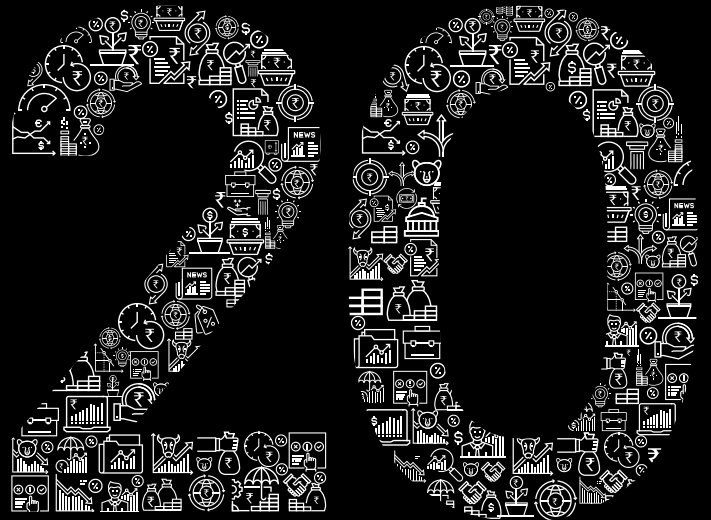


20 YEARS OF MUTUAL FUND
INTELLIGENCE

CMFR@

The road ahead:

Independent research remains
cornerstone of mutual fund
industry's growth



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Foreword

It gives me immense pleasure to release this report marking the completion of two decades of CRISIL Mutual Fund Ranking (CMFR).

This comes at an opportune moment – CRISIL's estimate shows the mutual fund industry can potentially top the Rs 50 trillion assets under management mark by 2025.

For this growth to materialise and sustain, however, it is imperative that independent research, as epitomised by CMFR, continues to be the cornerstone.

Independent research and analytics help investors make apt product choices in markets that are turning increasingly complex and where regulatory persuasion is tilting towards advisory-type intermediaries.

The key is to have data, analytics, research and technology solutions that incorporate various aspects of research – from macro to micro – in investment solutions through in-house models and for all asset classes.

Independent mutual fund rankings also play a critical role in the industry's growth. They follow neutral and relevant criteria that weigh, among others, portfolio attributes and performance assessment, and afford objective decision-making.

This improves and sustains investor confidence over the long run.

In the past two decades, CMFR has been a veritable beacon of research and investor guidance, and the go-to tool of treasury and investment managers when shortlisting mutual fund products for investment.

As regulations evolve, CRISIL will keep adding to the granularity and insightfulness of its rankings, and continue to enable worthy decisions by investors.

I hope you find this report insightful.

Best wishes to you and your families for the new year.



Amish Mehta
Chief Operating Officer
CRISIL Ltd

Contents

Quantum leap	7
Investors need independent research and unbiased guidance	19
CRISIL Mutual Fund Ranking – an industry beacon	23

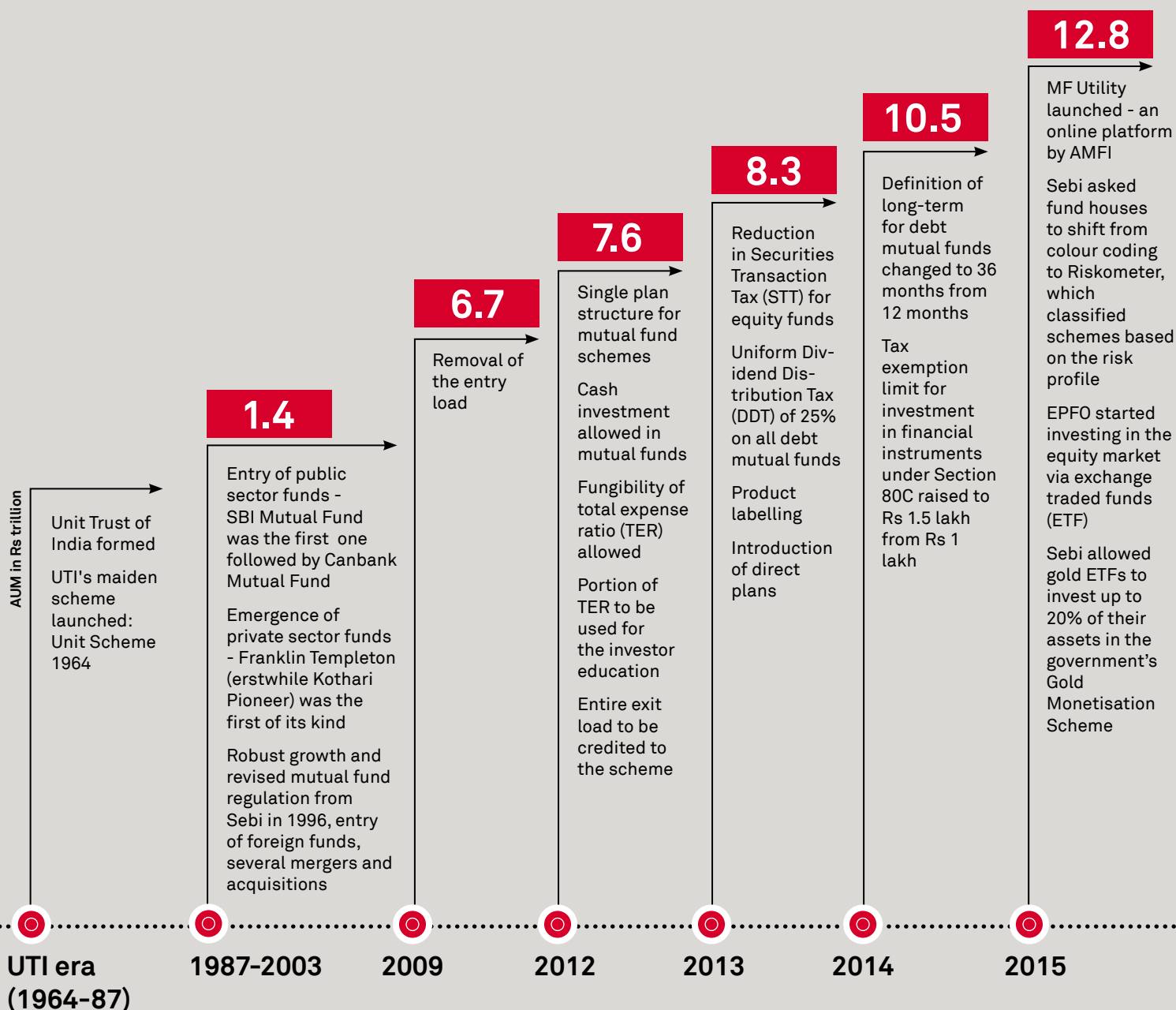
Quantum leap



The mutual fund industry in India has come a long way since its modest beginnings in 1963, when the Unit Trust of India was formed. The past couple of decades have seen it gather pace, creating an edge for itself in the personal

finance space. The industry's assets under management (AUM) have soared past Rs 30 trillion, clocking an impressive 18.5% compound annual growth rate (CAGR) since the turn of the century.

AUM trend and timeline



Note - AUM pertains to December-end
^As of November 30, 2020

16.5

Sebi tightened norms for mutual fund investment in corporate bonds
Allowed investment advisors to use the infrastructure of the stock exchanges for sale and purchase of mutual funds units
Provide easy entry to the foreign fund managers keen to enter India

21.3

Sebi allowed mutual funds to invest in REITs and InvITs
Allowed investment up to Rs 50,000 per mutual fund per financial year through digital wallets
Instant access facility to the liquid funds investors (via online mode) of up to Rs 50,000 or 90% of the folio value, whichever is lower

22.9

Sebi asked fund houses to benchmark returns of equity schemes against Total Return Index (TRI)
It introduced categorisation and rationalisation of mutual fund schemes, making it simpler for investor to understand
LTCG of 10% without indexation introduced for equity funds for investment horizon of > 1 year, subject to capital gains of over Rs 1 lakh per assessee per year. Dividend plans of equity funds subject to a DDT of 10%, deducted at source
Mutual fund houses asked to disclose TER for all schemes under a separate header on their websites daily
Sebi further redefined the scope for T15/B15 cities to T30/B30 and push for higher penetration

26.5

Industry adopted the full trail model of commission in all schemes without payment of any upfront commission. Upfronting of trail commission allowed only in case of inflows through SIPs for new investors
AMFI website started disclosing fund industry performance data on a daily basis
Additional TER of 30 bps from B30 cities restricted to individual investors
TER slabs cut by 0.25% for both equity and debt schemes; the uppermost slab pegged at 2.25% for equity funds having an AUM of up to Rs 500 crore and 2% for other schemes
Sebi allowed side-pocketing if debt assets are downgraded to below investment grade
It directed AMCs to constitute a technology committee to review the cyber security and resilience framework of the mutual fund industry
Capped weightage of a single stock in sectoral and thematic indices, and set norms for minimum stocks an index needs to have in a bid to protect investors from risks related to portfolio concentration in ETFs and index funds
Industry threshold for amortisation of debt securities changed to 30 days from 60 days, proposed to move to full mark to market (MTM) in future
Proposed cap on sectoral limit of 25% has been brought down to 20%. The additional exposure of 15% to HFCs will be restructured as 10% to HFCs and 5% to securitised debt
Prescribed minimum holding of 20% in cash, receivables and government securities to improve liquidity of liquid funds
Prescribed mandatory investment in listed securities

30.0

Mutual funds did away with amortisation-based valuation, irrespective of residual maturity and all securities are valued on MTM basis
A graded exit load has been levied on investors of liquid schemes who exit the scheme up to a period of 7 days
Sebi asked fund houses to disclose the portfolio of their debt schemes on a fortnightly basis within 5 days of every fortnight as opposed to monthly disclosure earlier
Change in stamp duty - 0.005% levied only on purchases. Stamp duty of .015% imposed in case of transfer of units between demat accounts
Sebi eased the valuation policies for debt mutual funds to allow valuation agencies to take a call of not terming a paper as default if the delay in payment of interest or extension in maturity is because of the Covid-19-related lockdown
Introduced new version of Riskometer which assesses portfolio risk by evaluating parameters such as volatility, market capitalisation, impact cost, and credit-liquidity-interest rate risks.
Cap on market cap exposure for multi-cap funds and introduction of flexi-cap funds

2016

2017

2018

2019

2020^

Households like mutual funds



The mutual fund industry has seen increased participation from households in recent years, as a result of growing awareness, financial inclusion and improved access to banking channels. Between March 2015 and March 2020, the industry grew by 48mn folios to 89.7mn as on March 2020 folios, at 16.5% CAGR, driven almost entirely by individual investors (retail and high net worth individuals or HNIs).

