ FROM (in 2011)	Mini	Mid	Mega	New	Demerger	TOTAL
Mega	0	**26**	71	3	0	**100**
Avg Return		***31%***	*8%*			
Mid	**67**	88	25	19	1	**200**
Avg Return	***39%***	*9%*	*-16%*			
Mini	2,479	84	2	711	2	**3,278**
Avg Return	*1%*	*-20%*	*-32%*			
Delisted, Demerger, etc	397	2	2	2	-3	**400**
TOTAL	**2,943**	**200**	**100**	**735**	**0**	**3,978**
Avg Return	***2%***	***0%***	***1%***			

We analyzed the 3 positive crossovers –

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

8.1 Mini-to-Mega: No companies

- During 2011-16, there was no company which moved from Mini to Mega.

8.2 Mini-to-Mid: 67 companies, 39% average Price CAGR

- During 2011-16, 67 companies crossed over from Mini to Mid category, generating an average return CAGR of 39%, v/s 5% for the Sensex.
- Of these 67 Mini-to-Mid stocks, 15 feature in our list of 100 Biggest Wealth Creators.
- 7 of the top 10 fastest Wealth Creators are featured in the list.

Exhibit 17 **Mini-to-Mid (2011-16): 15 of 67 Mini-to-Mid stocks feature among top 100 Wealth Creators**

	Mkt Cap Rank		Price	WC Rank		PAT	P/E (x)	
	2016	2011	CAGR %	Biggest	Fastest	CAGR %	2016	2011
Ajanta Pharma	127	910	121	68	1	52	31	5
Welspun India	153	728	88	81	2	234	14	226
Kajaria Ceramics	190	606	66	100	4	30	33	9
Vakrangee	148	520	63	83	5	52	27	17
P I Inds	186	567	58	99	7	37	25	10
Symphony	175	510	56	95	8	15	77	14
Amara Raja	113	386	56	59	9	27	31	11
Page Industries	122	359	50	72	11	32	58	31
GRUH Finance	172	436	46	94	13	22	36	14
Mindtree	144	388	46	84	14	42	18	15
WABCO India	132	338	43	78	16	9	60	15
Blue Dart Express	117	304	43	69	17	15	75	29
Supreme Inds	160	351	38	92	23	3	42	12
Cholamandalam Inv	139	327	33	90	27	49	19	27
Abbott India	152	355	28	98	36	34	39	29

* 2011-16 Wealth Creation Rank

8.3 Mid-to-Mega: 26 companies, 31% average Price CAGR

- During 2011-16, 26 companies crossed over from Mid to Mega (listed on next page).
- All the 26 made it to this year's list of 100 Biggest Wealth Creators.
- The Mid-to-Mega portfolio delivered average return CAGR of 31% over 2011-16 v/s 5% for Sensex.

Exhibit 18 **Mid-to-Mega (2011-16): 26 companies, 31% average Price CAGR v/s 5% for Sensex**

	Mkt Cap Rank		Price	WC Rank *		PAT	P/E (x)	
	2016	2011	CAGR %	Biggest	Fastest	CAGR %	2016	2011
Eicher Motors	36	222	70	13	3	48	42	19
Bajaj Finance	49	282	59	23	6	39	29	10
Aurobindo Pharma	43	166	50	19	10	28	22	10
Britannia Inds	59	188	48	25	12	46	40	37
Shree Cement	44	139	43	21	18	16	96	34
Rajesh Exports	99	244	42	50	19	34	17	13
Torrent Pharma	83	177	36	43	24	46	13	18
Havells India	94	181	34	48	25	15	33	15
Motherson Sumi	55	126	33	28	26	27	28	22
Pidilite Inds	65	135	32	35	29	20	41	25
Ashok Leyland	64	136	31	34	31	11	30	12
Marico	60	122	28	36	37	23	44	34
Emami	89	157	28	51	38	12	52	27
P & G Hygiene	92	162	28	54	39	23	48	42
Bajaj Finserv	72	134	27	42	42	13	15	8
UPL	90	146	26	52	44	19	15	13
Divi's Labs	77	116	24	44	53	21	23	21
Tech Mahindra	40	123	23	32	56	26	15	9
Apollo Hospitals	98	161	23	70	57	11	58	32
Glenmark Pharma	86	133	23	57	58	10	31	17
Yes Bank	51	103	23	37	59	28	14	15
GlaxoSmith. Cons.	79	109	22	46	60	18	37	33
Bharat Forge	93	128	20	67	62	18	31	28
LIC Housing	80	104	17	61	69	12	15	11
Petronet LNG	96	114	16	80	71	7	22	15
Castrol India	97	102	11	91	85	5	35	23
Average			**31**			**22**	**25**	**17**

* 2011-16 Wealth Creation Rank

Key Takeaway

Mid category: A good place to hunt for Wealth Creators

The Mid-to-Mega portfolio of 26 stocks has handsomely outperformed the benchmark. The high success rate of 13% (26 of 200) makes the Mid category a good place to hunt for Wealth Creators.

#9 Wealth Creation: Valuation parameters analysis

Payback ratio < 1 offers distinctly superior returns

- The general rule of low valuation, high returns held true in 2011-16.
- Every study invariably suggests that the highest return is generated when payback ratio is less than 1x. Seven of the top 10 fastest Wealth Creators had payback ratio of less than 1x in the base year 2011.

  (Payback is a proprietary ratio of Motilal Oswal, defined as current market cap divided by estimated profits over the next five years. For 2011, we calculate this ratio based on the actual profits reported over the next five years).

Exhibit 19 **Payback ratio less than 1x remains a sure shot formula for multi-baggers**

Range	No. of	WC	% Share	CAGR (%)		RoE (%)	
in 2011	Cos.	(INR b)	of WC	Price	PAT	2016	2011
P/E							
<10	13	2,047	7	**23**	12	19	32
10-20	33	7,055	25	18	14	18	19
20-30	38	16,923	60	19	18	21	22
> 30	16	2,410	8	21	16	21	22
Total	**100**	**28,436**	**100**	**19**	**16**	**20**	**22**
Price / Book							
< 2	15	2,197	8	**22**	18	17	13
2-3	18	4,603	16	**22**	15	17	18
3-4	17	3,810	13	19	10	14	23
4-5	10	5,003	18	**22**	23	19	19
> 5	40	12,822	45	17	15	28	34
Total	**100**	**28,436**	**100**	**19**	**16**	**20**	**22**
Price / Sales							
<1	22	4,228	15	**25**	16	20	22
1-2	17	3,140	11	23	14	16	18
2-3	17	3,985	14	23	16	19	22
3-4	19	5,926	21	19	16	19	24
> 4	25	11,156	39	16	16	21	22
Total	**100**	**28,436**	**100**	**19**	**16**	**20**	**22**
Payback ratio							
< 1	14	1,956	7	**39**	19	20	24
1-2	26	5,706	20	21	17	19	22
2-3	29	12,718	45	19	17	19	20
> 3	31	8,056	28	16	11	23	25
Total	**100**	**28,436**	**100**	**19**	**16**	**20**	**22**

#10 Those who missed the list

The big who didn't beat the market

- During 2011-16, the Sensex return CAGR was 5.4%.
- 5 companies – **Wipro**, **Indian Oil**, **Larsen & Toubro**, **ICICI Bank**, **Siemens** – created enough wealth to qualify among the 100 biggest, but failed to make it to the final list as their stock price return was lower than the Sensex.
- They made way for 5 others to join the list – **Wockhardt**, **Ramco Cement**, **Abbott India**, **P I Industries** and **Kajaria Ceramics**.

Exhibit 20 **Those who missed the list ...**

	WC * (INR b)	Price CAGR (%)	Potential Size Rank **
Wipro	234	3.3	33
I O C L	144	3.3	57
L & T	114	2.0	76
ICICI Bank	86	1.2	90
Siemens	78	4.5	96

Exhibit 21 **... and those who made it**

	WC * (INR b)	Price CAGR (%)	Size Rank
Wockhardt	72	25	96
Ramco Cem.	71	32	97
Abbott India	70	28	98
P I Inds	70	58	99
Kajaria Cera.	69	66	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 69 billion. Over a 100 more companies beat the benchmark return CAGR 5.4% but created absolute wealth less than INR 69 billion.
- The table below lists the top 20 among them.

Exhibit 22 **The fast who didn't make it big**

	Price CAGR (%)	Price Appreciation (x)	Wealth Created (INR b)
Solar Industries	43	5.9	52
J K Cements	37	4.8	37
Balkrishna Inds	36	4.7	49
Fag Bearings	36	4.6	50
Dalmia Bharat	34	4.3	49
Finolex Industries	33	4.2	34
Persistent Systems	33	4.2	47
SRF	33	4.1	57
SPARC	33	4.1	54
Hexaware Tech	32	4.1	62
Arvind	32	4.0	54
Bajaj Corp	31	3.9	42
Honeywell Auto	31	3.8	56
Force Motors	29	3.6	27
ICRA	29	3.6	28
Thomas Cook (I)	29	3.6	40
Aegis Logistics	27	3.4	23
Sundram Fasteners	27	3.3	25
Entertain. Network	25	3.1	25
Capital First	25	3.1	25

#11 Wealth Destruction: Companies & Sectors

The Commodity Collapse Continues

- The total Wealth Destroyed during 2011-16 is INR 15 trillion, 53% of the total Wealth Created by top 100 companies.
- 7 of the top 10 Wealth Destroyers are in the business of global commodities.
- The broader theme of Wealth Destruction is **cyclical downturn**. Metals / Mining is the biggest Wealth Destroying sector as was the case last year. This is followed by Banking & Finance, which mainly includes state-owned banks at the wrong end of the NPA cycle. Capital Goods and Construction / Real Estate also corroborate the cyclical downturn theme.