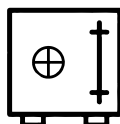
Investor category-wise share of AUM

Category (Rs billion)	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	June 2020	CAGR (March- 2015 to June- 2020)
Corporates	5,673	6,440	8,816	10,051	10,102	10,985	11,745	15%
Banks/FIs	663	843	1,104	866	826	767	1,096	10%
FIs	159	110	131	125	111	54	53	-19%
Institutional sub-total	6,495	7,393	10,051	11,042	11,039	11,806	12,894	14%
Retail	2,442	2,627	3,824	5,355	6,446	4,696	4,975	15%
HNIs	3,140	3,531	4,703	6,310	7,095	8,207	8,202	20%
Individual sub-total	5,582	6,158	8,527	11,665	13,541	12,903	13,177	18%
Total	12,077	13,552	18,578	22,707	24,580	24,709	26,069	16%

Note: Average monthly AUM for the period

Source: The Association of Mutual Funds in India (AMFI), CRISIL Research

Trend reflected in household savings



The share of mutual funds in overall household savings has risen steadily since fiscal 2013; it was 2.9% in fiscal 2019. With the financial sector being particularly sensitive to improved economic conditions, and given the expected changes in saving patterns, the share of financial assets – direct and through mutual funds and insurance – in total financial savings is expected to increase going ahead.

Household savings in shares, mutual funds and deposits increased post demonetisation

(Rs billion)	March 2013	March 2014	March 2015	March 2016	March 2017	March 2018	March 2019
Gross financial household savings	10,640	11,908	12,572	14,962	16,147	20,610	19,957
Currency	1,115	995	1,333	2,005	-3,329	4,837	2,814
Deposits	6,062	6,670	6,124	6,445	9,778	5,309	7,825
Shares and debentures	170 (1.6%)	189 (1.6%)	204 (1.6%)	284 (1.9%)	1,745 (10.8%)	1,773 (8.6%)	778 (3.9%)
<i>Mutual funds</i>	82 (0.8%)	150 (1.3%)	145 (1.2%)	189 (1.3%)	1,510 (9.4%)	1,382 (6.7%)	576 (2.9%)
Insurance funds	1,799	2,045	2,993	2,642	3,543	3,440	2,585
Provident and pension funds	1,565	1,778	1,909	2,907	3,255	3,694	3,963
Others	-71	231	10	679	1,155	1,557	1,992

Note: Others include claims on government and provident and pension funds; the data is for financial year ending March.

Source: National Account Statistics 2019, Ministry of Statistics and Programme Implementation (MoSPI), RBI, CRISIL Research

The domestic financial market is expected to continue to grow at a healthy pace owing to strong demand-side and supply-side drivers such as expected growth of the Indian economy, increasing urbanisation, and rising consumerism because of higher per capita incomes. This implies market growth potential for established financial service providers in India.

As per the Reserve Bank of India's (RBI) quarterly forecast on gross financial assets, mutual funds in outstanding position of household financial assets consistently increased till the third quarter of fiscal 2020, but declined in the last quarter of the fiscal.

Gross financial assets

(Rs trillion)	FY18				FY19				FY20			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Bank deposits	74.1	76.5	75.9	79.9	79.2	82.2	82.3	87.3	86.8	89.6	90.6	94.4
Life insurance funds	29.4	30.4	31.7	32.1	32.7	33.6	34.1	35.6	36.5	36.9	37.9	38.8
Currency funds	13.8	14.2	15.3	16.7	17.8	17.5	18.5	19.5	20.1	19.8	20.7	22.3
Mutual funds	9.5	10.2	10.6	10.7	11.9	11.5	11.9	12.4	12.7	12.8	13.9	11.6

Note: The outstanding position of household investment in pension and provident funds is not published as the latest available data from Employee' Provident Fund Organization (EPFO), which constitutes around 70% of this segment, pertains to fiscal 2017.

Source: RBI Bulletin June 2020

Share of mutual funds in outstanding position of total gross financial household assets*

(Rs trillion)	FY18				FY19				FY20			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Total gross financial assets of households*...	126.7	131.3	133.6	139.3	141.7	144.8	146.9	154.8	156.1	159.1	163.1	167.2
...of which, - mutual funds^	9.5	10.2	10.6	10.7	11.9	11.5	11.9	12.4	12.7	12.8	13.9	11.6
Mutual funds as % of total financial household assets (%)	7.5%	7.8%	7.9%	7.7%	8.4%	7.9%	8.1%	8.0%	8.1%	8.0%	8.5%	7.0%

* The outstanding position for gross financial assets includes data only for bank deposits, life Insurance funds, currency funds, and mutual funds.

^ Includes only retail mutual funds.

Source: RBI Bulletin June 2020, CRISIL Research

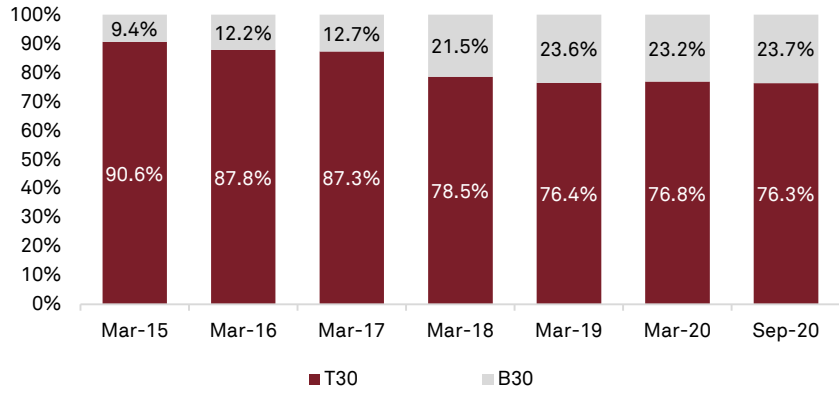
Money flowing in from hinterland



As per data from the Association of Mutual Funds in India (AMFI), beyond 30 (B30), or the next 30 locations beyond the top 30 (T30) cities, contributed 23.7% to the mutual fund industry's total AUM in September 2020 as against 9.4% in March 2015, illustrating the rising importance of these cities. Meanwhile, the contribution of T30 to total AUM decreased to 76.3% in September 2020 from 90.6% in March 2015.

The Securities and Exchange Board of India (Sebi) has reclassified T15 and B15 as T30 and B30, respectively, to encompass a broader set of cities that have lower penetration after seeing the share of B15 cities improve regularly in the previous years.

AUM contribution by T30 and B30 cities



Note: AUM data as of month-end period
Source: AMFI

Retail investors prefer to SIP



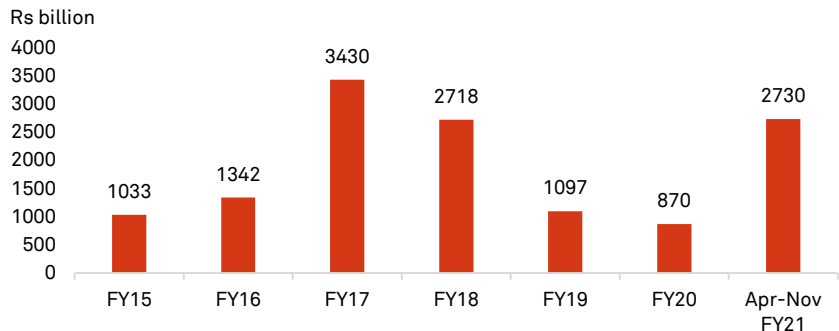
After two strong years of net inflows (2017-2018), backed by equity inflows and corporate bond issuances, net inflows into mutual funds declined in fiscals 2019 and 2020. The industry fell prey to the non-banking financial company (NBFC) crisis in fiscal 2019, followed by the Covid-19 pandemic in fiscal 2020.

Net inflows declined from Rs 3,430 billion in fiscal 2017 to Rs 870 billion in fiscal 2020, after major outflow in the last month of the fiscal. The last quarter of fiscal 2020 saw pandemic-triggered sharp outflows (led by liquid funds). In April 2020, closure of certain debt schemes by a mutual fund resulted in further outflow from debt funds, but liquid funds bounced back with a net inflow of Rs 744 billion YTD in the current fiscal.

Equity funds, on the other hand, have benefitted from money flowing through the systematic investment plan (SIP) route. In fiscal 2020, the mutual fund industry collected ~Rs 1 trillion through SIPs, up 8% over Rs 927 billion collected in fiscal 2019. In the eight months of this fiscal, SIP contributions to mutual funds reached ~Rs 629 billion. As of September, aggregate SIP AUM totalled Rs 3.8 trillion.