Exhibit 23

Global commodity companies top Wealth Destroyers list

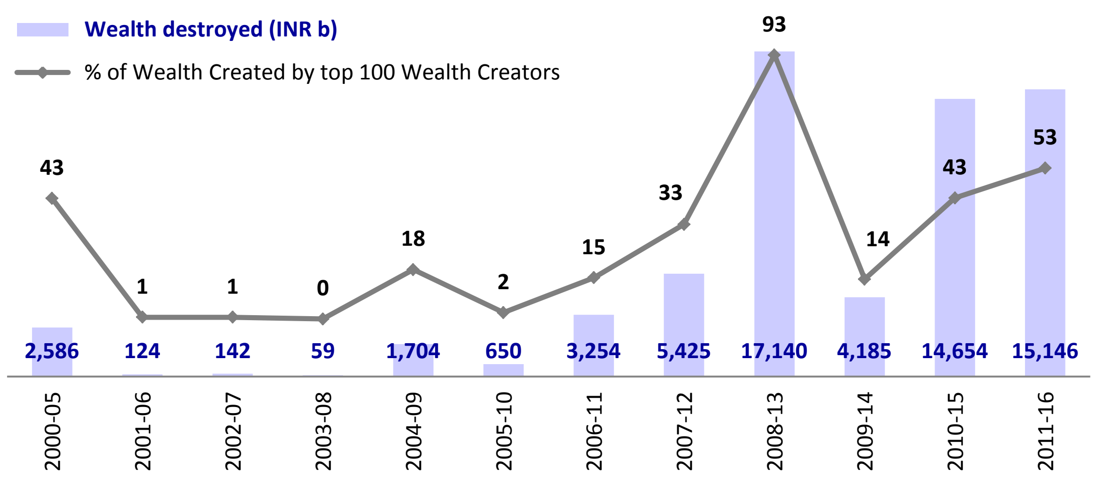
Company	Wealth Destroyed		Price
	INR b	% Share	CAGR (%)
MMTC	889	6	-47
NMDC	735	5	-19
B H E L	730	5	-23
O N G C	645	4	-6
Jindal Steel	592	4	-39
Vedanta	570	4	-21
State Bank of India	542	4	-7
NTPC	529	3	-8
S A I L	524	3	-24
Coal India	348	2	-3
Total of above	**6,104**	**40**	
Total Wealth Destroyed	**15,146**	**100**	

Exhibit 24

The usual suspects at the sector level too

Sector	Wealth Destroyed (INR b)	% Share
Metals / Mining	5,058	33
Banking & Finance	2,991	20
Utilities	1,555	10
Capital Goods	1,393	9
Oil & Gas	1,256	8
Constn. / Real Est.	1,012	7
Technology	301	2
Chemicals & Fert.	295	2
Telecom	214	1
Others	1,071	7
Total	**15,146**	**100**

Exhibit 25 **Level of Wealth Destruction continues to climb**



Key Takeaway

Cyclicals – When to Sell as important as When to Buy

Investing in secular stocks and investing in cyclical stocks are best treated as two distinct investment styles. In both cases, When to Buy is important. However, when investing in cyclical stocks, When to Sell is as important if not more. Failure to sell at the peak of the cycle will most likely lead to a prolonged period of underperformance.

Appendix 1: MOSL 100: Biggest Wealth Creators (2011-2016)

Rank	Company	Wealth Created		CAGR (2011-16, %)			RoE (%)		P/E (x)	
		INR b	Share (%)	Price	PAT	Sales	2016	2011	2016	2011
1	TCS	2,637	9.3	16	22	24	37	37	21	26
2	HDFC Bank	1,475	5.2	18	26	26	17	16	21	27
3	Hind. Unilever	1,266	4.5	25	14	11	102	76	46	30
4	ITC	1,197	4.2	13	14	12	28	30	28	28
5	Sun Pharma	1,169	4.1	30	24	38	16	19	38	26
6	Infosys	948	3.3	9	15	18	24	26	20	27
7	HCL Technologies	819	2.9	28	27	14	20	21	21	20
8	Kotak Mahindra Bank	760	2.7	24	17	28	10	14	36	21
9	Maruti Suzuki	742	2.6	24	14	10	17	16	25	16
10	H D F C	682	2.4	10	18	16	20	21	17	23
11	Asian Paints	591	2.1	28	16	16	31	38	48	29
12	UltraTech Cement	574	2.0	23	10	13	10	13	40	23
13	Eicher Motors	484	1.7	70	48	29	36	14	42	20
14	Lupin	480	1.7	29	21	20	21	26	29	21
15	Bosch	443	1.6	25	8	10	15	21	53	24
16	B P C L	428	1.5	24	35	4	29	12	8	12
17	Axis Bank	401	1.4	10	20	22	16	18	13	17
18	IndusInd Bank	380	1.3	30	32	26	13	15	25	21
19	Aurobindo Pharma	379	1.3	50	28	26	28	23	22	10
20	Tata Motors	365	1.3	9	7	18	16	48	9	7
21	Shree Cement	360	1.3	43	16	10	7	11	96	34
22	Godrej Consumer	346	1.2	30	19	19	22	28	41	25
23	Bajaj Finance	322	1.1	59	39	39	17	18	29	10
24	M & M	321	1.1	12	2	16	11	20	24	15
25	Britannia Inds	277	1.0	48	46	13	45	37	40	37
26	Bajaj Auto	274	1.0	11	5	7	27	58	20	15
27	Hero MotoCorp	271	1.0	13	10	8	37	62	20	17
28	Motherson Sumi	270	0.9	33	27	36	30	24	28	22
29	Dabur India	268	0.9	21	17	16	30	40	36	30
30	Zee Entertainment	264	0.9	26	11	14	25	20	35	19
31	Dr Reddy's Labs	239	0.8	13	10	7	13	24	33	28
32	Tech Mahindra	237	0.8	23	26	39	22	29	15	9
33	Adani Ports	231	0.8	13	25	29	22	22	18	30
34	Ashok Leyland	228	0.8	31	11	13	26	24	30	12
35	Pidilite Inds	227	0.8	32	20	15	27	28	41	25
36	Marico	226	0.8	28	23	14	34	28	44	34
37	Yes Bank	223	0.8	23	28	27	18	19	14	15
38	United Spirits	205	0.7	19	-10	5	18	13	115	26
39	Power Grid Corpn	203	0.7	6	18	20	14	12	12	18
40	Nestle India	202	0.7	9	2	6	32	96	63	43
41	Hindustan Zinc	194	0.7	6	10	7	21	22	10	12
42	Bajaj Finserv	186	0.7	27	13	42	14	27	15	8
43	Torrent Pharma	178	0.6	36	46	25	53	26	13	18
44	Divi's Labs	172	0.6	24	21	23	26	24	23	21
45	Cadila Healthcare	162	0.6	15	16	16	28	33	21	23
46	GlaxoSmithkline Cons.	160	0.6	22	18	13	28	31	37	32
47	Bharat Electronics	158	0.6	17	10	6	15	17	21	15
48	Havells India	155	0.5	34	15	7	24	47	33	15
49	Cipla	154	0.5	10	8	17	12	15	28	26
50	Rajesh Exports	151	0.5	42	34	52	22	16	17	13
Rank	Company	Wealth Created		CAGR (2011-16, %)			RoE (%)		P/E (x)	
		INR b	Share (%)	Price	PAT	Sales	2016	2011	2016	2011