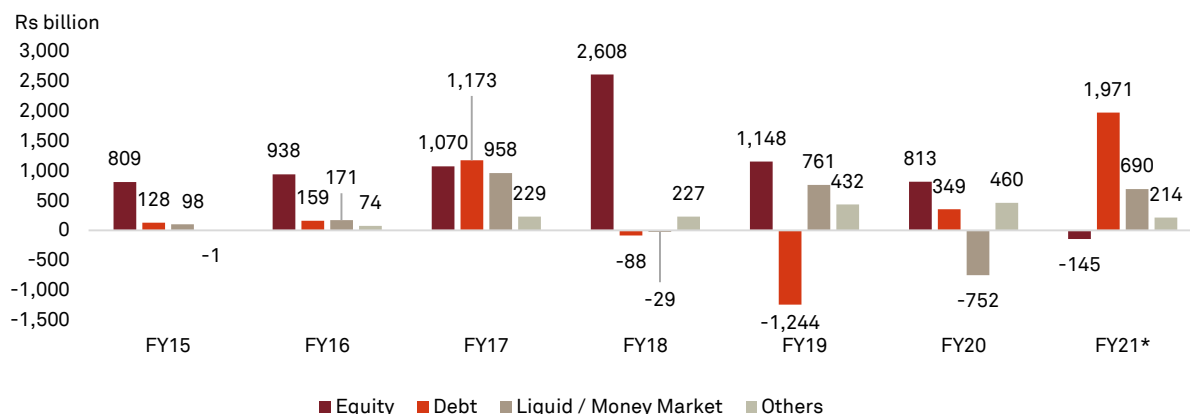
While growth of money from SIP has stymied, the industry continues to see sustained investment from the medium led by popularity of equity funds, rising participation of investors and investor education initiatives.

Net inflows reduced in the past two fiscals



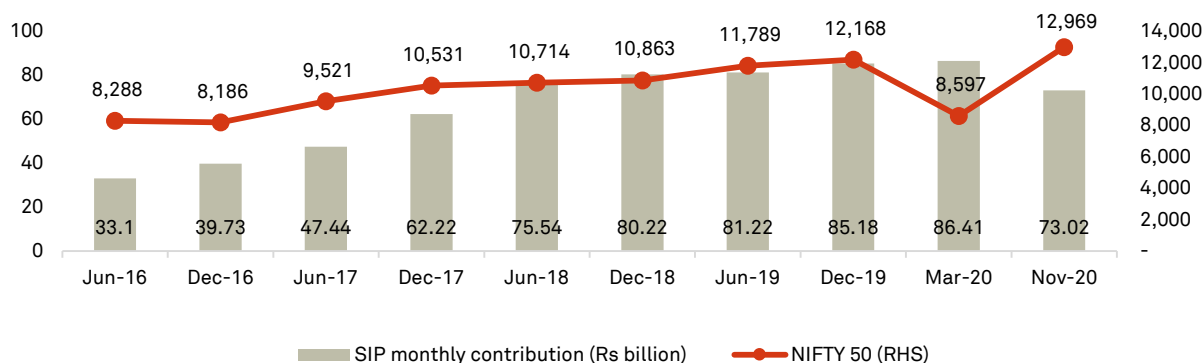
Source: AMFI, CRISIL Research

Equity-oriented funds led net inflows



Notes: (1) Equity funds include equity-linked equity schemes (ELSS), arbitrage and balanced funds. Debt funds include gilt, income and infrastructure debt funds. Others include gold exchange traded funds (ETFs), other ETFs and fund of funds (FoF) investing overseas.
 (2) Starting FY20, equity includes all open-ended and closed-ended flows. Debt includes as all open-ended, closed-ended and interval flows less liquid/ money market flows. Liquid/ money market is taken as sum of liquid and money market flows and others is taken as hybrid + solution oriented + other scheme flows
 *Apr to Nov 2020
 Source: AMFI, CRISIL Research

SIP contribution has picked up in the past 4 years



Source: AMFI, NSE

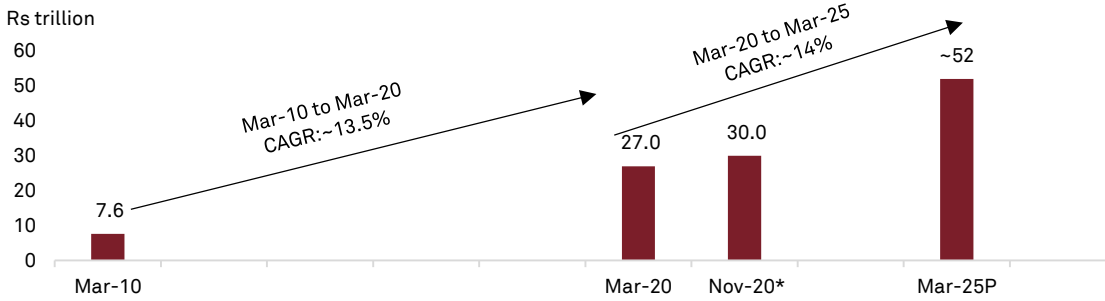
Industry ready to take the next quantum leap



Pandemic-induced developments notwithstanding, as economic activities slowly resume and gather pace, businesses should see heightened requirement of funds. Thus, liquid and arbitrage funds might witness pressure again due to outflows. In addition, corporates are expected to reduce their exposure to debt funds, at least in the riskier categories. In the long term, with expectation of higher returns from the capital markets, fund flow into equity funds is expected to pick up. Increasing share of mutual funds in household savings, driven by expectations of higher and stable returns, is one of the key contributors of fund inflows, especially into passive and equity funds.

A gradual improvement in corporate earnings, controlled inflation, stable political environment, consistent growth in mutual fund inflows and ~9% growth in nominal gross domestic product (GDP) post fiscal 2021 are expected to deepen mutual fund penetration. The industry's quarterly average AUM (QAAUM) is expected to increase at ~14% CAGR between March 2020 and 2025.

AUM projected to jump over the next 5 years

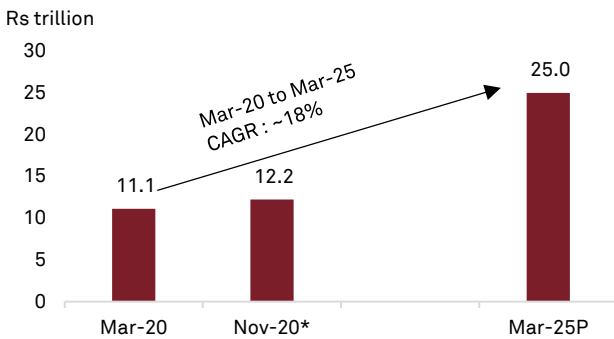


Note: AUM is the average of last quarter for each fiscal. P – Projected, *Month-end AUM
Source: AMFI, CRISIL Research

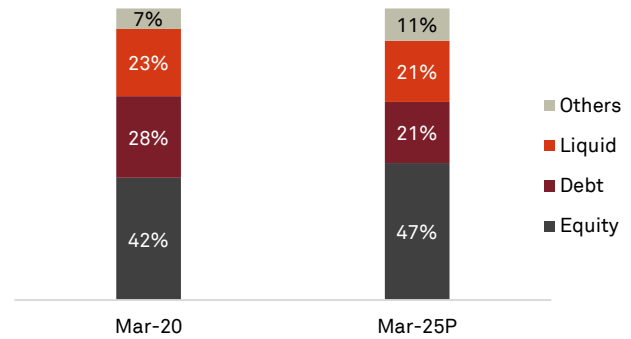
Growth is expected to be led by equity funds, which will continue to garner strong investor interest. Average equity AUM is expected to increase at ~18% CAGR to ~Rs 25 trillion by fiscal 2025, from Rs 11.1 trillion in March 2020,

driven by strong inflows. Strong growth in equity funds will increase their share in the overall fund pie from 42% to 47% by March 2025, in line with the global average.

Equity AUM projected to shoot up as well



Investors prefer equity to debt and liquid categories



Source: AMFI, CRISIL Research

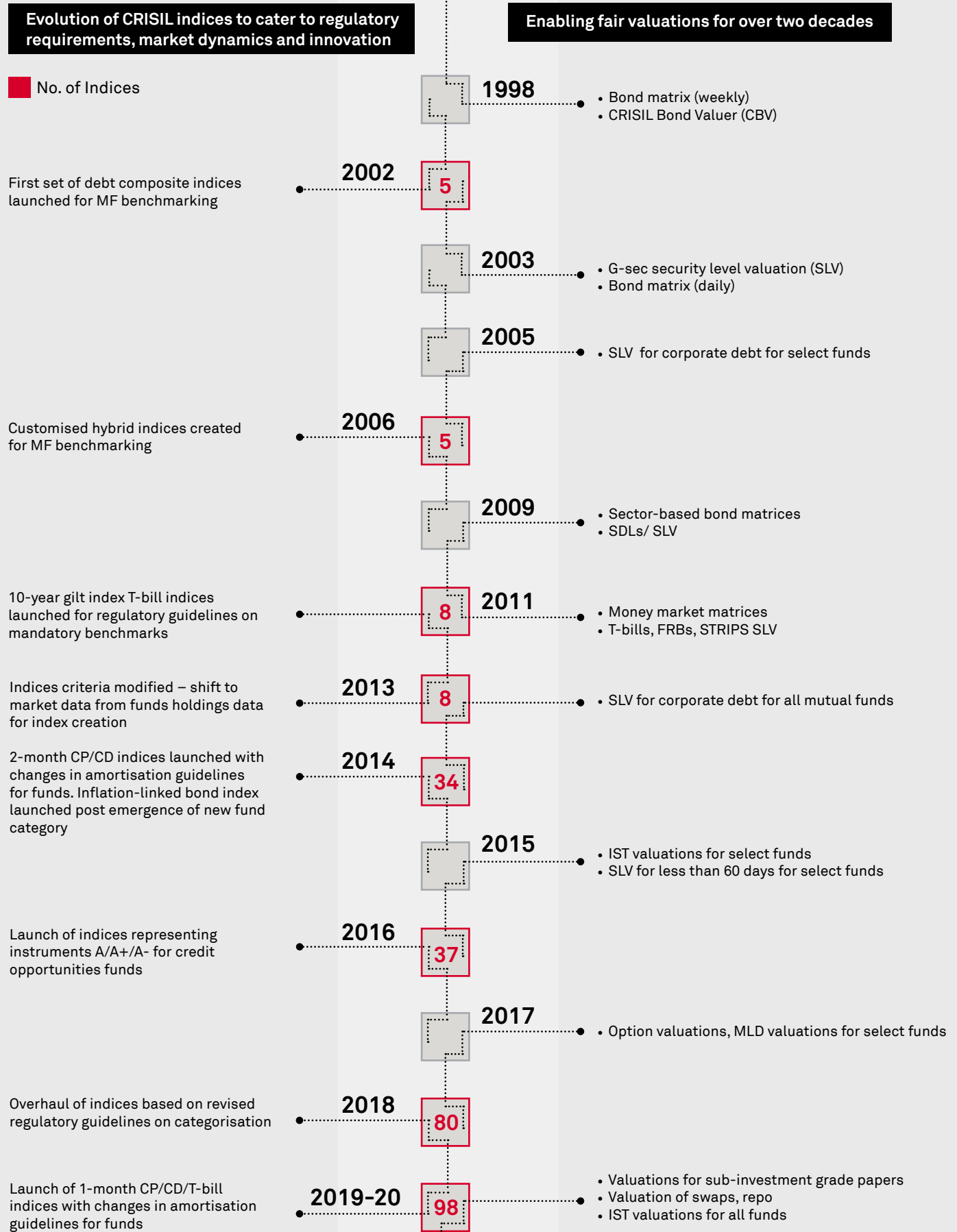
Note: As per quarterly average AUM; equity funds include growth/ equity-oriented schemes (other than ELSS), ELSS funds, hybrid and solution-oriented schemes; debt funds include gilt funds/ gilt funds with 10-year constant duration, and the remaining income/ debt-oriented schemes; liquid/ money market schemes include liquid/ money market/ floater/ overnight funds. Others include index funds, gold ETFs, other ETFs and fund of fund investing overseas; P - Projected, *Month-end AUM