Appendix 1: MOSL 100: Biggest Wealth Creators (2011-2016) … continued

Rank	Company	Wealth Created		CAGR (2011-16, %)			RoE (%)		P/E (x)	
		INR b	Share (%)	Price	PAT	Sales	2016	2011	2016	2011
51	Emami	151	0.5	28	12	16	29	33	52	27
52	UPL	145	0.5	26	19	18	20	15	15	13
53	H P C L	145	0.5	17	21	6	29	14	5	6
54	P & G Hygiene	145	0.5	28	23	20	28	25	48	39
55	Glaxosmith. Pharma	145	0.5	13	-8	5	22	30	86	31
56	Berger Paints	139	0.5	41	19	15	24	21	47	21
57	Glenmark Pharma	138	0.5	23	10	21	24	22	31	17
58	MRF	136	0.5	44	46	22	34	21	7	8
59	Amara Raja Batteries	134	0.5	56	27	22	23	23	31	11
60	Ambuja Cement	133	0.5	10	-10	5	7	17	50	19
61	LIC Housing Finance	132	0.5	17	12	21	18	23	15	11
62	Titan Company	132	0.5	12	10	12	20	42	44	39
63	Oracle Financial	131	0.5	12	1	6	32	21	25	15
64	Idea Cellular	130	0.5	10	24	18	10	7	16	25
65	Grasim Inds	127	0.4	9	0	11	9	15	16	10
66	TVS Motor	125	0.4	40	23	12	25	19	41	22
67	Bharat Forge	124	0.4	20	18	8	18	15	31	28
68	Ajanta Pharma	122	0.4	121	52	28	35	22	31	5
69	Blue Dart Express	120	0.4	43	15	17	47	17	75	25
70	Apollo Hospitals	119	0.4	23	11	18	9	10	58	32
71	Sundaram Finance	118	0.4	40	9	16	14	22	24	7
72	Page Industries	117	0.4	50	32	29	46	47	58	31
73	Colgate-Palmolive	114	0.4	15	8	13	59	105	38	28
74	Piramal Enterprises	107	0.4	20	28	32	7	2	19	26
75	Bayer Crop Science	107	0.4	33	18	12	17	20	44	27
76	Kansai Nerolac	104	0.4	26	20	13	21	20	32	26
77	A B B	102	0.4	10	36	5	10	3	89	257
78	WABCO India	99	0.3	43	9	16	19	33	60	15
79	Cummins India	98	0.3	11	4	5	22	33	32	23
80	Petronet LNG	97	0.3	16	7	16	13	23	22	15
81	Welspun India	96	0.3	88	234	23	35	0	14	226
82	JSW Steel	95	0.3	7	-2	12	7	11	20	12
83	Vakrangee	94	0.3	63	52	29	26	14	27	17
84	Mindtree	94	0.3	46	42	25	25	13	18	15
85	United Breweries	91	0.3	11	15	11	14	14	73	83
86	Gillette India	86	0.3	20	20	14	25	14	68	66
87	CRISIL	85	0.3	23	11	17	32	41	47	27
88	Container Corpn.	84	0.3	9	-2	10	10	18	31	18
89	3M India	84	0.3	26	15	12	20	18	60	38
90	Cholamandalam Inv.	81	0.3	33	49	28	16	7	19	27
91	Castrol India	79	0.3	11	5	3	108	89	30	22
92	Supreme Inds	75	0.3	38	3	4	17	35	42	10
93	Bajaj Holdings	74	0.3	13	-1	-12	15	31	7	4
94	GRUH Finance	74	0.3	46	22	29	29	29	36	14
95	Symphony	74	0.3	56	15	9	34	41	77	17
96	Wockhardt	72	0.3	25	-14	4	8	322	36	6
97	Ramco Cement	71	0.3	32	21	7	18	12	17	12
98	Abbott India	70	0.2	28	34	20	23	20	39	30
99	P I Inds	70	0.2	58	37	24	27	32	25	10
100	Kajaria Ceramics	69	0.2	66	30	20	25	28	33	9
	TOTAL	**28,436**	**100.0**	**19**	**16**	**15**	**20**	**22**	**22**	**19**
Rank	**Company**	**Wealth Created**		**CAGR (2011-16, %)**			**RoE (%)**		**P/E (x)**	
		INR b	**Share (%)**	**Price**	**PAT**	**Sales**	**2016**	**2011**	**2016**	**2011**

Appendix 2: MOSL 100: Fastest Wealth Creators (2011-2016)