Investors prefer equity to debt and liquid categories

Category	March 2020 (Rs trillion)	March 2021P (Rs trillion)	March 2020 to March 2021 growth	Mar 2025P	March 2021 to March 2025 growth
Equity	11.3	11.1	~(3)%	~24.7	~22%
Debt	7.4	6.9	~(7)%	~10.8	~12%
Liquid	6.3	6.9	~10%	~11.0	~12%
Others	1.9	2.1	~10%	~5.9	~30%

Note: As per QAAUM; equity funds include growth/ equity-oriented schemes (other than ELSS), ELSS funds, hybrid and solution-oriented schemes; debt funds include gilt / gilt funds with 10-year constant duration and remaining income/ debt-oriented schemes; liquid / money market schemes include liquid/ money market/ floater/ overnight funds. Others include index funds, gold ETFs, other ETFs and FoFs investing overseas. P - projected
Source: AMFI, CRISIL Research

CRISIL's partnership with the industry over the years



Coverage of indices

Sovereign	G-secs SDLs T-bills Repo
Bonds	AAA AA+ AA AA- A+/A/A-
Money market	CPs CDs
Duration-based composites	Liquid & money market Ultra short (<0.5) Short term (1 to 3) Medium term (3 to 5) Medium to long term (4 to 7) Long term (>7) Dynamic
Credit/sector-based composites	Credit risk Corporate bond Banking & PSU
Debt-equity hybrids	Aggressive Moderate Conservative

Coverage of valuations

Sovereign	G-secs - SLV SDLs - SLV T-bills - SLV
Bonds	Corporate bonds – matrices and SLV FRBs – forward rate curve and SLV PTCs – matrices and SLV
Money market	CPs – matrices and SLV CDs – matrices and SLV
Derivatives	Options IRS TREPS Repo
Structured products	MLD
Others	Preference shares TREPS, repo

Evolving regulations aimed at investor interest



Over the years, market regulator Sebi has set regulations for the mutual fund industry aimed at investor interest by bringing in uniformity in fund classification, valuation methodology and increase in transparency through disclosures. Some of the key ones are detailed below.

Valuation / risk mitigation	Transparency	Costs	Investor
<ul style="list-style-type: none"> Introduced standard valuation methodology for debt securities in 1998 This evolved over the years, moving from valuation of securities with maturities over 91 days to 60 days, 30 days and now mark-to-market (MTM) Sectoral and security weightage capped in the portfolio to reduce concentration risks in the portfolio Side-pocketing allowed if debt investments are downgraded to below investment grade Introduced minimum holding of 20% in cash, receivables and government securities (G-sec) to improve liquidity of liquid funds Prescribed mandatory investment in listed securities 	<ul style="list-style-type: none"> Single plan structure Uniform categorisation of open-ended schemes Market capitalisation capping for multi-cap schemes, introduction of flexi-cap category Disclosure of mid-month portfolios Disclosure of yield of debt securities Disclosure of debt security transactions within 15 days, reduced from 30 days Usage of Total Returns Index (TRI) for performance benchmarking Daily disclosure of performance and total expense ratio (TER) Product labelling of schemes to identify risk in the scheme, which has now been modified to include a dynamic riskometer that will reflect the underlying portfolio risk on a monthly basis 	<ul style="list-style-type: none"> Removal of entry load TER slabs cut by 0.25% for both equity and debt schemes; the uppermost slab is pegged at 2.25% for equity funds having AUM of up to Rs 500 crore and 2% for other schemes. In the highest AUM slab of above Rs 50,000 crore, TER for equity funds would be 1.05% of the scheme's AUM and 0.80% for other schemes Scheme expenses, including investment and advisory fees for index fund schemes and ETFs, to not exceed 1% of daily net assets Changed key geographical classifications from top 15 (T15 cities) and B15 cities to T30 and B30, respectively, related to charging of additional expenses of up to 0.3% on daily net assets of the scheme 	<ul style="list-style-type: none"> Introduction of direct plans Allowed investment up to Rs 50,000 per mutual fund per financial year through digital wallets Instant access facility to the liquid funds investors (via online mode) of up to Rs 50,000 or 90% of the folio value, whichever is lower Directed AMCs to annually set aside at least 2 bps of the daily net assets for investor education and awareness initiatives. It has also allowed celebrity endorsements at the industry level to boost awareness of mutual funds among investors

The Indian mutual fund industry is one of the most well regulated industries in the world, with transparency levels on par with or better than global peers. However, since the country is underpenetrated, new investors expect some type of independent research and guidance to hand-hold

them into the investment avenue. Even for seasoned investors, the plethora of schemes and complexity of the products could be challenging and, thus, independent research can aid their investment decisions.

Investors need independent research and unbiased guidance



Investors need to be equipped with the wherewithal to make independent and unbiased decisions.

Financial literacy is the doorway to human capital formation. Mutual funds and other market-linked products remain push products in India and, thus, regular interaction with experts will play a critical role in building trust, retaining investors and increasing penetration. A majority of the population should be given relevant financial education to help them develop basic skills of financial planning. This is where independent research and analytics can play an important role in the industry's growth.

What makes data research and analytics so important today

The very nature of the capital market's growth calls for increased analytics. Here are four reasons that make it imperative.

First, the growing range and complexity of products

The primary need for analytics comes from the fact that today there is a far larger suite of products available in the capital market than ever before. The collection includes direct equity, debt, mutual funds, portfolio management services, alternative investment funds, real estate investment trusts, infrastructure investment trusts and structured products, among others. Further, within these products, there are multiple options and combinations available to investors, which add to the complexity of investments.

Second, volatility in the markets

Volatility is par for the course for financial markets. It underlines the need for research and analytics to help decrypt trends, especially in times of crisis such as the current pandemic that has ravaged the entire market financial spectrum and weakened investor sentiment due to concerns around credit quality and liquidity.

Debt mutual funds, for one, witnessed an outflow of Rs 1.94 lakh crore in March – the highest for the category since September 2018, when Rs 2.10 lakh crore had gone out following the IL&FS default. CRISIL Research's report, titled 'Debt wise', however showed that the situation was not as bad as it appeared, and within a month there was visible improvement in the aggregate level of credit and liquidity in the industry.

For instance, exposure to top-rated papers such as government securities (G-secs), cash and cash equivalents, bank fixed deposits and the top-rated AAA or A1+ categories increased to 92% in April from 90% in March. Further, natural liquidity available to funds in the form of maturity of underlying securities also rose. As of April,

nearly 31.1% and 37.5% of the portfolio was to mature in the next 60 and 90 days, respectively, as against 17.8% and 33.7% in March.

That said, there was wide variation among categories and schemes across the various risk parameters analysed, underscoring the fact that there are still good choices available in each fund category. Identification of these good choices, though, needs detailed analytics and monitoring.

Third, a wider and savvier investor base

In tune with growth of the capital market, the country has seen the emergence of a wide range of investors. New investors coming in from Tier II cities are looking at simple products. But at the other end are a new breed of savvy investors who are more aware and who are demanding value, research and accountability from asset managers and intermediaries. This holds true especially for HNIs, who are increasingly looking at diverse investment avenues to park their surplus money. With access to information and options, analytical insights will be the key differentiator to satiate this unquenchable thirst of investors.

Fourth, the changing intermediation models

Development of the capital market also means that there is a larger and diverse set of intermediaries distributing/ advising investors to meet their financial goals. The type of distributors varies from traditional players such as banks, large distributors and independent financial advisors to a new breed of advisors, family offices, platforms and of course, the direct channels.

While all of these provide differentiated propositions in terms of approach towards selling of products to investors, research is that one factor that binds all of them together. Data research and analytics can give wealth managers a platform to differentiate themselves. It also becomes imperative given the regulatory expectation from intermediaries in terms of putting in research and independent analysis on their product recommendations instead of a revenue-based approach.

Considerations for the road ahead

In the days to come, with increasing financialisation of savings in India, research and technology will play an increasingly important role in developing and deepening bond markets. Qualitative and quantitative analysis based on sectoral and sensitivity models should form a part of holistic technological solutions.

The key, however, is to have independent data and analytics, research and technology solutions that incorporate various aspects of research – from macro to micro – in investment products through in-house data and models, and across asset classes.