Rank	Company	2011-16 Price		CAGR 11-16 (%)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2016	2011	2016	2011
1	Ajanta Pharma	121	52.8	52	28	122	0.4	35	22	31	5
2	Welspun India	88	23.3	234	23	96	0.3	35	0	14	226
3	Eicher Motors	70	14.4	48	29	484	1.7	36	14	42	20
4	Kajaria Ceramics	66	12.6	30	20	69	0.2	25	28	33	9
5	Vakrangee	63	11.3	52	29	94	0.3	26	14	27	17
6	Bajaj Finance	59	10.2	39	39	322	1.1	17	18	29	10
7	P I Inds	58	9.7	37	24	70	0.2	27	32	25	10
8	Symphony	56	9.3	15	9	74	0.3	34	41	77	17
9	Amara Raja Batteries	56	9.3	27	22	134	0.5	23	23	31	11
10	Aurobindo Pharma	50	7.6	28	26	379	1.3	28	23	22	10
11	Page Industries	50	7.5	32	29	117	0.4	46	47	58	31
12	Britannia Inds	48	7.2	46	13	277	1.0	45	37	40	37
13	GRUH Finance	46	6.6	22	29	74	0.3	29	29	36	14
14	Mindtree	46	6.6	42	25	94	0.3	25	13	18	15
15	MRF	44	6.1	46	22	136	0.5	34	21	7	8
16	WABCO India	43	6.0	9	16	99	0.3	19	33	60	15
17	Blue Dart Express	43	6.0	15	17	120	0.4	47	17	75	25
18	Shree Cement	43	6.0	16	10	360	1.3	7	11	96	34
19	Rajesh Exports	42	5.7	34	52	151	0.5	22	16	17	13
20	Berger Paints	41	5.6	19	15	139	0.5	24	21	47	21
21	Sundaram Finance	40	5.4	9	16	118	0.4	14	22	24	7
22	TVS Motor	40	5.4	23	12	125	0.4	25	19	41	22
23	Supreme Inds	38	5.1	3	4	75	0.3	17	35	42	10
24	Torrent Pharma	36	4.6	46	25	178	0.6	53	26	13	18
25	Havells India	34	4.3	15	7	155	0.5	24	47	33	15
26	Motherson Sumi	33	4.2	27	36	270	0.9	30	24	28	22
27	Cholamandalam Inv.	33	4.1	49	28	81	0.3	16	7	19	27
28	Bayer Crop Science	33	4.1	18	12	107	0.4	17	20	44	27
29	Pidilite Inds	32	4.0	20	15	227	0.8	27	28	41	25
30	Ramco Cement	32	3.9	21	7	71	0.3	18	12	17	12
31	Ashok Leyland	31	3.8	11	13	228	0.8	26	24	30	12
32	Godrej Consumer	30	3.8	19	19	346	1.2	22	28	41	25
33	Sun Pharma	30	3.7	24	38	1,169	4.1	16	19	38	26
34	IndusInd Bank	30	3.7	32	26	380	1.3	13	15	25	21
35	Lupin	29	3.6	21	20	480	1.7	21	26	29	21
36	Abbott India	28	3.5	34	20	70	0.2	23	20	39	30
37	Marico	28	3.5	23	14	226	0.8	34	28	44	34
38	Emami	28	3.5	12	16	151	0.5	29	33	52	27
39	P & G Hygiene	28	3.5	23	20	145	0.5	28	25	48	39
40	Asian Paints	28	3.4	16	16	591	2.1	31	38	48	29
41	HCL Technologies	28	3.4	27	14	819	2.9	20	21	21	20
42	Bajaj Finserv	27	3.3	13	42	186	0.7	14	27	15	8
43	3M India	26	3.2	15	12	84	0.3	20	18	60	38
44	UPL	26	3.2	19	18	145	0.5	20	15	15	13
45	Kansai Nerolac	26	3.2	20	13	104	0.4	21	20	32	26
46	Zee Entertainment	26	3.1	11	14	264	0.9	25	20	35	19
47	Bosch	25	3.1	8	10	443	1.6	15	21	53	24
48	Hind. Unilever	25	3.1	14	11	1,266	4.5	102	76	46	30
49	Wockhardt	25	3.0	-14	4	72	0.3	8	322	36	6
50	Kotak Mahindra	24	3.0	17	28	760	2.7	10	14	36	21
Rank	Company	2011-16 Price		CAGR 11-16 (%)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2016	2011	2016	2011