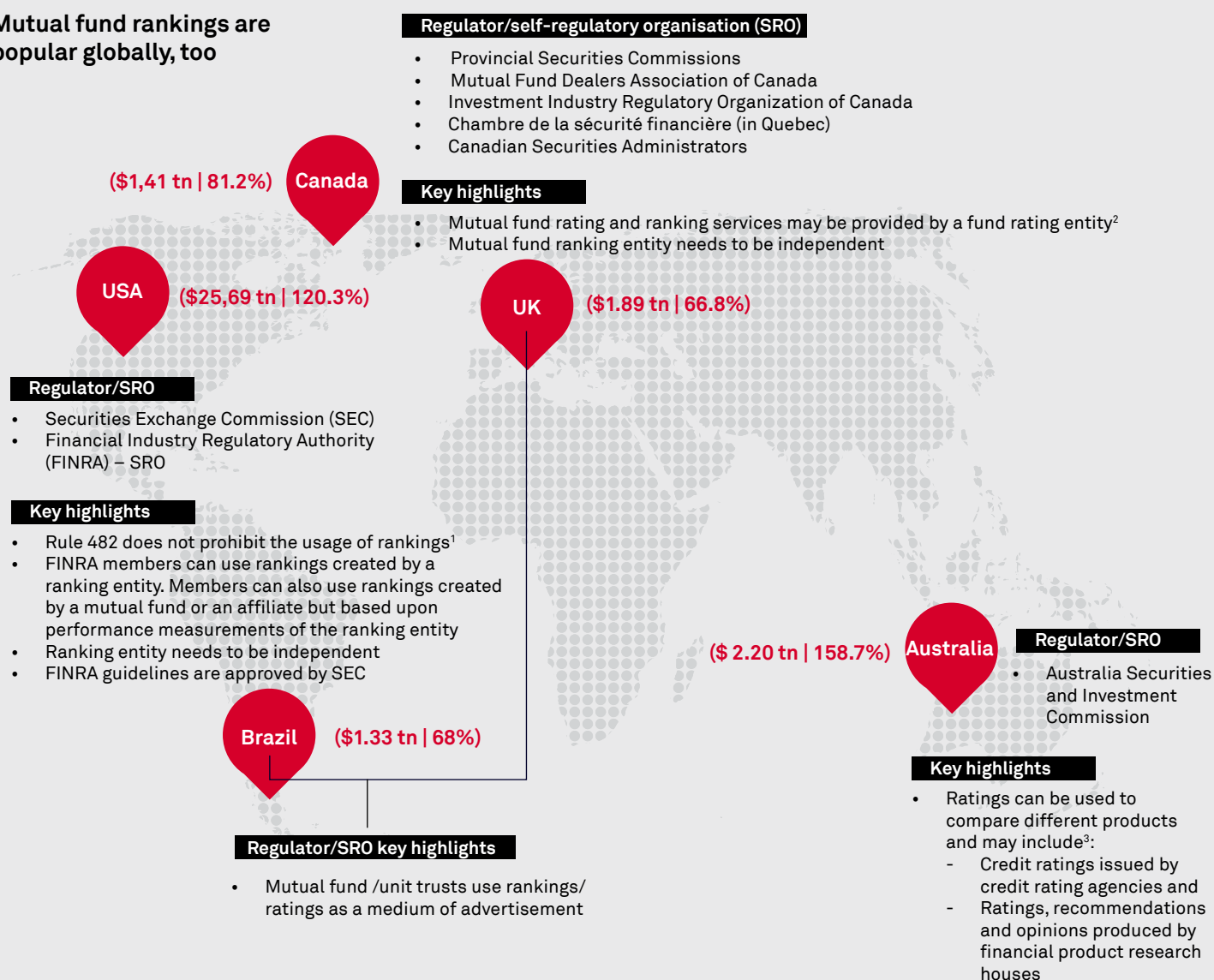
Importance of mutual fund rankings for investors

Though the asset management companies do disclose the performance of schemes based on standard parameters as disclosed by the regulator on a periodic frequency, an investor might not find it so easy to compare schemes across the available options. Further, the distribution industry does not use a standard evaluation metric, which

forces the investor to make a choice based on the available historical performance.

This is where independent mutual fund ranking can play an important role in guiding investors to make decisions. Independent rankings, which follow neutral and relevant criteria by fund houses in their communication, allow objective decision making, thereby enhancing investor confidence.

Mutual fund rankings are popular globally, too



Note: Figures in brackets represent the AUM in USD tn followed by AUM to GDP ratio for the respective country

¹Advertising the Mutual Fund, K&L Gates

²https://www.osc.gov.on.ca/documents/en/Securities-Category8/ni_20140922_81-102_81-102cp-unofficial-consolidated.pdf

³Regulatory Guide 234, Advertising financial products and services (including credit): Good practice guidance, November 2012

CRISIL Mutual Fund Ranking – an industry beacon



CRISIL has been a front runner in the mutual funds re- search services in India since the turn of the century. We have always given requisite importance to portfolio param- eters, which is reflected in our marquee product, the CRISIL

Mutual Fund Ranking (CMFR), the erstwhile Composite Per- formance Ranking (CPR), a beacon of independent mutual fund research in existence for the past two decades.

About CRISIL Mutual Fund Ranking



CMFR is designed as an investment decision support tool for investors, retail and institutional, to identify suitable investment products in the mutual fund space.

Launched in June 2000, CMFR has been an evolving methodology based on the requirements of the industry, changing market dynamics, growth in AUM, relevance of new categories and feedback from industry participants.

Released every quarter, it is a well-accepted performance evaluation standard within the industry. The ranking of funds is evaluated on the basis of several parameters that are carefully picked as per the category under evaluation.

The parameters can be broadly classified into two types: NAV-based and portfolio-based.

NAV-based parameters



Performance

Mean return

Active return



Market risk

Volatility

Tracking error

Portfolio-based parameters



Portfolio

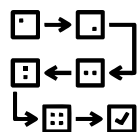
Concentration (company, industry)

Liquidity

Asset quality

Modified duration

Evolution of the ranking methodology



Ability to evolve with the changing market dynamics

Number of categories

First mutual fund ranking in the industry with portfolio-based parameters

CMFR launched in June 2000 with three categories

- Aggressive hybrid
- Income schemes
- Diversified equity

2000

3

Four new categories launched by the end of 2003

- Liquid funds
- Gilt funds
- Monthly income plan (MIP)
- Short duration funds

2003

7

Introduced liquidity, sector risk and interest rate risk parameters for the debt portfolio

- Categorisation of funds based on market cap introduced: large cap category
- Launched aggressive and conservative as separate MIP categories

2006

15

- Index funds/ ETFs and ultra short duration ranking categories introduced
- Introduced small and mid-cap category based on historical market cap allocation of funds in March 2009

2008

17

- Introduced credit risk category with categorisation based on rating profile of portfolio

2014

17

- Introduced direct plan fund ranking
- **Linked issuer concentration with its ratings**

2016

17

- Aligned ranking in line with Sebi's circular on categorisation and covered 25 categories
- **Introduced active returns to address re-categorisation**

2018

25

- **Credit quality with differentiation across rating agency**

2019

25

The portfolio-based parameters (liquidity, interest rate risk, credit quality) used in CMFR are consistent with the parameters covered in Sebi's proposed risk-o-meter

Advantage CMFR – a blend of performance and portfolio parameters



While mutual funds have emerged as an important investment tool as seen by the sharp surge in individual interest in the instrument, most scheme selection criteria continues to be myopic, focusing on past performance and ignoring the portfolio aspects, which actually derive returns. At CRISIL, we have always given requisite importance to portfolio parameters.

Importance of portfolio parameters in scheme selection



While returns, and within that risk-adjusted returns, is a crucial metric to assess the performance of mutual funds, it does not always factor the portfolio risks associated with the underlying investment.

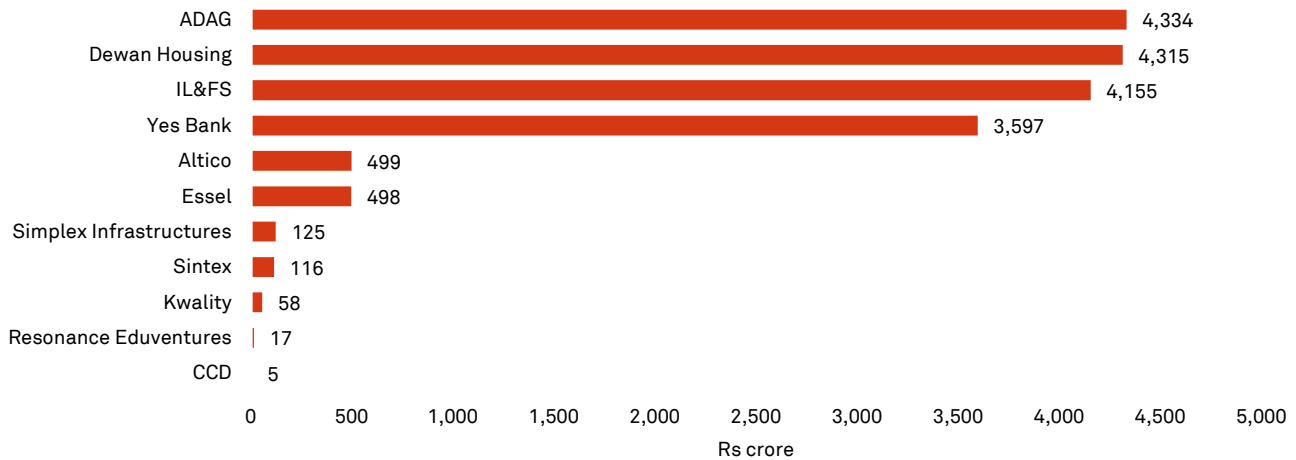
The usage of portfolio parameters is of higher priority while assessing risks in debt mutual funds, especially in lieu of material credit events seen in India in the past two years and the ensuing liquidity crisis due to the lack of market depth for lower-rated credits. As per CRISIL's analysis, since July 2018, debt mutual fund portfolios have seen a series of defaults with total credit loss of ~Rs 18,000 crore.

Market value erosion due to defaults in mutual fund portfolios

At CRISIL, the credit risk of underlying portfolio forms an important of mutual fund assessment for CMFR, along with other relevant portfolio parameters such as liquidity

of securities, concentration risk to security/ sector and modified duration (accounting for interest rate risk) of the portfolio.