Appendix 2: MOSL 100: Fastest Wealth Creators (2011-2016) ... continued

Rank	Company	2011-16 Price		CAGR (11-16, %)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2016	2011	2016	2011
51	B P C L	24	2.9	35	4	428	1.5	29	12	8	12
52	Maruti Suzuki	24	2.9	14	10	742	2.6	17	16	25	16
53	Divi's Labs	24	2.9	21	23	172	0.6	26	24	23	21
54	CRISIL	23	2.9	11	17	85	0.3	32	41	47	27
55	UltraTech Cement	23	2.8	10	13	574	2.0	10	13	40	23
56	Tech Mahindra	23	2.8	26	39	237	0.8	22	29	15	9
57	Apollo Hospitals	23	2.8	11	18	119	0.4	9	10	58	32
58	Glenmark Pharma	23	2.8	10	21	138	0.5	24	22	31	17
59	Yes Bank	23	2.8	28	27	223	0.8	18	19	14	15
60	GlaxoSmithkline Cons	22	2.7	18	13	160	0.6	28	31	37	32
61	Dabur India	21	2.6	17	16	268	0.9	30	40	36	30
62	Bharat Forge	20	2.5	18	8	124	0.4	18	15	31	28
63	Gillette India	20	2.5	20	14	86	0.3	25	14	68	66
64	Piramal Enterprises	20	2.5	28	32	107	0.4	7	2	19	26
65	United Spirits	19	2.4	-10	5	205	0.7	18	13	115	26
66	HDFC Bank	18	2.3	26	26	1,475	5.2	17	16	21	27
67	H P C L	17	2.2	21	6	145	0.5	29	14	5	6
68	Bharat Electron	17	2.2	10	6	158	0.6	15	17	21	15
69	LIC Housing Finance	17	2.2	12	21	132	0.5	18	23	15	11
70	TCS	16	2.1	22	24	2,637	9.3	37	37	21	26
71	Petronet LNG	16	2.1	7	16	97	0.3	13	23	22	15
72	Colgate-Palmolive	15	2.0	8	13	114	0.4	59	105	38	28
73	Cadila Healthcare	15	2.0	16	16	162	0.6	28	33	21	23
74	Hero MotoCorp	13	1.9	10	8	271	1.0	37	62	20	17
75	Dr Reddy's Labs	13	1.9	10	7	239	0.8	13	24	33	28
76	Bajaj Holdings	13	1.8	-1	-12	74	0.3	15	31	7	4
77	Adani Ports	13	1.8	25	29	231	0.8	22	22	18	30
78	Glaxosmith. Pharma	13	1.8	-8	5	145	0.5	22	30	86	31
79	ITC	13	1.8	14	12	1,197	4.2	28	30	28	28
80	Titan Company	12	1.8	10	12	132	0.5	20	42	44	39
81	Oracle Financial	12	1.8	1	6	131	0.5	32	21	25	15
82	M & M	12	1.7	2	16	321	1.1	11	20	24	15
83	Cummins India	11	1.7	4	5	98	0.3	22	33	32	23
84	United Breweries	11	1.7	15	11	91	0.3	14	14	73	83
85	Castrol India	11	1.7	5	3	79	0.3	108	89	30	22
86	Bajaj Auto	11	1.6	5	7	274	1.0	27	58	20	15
87	Idea Cellular	10	1.6	24	18	130	0.5	10	7	16	25
88	A B B	10	1.6	36	5	102	0.4	10	3	89	257
89	Cipla	10	1.6	8	17	154	0.5	12	15	28	26
90	Axis Bank	10	1.6	20	22	401	1.4	16	18	13	17
91	H D F C	10	1.6	18	16	682	2.4	20	21	17	23
92	Ambuja Cement	10	1.6	-10	5	133	0.5	7	17	50	19
93	Nestle India	9	1.6	2	6	202	0.7	32	96	63	43
94	Tata Motors	9	1.6	7	18	365	1.3	16	48	9	7
95	Grasim Inds	9	1.6	0	11	127	0.4	9	15	16	10
96	Container Corpn	9	1.5	-2	10	84	0.3	10	18	31	18
97	Infosys	9	1.5	15	18	948	3.3	24	26	20	27
98	JSW Steel	7	1.4	-2	12	95	0.3	7	11	20	12
99	Power Grid Corpn	6	1.4	18	20	203	0.7	14	12	12	18
100	Hindustan Zinc	6	1.3	10	7	194	0.7	21	22	10	12
	TOTAL	**19**	**2.4**	**16**	**15**	**28,436**	**100.0**	**20**	**22**	**22**	**19**
Rank	Company	2011-16 Price		CAGR (11-16, %)		Wealth Created		RoE (%)		P/E (x)	
		CAGR (%)	Times (x)	PAT	Sales	INR b	Share (%)	2016	2011	2016	2011

Appendix 3: MOSL 100: Alphabetical order

Company	WC Rank		Wealth Created		
	Biggest	Fastest	INR b	Price CAGR %	Price Mult. (x)
3M India	89	43	84	26	3.2
A B B	77	88	102	10	1.6
Abbott India	98	36	70	28	3.5
Adani Ports	33	77	231	13	1.8
Ajanta Pharma	68	1	122	121	52.8
Amara Raja Batteries	59	9	134	56	9.3
Ambuja Cement	60	92	133	10	1.6
Apollo Hospitals	70	57	119	23	2.8
Ashok Leyland	34	31	228	31	3.8
Asian Paints	11	40	591	28	3.4
Aurobindo Pharma	19	10	379	50	7.6
Axis Bank	17	90	401	10	1.6
B P C L	16	51	428	24	2.9
Bajaj Auto	26	86	274	11	1.6
Bajaj Fin.	23	6	322	59	10.2
Bajaj Finserv	42	42	186	27	3.3
Bajaj Holdings	93	76	74	13	1.8
Bayer Crop Science	75	28	107	33	4.1
Berger Paints	56	20	139	41	5.6
Bharat Electron	47	68	158	17	2.2
Bharat Forge	67	62	124	20	2.5
Blue Dart Express	69	17	120	43	6.0
Bosch	15	47	443	25	3.1
Britannia Inds	25	12	277	48	7.2
Cadila Healthcare	45	73	162	15	2.0
Castrol India	91	85	79	11	1.7
Cholamandalam Inv.	90	27	81	33	4.1
Cipla	49	89	154	10	1.6
Colgate-Palmolive	73	72	114	15	2.0
Container Corpn	88	96	84	9	1.5
CRISIL	87	54	85	23	2.9
Cummins India	79	83	98	11	1.7
Dabur India	29	61	268	21	2.6
Divi's Labs	44	53	172	24	2.9
Dr Reddy's Labs	31	75	239	13	1.9
Eicher Motors	13	3	484	70	14.4
Emami	51	38	151	28	3.5
Gillette India	86	63	86	20	2.5
Glaxosmith. Pharma	55	78	145	13	1.8
GlaxoSmithh. Cons.	46	60	160	22	2.7
Glenmark Pharma	57	58	138	23	2.8
Godrej Consumer	22	32	346	30	3.8
Grasim Inds	65	95	127	9	1.6
GRUH Finance	94	13	74	46	6.6
H D F C	10	91	682	10	1.6
H P C L	53	67	145	17	2.2
Havells India	48	25	155	34	4.3
HCL Technologies	7	41	819	28	3.4
HDFC Bank	2	66	1,475	18	2.3
Hero MotoCorp	27	74	271	13	1.9