Market value erosion due to defaults



Source: CRISIL Research

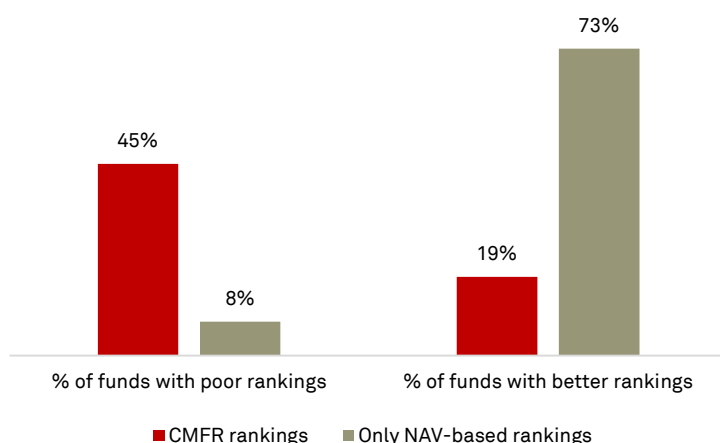
Portfolio quality affects ranking performance

The relevance of portfolio parameters combined with net asset value (NAV) is revealed in the fact that a high percentage of funds that had significant exposure to defaulted papers were ranked low (4 and 5) in CMFR during the period when the credit events happened.

For the analysis, all funds that had exposure to papers which defaulted during June 2018-June 2020 quarterly rankings were considered. Our analysis shows that 45%

of the funds, on average, with exposure to defaulted paper had poor rankings in CMFR as against 8% in case of rankings carried out using only NAV-based parameters. Similarly, only 19% of the funds, on average, ranked by CRISIL had better rankings as against 73% in case of funds ranked using only NAV-based parameters.

Consolidated average ranking: % of defaulted funds



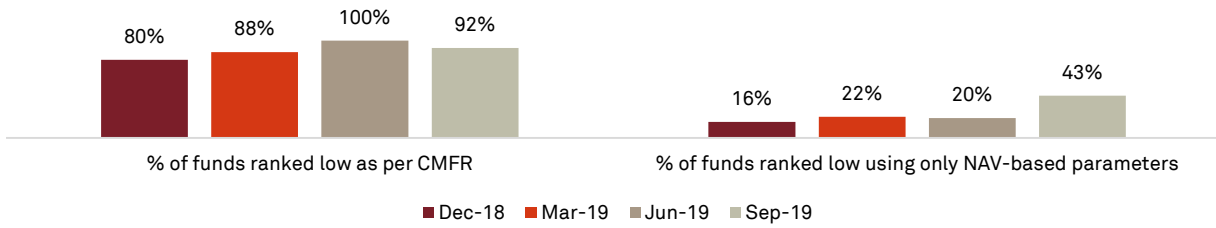
Source: CRISIL Research

Also, a high percentage of CMFR-ranked debt funds which faced defaults were ranked low even before their defaults compared with funds whose ranking was done using only NAV-based parameters. The four major defaults of ADAG, Dewan Housing, IL&FS and Yes Bank were considered in detail and the findings are charted below. For instance, in case of Yes Bank, the default date was March 6, 2020. The last available rankings are as on December 2019, wherein

50% of funds holding Yes Bank papers were ranked low as per CMFR as against 9% in case of funds ranked using only NAV parameters. Similarly, in case of Dewan Housing, the default date was June 5, 2019. As per March 2019 rankings, 40% of the funds holding DHFL papers were ranked low as per CMFR as against just 3% in case of funds ranked using NAV parameters.

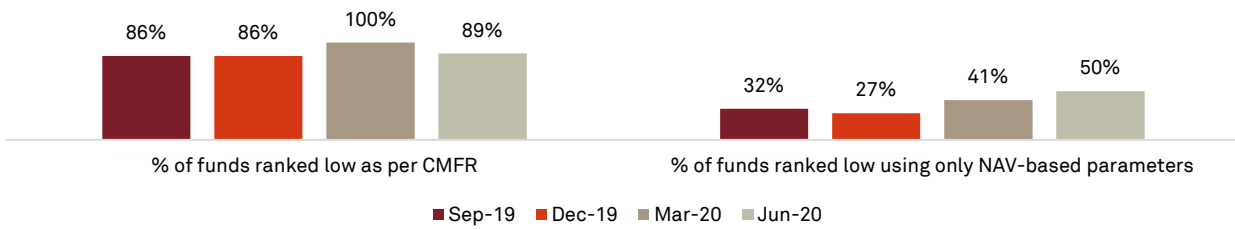
Dewan Housing Finance defaults

Default date June 5, 2019



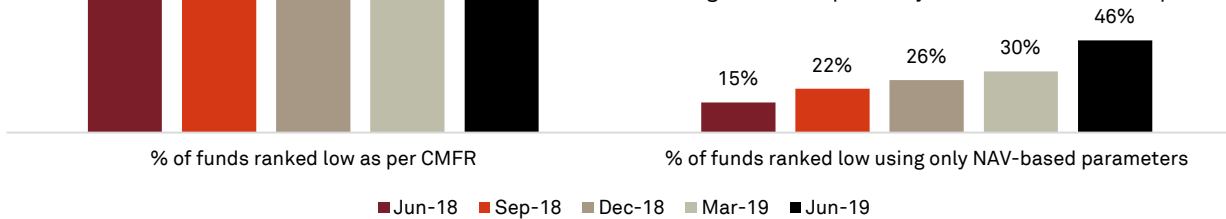
Yes Bank defaults

Default date March 6, 2020



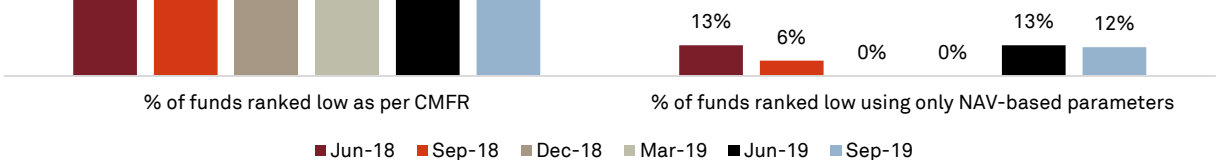
IL&FS group defaults

IL&FS Financial Services 17 Sep'18
 IL&FS Transportation Network 28 Sep'18
 IL&FS Energy Dev. 5 Oct'18
 IL&FS Education and Technology Services 20 Nov'18
 Jharkhand Road Projects Implementation Co 22 Jan'19
 Jorbat Shillong Expressway 4 Mar'19
 Hazaribagh Ranchi Expressway 16 Apr'19



ADAG group defaults

Reliance Infrastructure Ltd. 25 Jun'18
 Reliance Commercial Finance Pvt. Ltd. 26 Apr'19
 Reliance Home Finance Pvt. Ltd. 26 Apr'19
 Reliance Big Pvt. Ltd. 21 Jun'19
 Reliance Infra Consulting and Engineers Pvt Ltd. 21 Jun'19
 Reliance Broadcast Network Ltd. 17 Sep'19
 Reliance Capital Ltd. 20 Sep'19



A high percentage of funds that had significant exposure to defaulted papers were ranked low by CRISIL compared with funds ranked using only NAV-based parameters. This

clearly highlights the significance of considering portfolio parameters while ranking a fund.

Other portfolio factor considered - liquidity

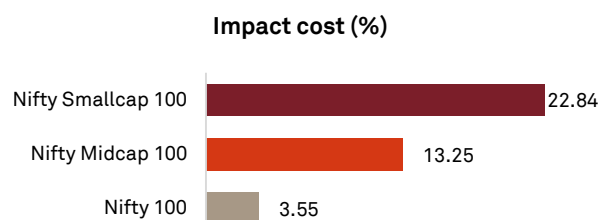
At CRISIL, we also consider portfolio factors other than credit quality as part of the overall analysis. One of them is liquidity, which denotes the amount of time a fund manager takes to liquidate the portfolio holdings.

There are a number of factors that define the liquidity of an investment.

- a) Presence of an active market – stock exchange
- b) High number of market participants – buyers and sellers
- c) Significant trading volume

Assessing liquidity of a portfolio is imperative for equity and debt funds. Generally, large cap stocks have higher liquidity than mid-cap stocks, which are more liquid than small caps.

We calculated the impact cost for Nifty 100 (large cap), Nifty Midcap 100 and Nifty Smallcap 100 weighted by constituents' exposure in the index as of June 2020. We clearly see that the impact cost of Nifty 100 is much lower than that of Nifty Midcap 100 and the Nifty Smallcap 100 index.



Stock holding versus average daily traded volume defines how quickly portfolio can be liquidated

Another factor that an investor can monitor to ascertain liquidity is the number of shares of a security held relative to its trading volume. If the fund holds a large volume of shares in a thinly traded stock, it would be difficult to liquidate the same.

When it comes to debt, Treasury bills and money market instruments are considered to be highly liquid. These are short-term instruments. Government bonds are also considered to have good liquidity. However, in corporate bonds, high liquidity is typically observed only in papers with high credit quality. As we move down the credit rating, liquidity reduces.

Higher the illiquidity, higher the impact cost.

Liquidity declines with fall in rating

Percentage of liquid papers falls drastically from 83% in the AAA category to 11% in AA, and to 0 after the A rating bracket.

Rating	Liquid	Semi-liquid	Illiquid
AAA	83%	12%	6%
AA+	50%	20%	31%
AA	11%	42%	46%
AA-	10%	39%	51%
A+	19%	19%	62%
A	19%	0%	81%
A-	0%	0%	100%

Note: 335 issuers forming part of mutual fund portfolios have been considered

Concentration risk



The market volatility triggered by the Covid-19 pandemic may have blurred visibility for investors around the world, but an old adage rings true now more than ever - do not put all the eggs in one basket. Concentration risk is the risk arising out of poor diversification in a portfolio.

Concentration risk can arise out of either

- a) Over-exposure to a single security or
- b) Over-exposure to a single sector or industry

Appropriate diversification is achieved if a portfolio has a reasonable amount of securities that have a very low correlation to each other. This is important because each security in the portfolio has unique risk factors and behaves differently at different market phases. Diversification helps mitigate this risk because when one security does not perform well in the portfolio, other securities that have low correlation with it tend to perform well, thus bringing a balance to the investor's portfolio.