Company	WC Rank		Wealth Created		
	Biggest	Fastest	INR b	Price CAGR %	Price Mult. (x)
Hind. Unilever	3	48	1,266	25	3.1
Hindustan Zinc	41	100	194	6	1.3
Idea Cellular	64	87	130	10	1.6
IndusInd Bank	18	34	380	30	3.7
Infosys	6	97	948	9	1.5
ITC	4	79	1,197	13	1.8
JSW Steel	82	98	95	7	1.4
Kajaria Ceramics	100	4	69	66	12.6
Kansai Nerolac	76	45	104	26	3.2
Kotak Mahindra	8	50	760	24	3.0
LIC Housing Finance	61	69	132	17	2.2
Lupin	14	35	480	29	3.6
M & M	24	82	321	12	1.7
Marico	36	37	226	28	3.5
Maruti Suzuki	9	52	742	24	2.9
Mindtree	84	14	94	46	6.6
Motherson Sumi	28	26	270	33	4.2
MRF	58	15	136	44	6.1
Nestle India	40	93	202	9	1.6
Oracle Financial	63	81	131	12	1.8
P & G Hygiene	54	39	145	28	3.5
P I Inds	99	7	70	58	9.7
Page Industries	72	11	117	50	7.5
Petronet LNG	80	71	97	16	2.1
Pidilite Inds	35	29	227	32	4.0
Piramal Enterprises	74	64	107	20	2.5
Power Grid Corpn	39	99	203	6	1.4
Rajesh Exports	50	19	151	42	5.7
Shree Cement	21	18	360	43	6.0
Sun Pharma	5	33	1,169	30	3.7
Sundaram Finance	71	21	118	40	5.4
Supreme Inds	92	23	75	38	5.1
Symphony	95	8	74	56	9.3
Tata Motors	20	94	365	9	1.6
TCS	1	70	2,637	16	2.1
Tech Mahindra	32	56	237	23	2.8
The Ramco Cement	97	30	71	32	3.9
Titan Company	62	80	132	12	1.8
Torrent Pharma	43	24	178	36	4.6
TVS Motor	66	22	125	40	5.4
UltraTech Cement	12	55	574	23	2.8
United Breweries	85	84	91	11	1.7
United Spirits	38	65	205	19	2.4
UPL	52	44	145	26	3.2
Vakrangee	83	5	94	63	11.3
WABCO India	78	16	99	43	6.0
Welspun India	81	2	96	88	23.3
Wockhardt	96	49	72	25	3.0
Yes Bank	37	59	223	23	2.8
Zee Entertainment	30	46	264	26	3.1

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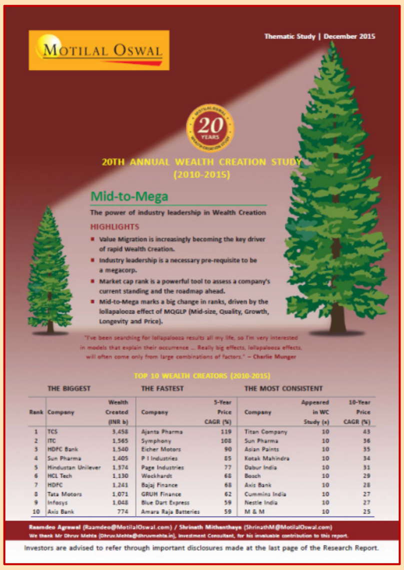
Motilal Oswal Wealth Creation Study Gallery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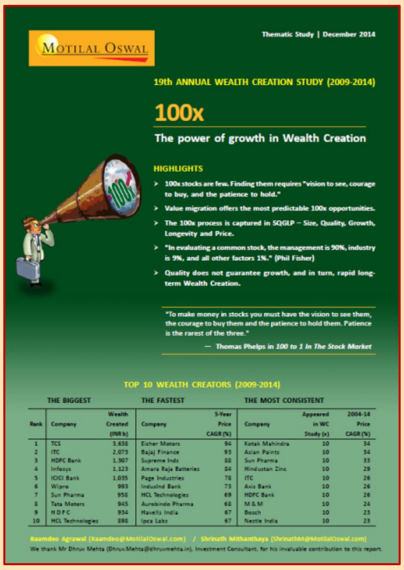
20TH ANNUAL WEALTH CREATION STUDY (2010-2015)

Mid-to-Mega

The power of industry leadership in Wealth Creation

TOP 10 WEALTH CREATORS (2010-2015)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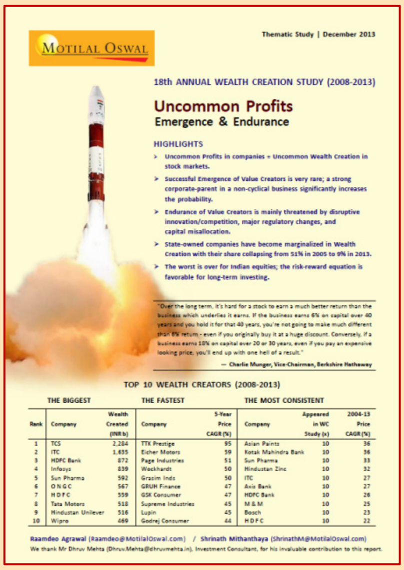
19th ANNUAL WEALTH CREATION STUDY (2009-2014)

100x

The power of growth in Wealth Creation

TOP 10 WEALTH CREATORS (2009-2014)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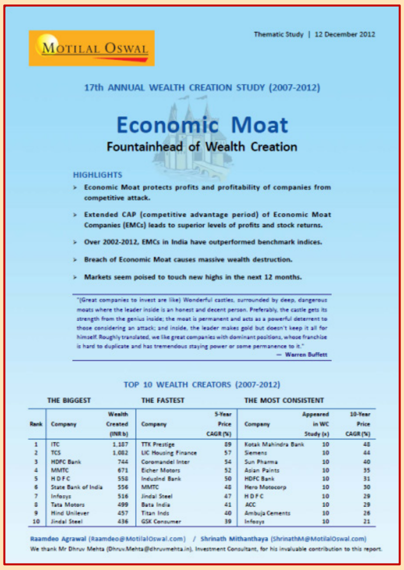
18th ANNUAL WEALTH CREATION STUDY (2008-2013)

Uncommon Profits

Emergence & Endurance

TOP 10 WEALTH CREATORS (2008-2013)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17th ANNUAL WEALTH CREATION STUDY (2007-2012)

Economic Moat

Fountainhead of Wealth Creation

HIGHLIGHTS

- Economic Moat protects profits and profitability of companies from competitive attack.
- Extended CAP (competitive advantage period) of Economic Moat Companies (EMCs) leads to superior levels of profits and stock returns.
- Over 2002-2012, EMCs in India have outperformed benchmark indices.
- Breach of Economic Moat causes massive wealth destruction.
- Markets seem poised to touch new highs in the next 12 months.

TOP 10 WEALTH CREATORS (2007-2012)


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16TH ANNUAL WEALTH CREATION STUDY (2006-2011)

Blue Chip Investing

Creating wealth from dividends

HIGHLIGHTS

TOP 10 WEALTH CREATORS (2006-2011)


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15TH ANNUAL WEALTH CREATION STUDY (2005-2010)

UU Investing

Creating wealth from the unknown and unknowable

HIGHLIGHTS

TOP 10 WEALTH CREATORS (2005 - 2010)


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Thematic Study 17 December 2009

14TH ANNUAL WEALTH CREATION STUDY (2004-2009)

Winner Categories

HIGHLIGHTS

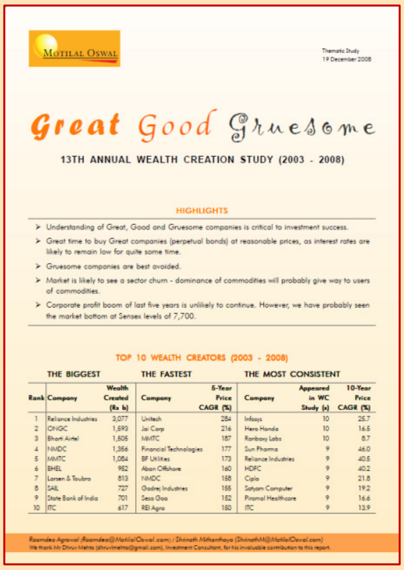
India's NTD Era (Next Trillion Dollar of GDP) will be marked by sustained boom in discretionary spend, savings and investment

Winner Categories and Category Winners will enjoy exponential growth in profits

Category Winners bought at reasonable valuation create significant wealth over the long term

Category Winners

TOP 10 WEALTH CREATORS (2004 - 2009)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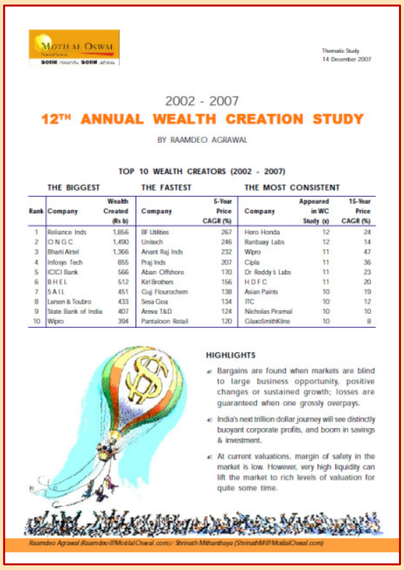
Great Good Gruesome

13TH ANNUAL WEALTH CREATION STUDY (2003 - 2008)

HIGHLIGHTS

TOP 10 WEALTH CREATORS (2003 - 2008)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2002 - 2007

12TH ANNUAL WEALTH CREATION STUDY

BY RAAMDEO AGRAWAL

TOP 10 WEALTH CREATORS (2002 - 2007)

HIGHLIGHTS