In fixed-income investing, an investor must look at exposure level along with the credit ratings of the issuer. This is important because 10% exposure to a low-rated issuer, say BBB-, is considered more risky than 10% exposure to a high-rated issuer like AAA. Investors have to carefully evaluate the level of exposure a fund has to each security and sector before investing. They are better off underweighting or avoiding schemes that have a high level of concentration in their portfolios because when things are going fine, they will get high returns and vice-versa.

Overexposure to a single issuer or sector impacts credit, interest rate and liquidity in case of debt funds. For instance, a downgrade from AAA to AA of a security, comprising 10% of the portfolio, can shave off up to 53 basis points (bps) of returns compared with just 11 bps for a 2% exposure.

Rating downgrade	Allocation in portfolio				
	2%	4%	6%	8%	10%
Downgrade from AAA to AA	-0.11%	-0.21%	-0.32%	-0.42%	-0.53%
Downgrade from AA to A	-0.15%	-0.29%	-0.44%	-0.59%	-0.74%
Downgrade from AAA to A	-0.25%	-0.50%	-0.76%	-1.01%	-1.26%

Yield data for a bond with a duration of 6-8 years as on March 31, 2020 is considered for analysis. Modified duration of 7 years has been assumed.

Data for sensitive sectors identification is sourced from our Industry Research team. Sectors classified as 'unfavourable' or 'highly unfavourable', on the basis of their Industry Risk Score (IRS), are considered as sensitive sectors. IRS reflects the impact of industry variables on the cash flows and debt repayment ability of the companies over 3-4 years. The risk score for an industry is arrived at by

aggregating the scores assigned to the parameters relevant for the industry. Industry parameters include variables such as demand-supply outlook, cost structure, competition and financial performance. The parameters are selected based on the extent to which they affect the debt-servicing ability of the companies in the industry.

Modified duration



This parameter is used to assess the interest rate risk taken by the fund. Modified duration measures the sensitivity of the price of a bond to the changes in interest rates.

Change in the bond price = (-1) x modified duration x change in yield

Take medium to long duration funds: suppose their modified duration is 4.10 years. Using the above formula, a 100 bps fall in yield will result in 4.1% increase in prices (calculated as -1 x 4.1 x -1%). Using this formula, let us see the impact on NAVs with increase and decrease of yields at various levels (assuming parallel shift in yields).

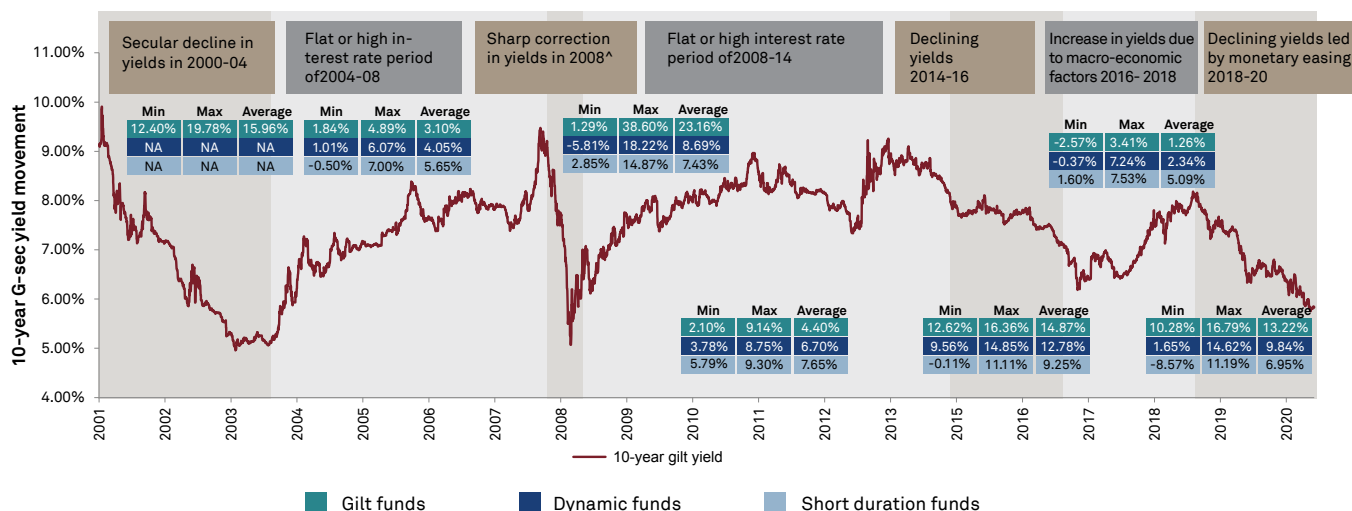
Impact on NAV	Modified duration (years)	Decrease in yields				Increase in yields			
		- 100 bps	- 75 bps	- 50 bps	- 25 bps	100 bps	75 bps	50 bps	25 bps
Medium to long duration funds	4.10	4.1%	3.1%	2.1%	1.0%	-4.1%	-3.1%	-2.1%	-1.0%

We can evaluate the potential impact on a portfolio's return owing to a shift in market yields, provided

- We know the modified duration of the portfolio
- A view on the direction of interest rates is available

If interest rates are expected to decrease, securities with higher modified duration are favoured and vice-versa. The next chart shows that long maturity debt funds do better when interest rates ease, while short maturity debt funds perform well when interest rates rise. In CMFR, we penalise funds that have higher modified duration relative to the peer group.

Fund categories versus interest rate movement



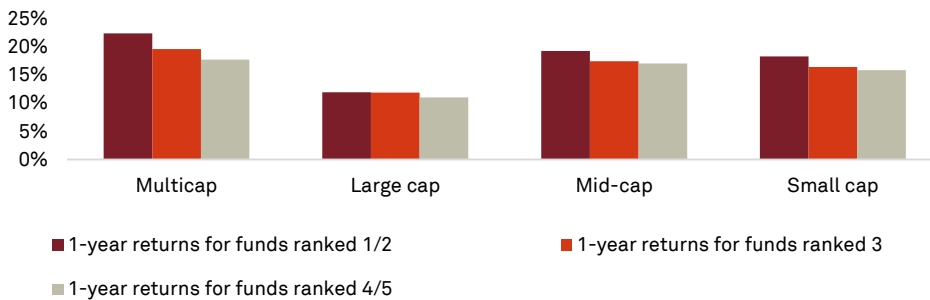
Source: CRISIL Research

Portfolio quality matched with superior performance



While portfolio parameters play an important part in CMFR, it does not mean that the top ranked funds lag behind peers in terms of performance. A comparison of the performance of top ranked equity funds (1 or 2) versus their category reveals that performance has been consistent across categories and market capitalisation since the launch of the categories. Once a fund is ranked 1 or 2 in any quarter, subsequent 1-year and 3-year returns have been recorded for such funds.

Significant edge for top 30 percentile funds in future 1-year returns

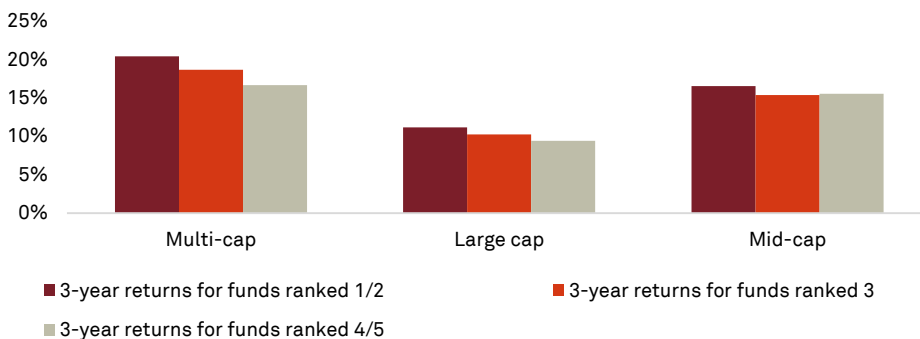


Source: CRISIL Research

The subsequent 1-year returns of each of the funds in the top 30 percentile (ranks 1 and 2) of the equity categories under CMFR when compared with the subsequent 1-year

average return of funds ranked 4 or 5 in each quarter, the rank 1 and 2 funds have outperformed the average majority of times.

Funds in CMFR top 30 percentile deliver better than peers in 3-year performance



Note: The multi-cap category (erstwhile diversified) was launched in June 2000. The large cap category came into existence in September 2006. The small and mid-cap category was launched in March 2009.

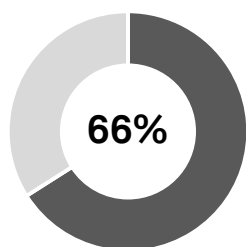
Source: CRISIL Research

Funds in top 30 percentile have outperformed 1-year future returns of funds ranked 4/5

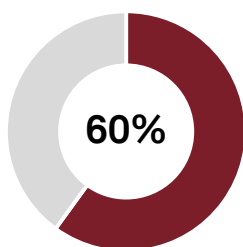
Comparison shows that subsequent 1-year returns of all equity funds in the top 30 percentile (ranks 1 and 2) under CMFR have been higher most of the times than the subsequent 1-year average returns of funds ranked 4 or 5 in

each quarter. Funds ranked 1 or 2 in the multi-cap category, for instance, outperformed funds ranked 4 or 5, 66% of the times, on average, since the inception of the category.

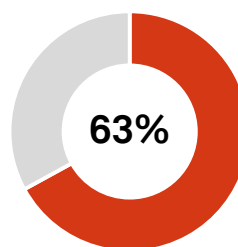
Multi-cap funds



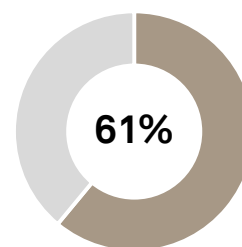
Large cap funds



Mid-cap funds



Small cap funds



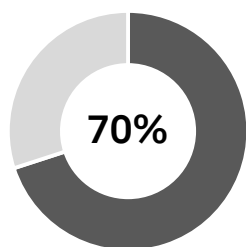
Source: CRISIL Research

Funds in top 30 percentile have outperformed 3-year future returns of funds ranked 4/5

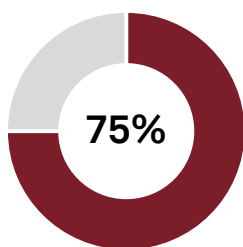
A similar phenomenon was observed when the subsequent 3-year returns of top ranked funds in a quarter were compared with the future 3-year average returns by

funds ranked 4 and 5. Funds ranked 1 or 2 in the large cap category outperformed funds ranked 4 or 5, 75% of the times since the inclusion of the category under CMFR.

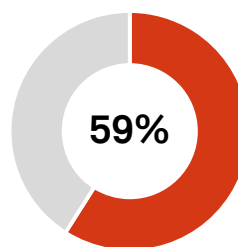
Multi-cap funds



Large cap funds



Mid-cap funds



Small cap and mid-cap categories were formed from the earlier small and mid-cap equity category in 2018. These categories have a common history previously. As such, these categories do not have three years of unique history.
Source: CRISIL Research

Long-term outperformance

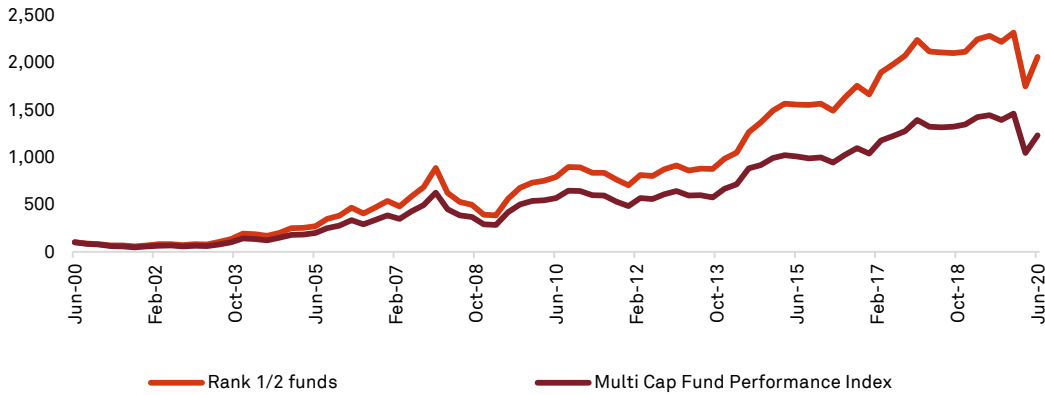
Momentum analysis shows that if Rs 100 invested in rank 1 and 2 funds in a category and the portfolio is adjusted every quarter such that the portfolio constitutes top

ranked funds in the respective quarter, then such an index would generate significantly better returns than returns generated by the category index.

Growth of Rs 100 in top ranked multi-cap funds versus category

Category/index	Rank 1/2 funds	Multi-Cap Fund Performance Index
Growth of Rs 100 since June 30, 2000	2,059	1,232
CAGR	16.32%	13.37%

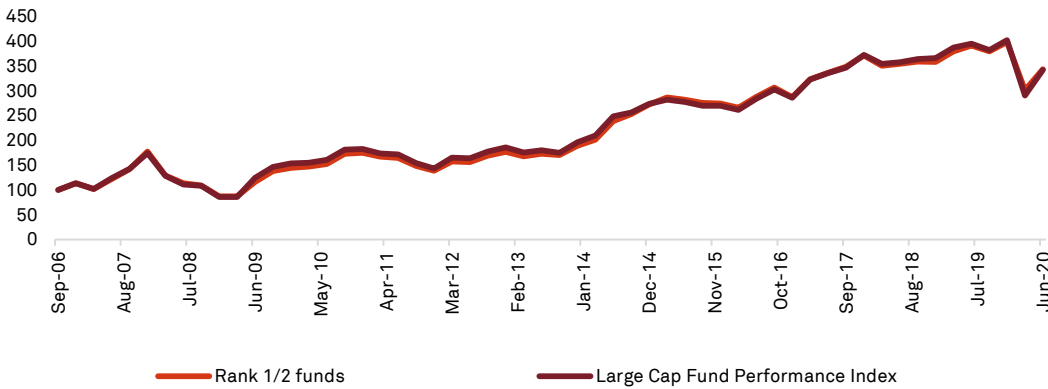
Source: CRISIL Research



Growth of Rs 100 in top ranked large cap funds versus category

Category/index	Rank 1/2 funds	Large Cap Fund Performance Index
Growth of Rs 100 since September 30, 2006	344	342
CAGR	9.39%	9.35%

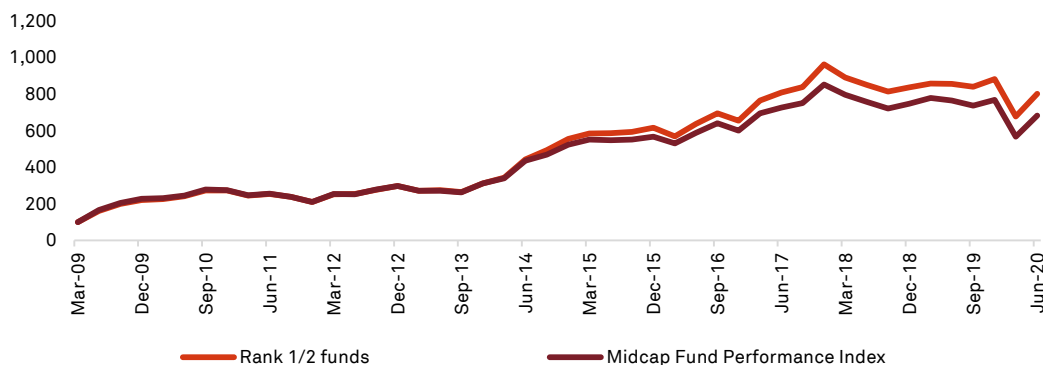
Source: CRISIL Research



Growth of Rs 100 in top ranked mid-cap funds versus category

Category/index	Rank 1/2 funds	Mid Cap Fund Performance Index
Growth of Rs 100 since March 31, 2009	803	682
CAGR	20.32%	18.60%

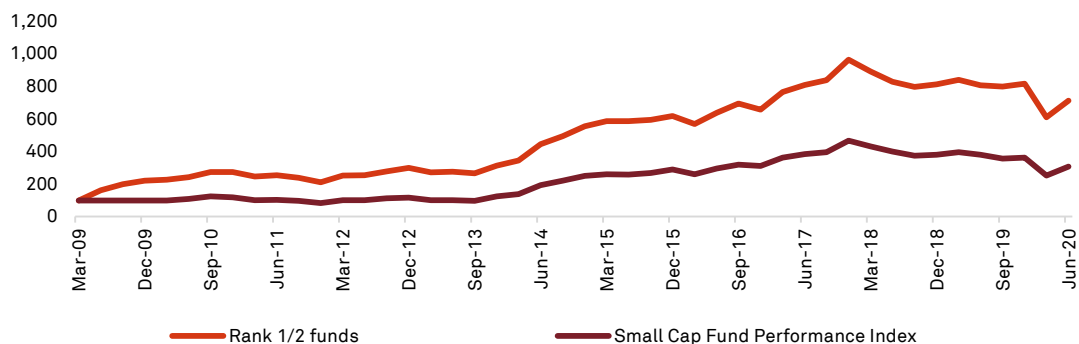
Source: CRISIL Research



Growth of Rs 100 in top ranked small cap funds versus category

Category/index	Rank 1/2 funds	Small Cap Fund Performance Index
Growth of Rs 100 since March 31, 2009	712	307
CAGR	19.05%	10.49%

Source: CRISIL Research



Optimum mix of performance and portfolio parameters for scheme selection



Portfolio parameters thus form an important part of scheme selection, especially while mapping it to an individual's risk-return profile both pre- and post-investment. However, in addition to scrutinising funds on portfolio-based risks of liquidity, credit rating and concentration, consistency of performance and an impressive track record are also important factors to be considered when selecting funds. While all parameters need to be evaluated separately, one must also remember that they are inter-linked. It is important to consider both NAV-based and portfolio-based parameters while choosing schemes to invest in.

CMFR has emerged as a guiding tool for treasury managers and investment managers for shortlisting mutual funds. In keeping with the evolving rules and regulations, we try to keep improving the granular elements that go into ranking with the end-objective of making ranking of funds independent, thereby enabling investors to make wise investment decisions.

About CRISIL Limited

CRISIL is a leading, agile and innovative global analytics company driven by its mission of making markets function better.

It is India's foremost provider of ratings, data, research, analytics and solutions, with a strong track record of growth, culture of innovation and global footprint.

It has delivered independent opinions, actionable insights, and efficient solutions to over 100,000 customers.

It is majority owned by S&P Global Inc, a leading provider of transparent and independent ratings, benchmarks, analytics and data to the capital and commodity markets worldwide.

About CRISIL Research

CRISIL Research is India's largest independent integrated research house. We provide insights, opinion and analysis on the Indian economy, industry, capital markets and companies. We also conduct training programs to financial sector professionals on a wide array of technical issues. We are India's most credible provider of economy and industry research. Our industry research covers 86 sectors and is known for its rich insights and perspectives. Our analysis is supported by inputs from our large network sources, including industry experts, industry associations and trade channels. We play a key role in India's fixed income markets. We are the largest provider of valuation of fixed income securities to the mutual fund, insurance and banking industries in the country. We are also the sole provider of debt and hybrid indices to India's mutual fund and life insurance industries. We pioneered independent equity research in India, and are today the country's largest independent equity research house. Our defining trait is the ability to convert information and data into expert judgments and forecasts with complete objectivity. We leverage our deep understanding of the macro-economy and our extensive sector coverage to provide unique insights on micro-macro and cross-sectoral linkages. Our talent pool comprises economists, sector experts, company analysts and information management specialists.

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