Assessment of Investor and Issuer Solutions industry across asset classes in India, South East Asia & Hong Kong

March 2022

Argentina | China | Hong Kong | **India** | Poland | Singapore | UK | USA | UAE
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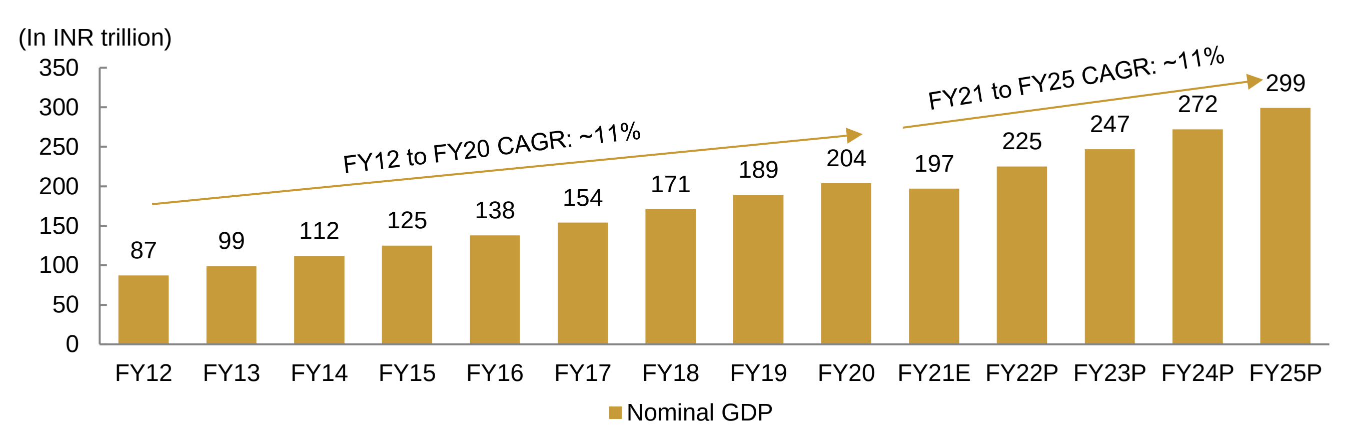
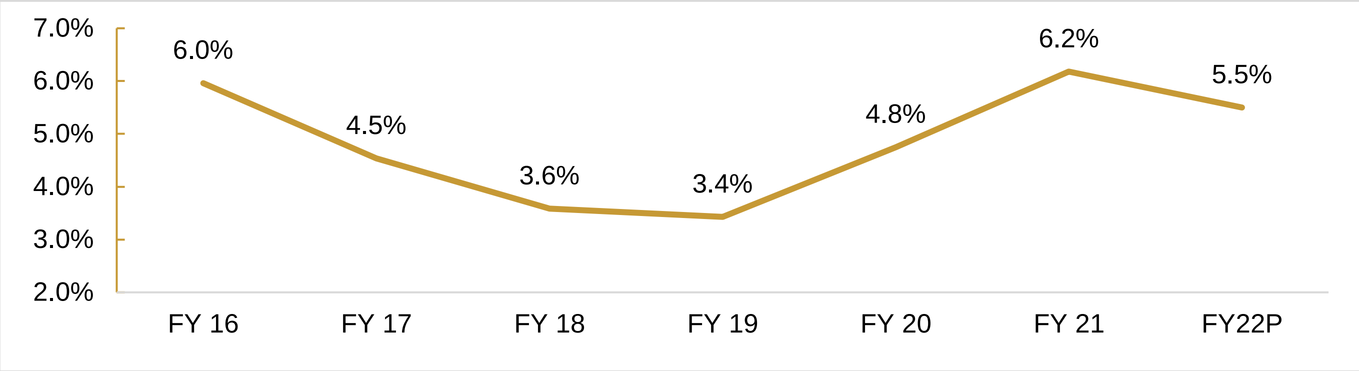


Note: E-Estimated, P – Projected; Source: National Statistics Office (NSO), CRISIL Research estimates

India's nominal gross domestic product ("**GDP**") in Fiscal 2021 is estimated to be USD 2.6 trillion and is projected to grow to approximately USD 4 trillion by end of Fiscal 2025. The National Statistics Office ("**NSO**"), in its advance GDP estimates released in January 2022, forecasted India's real GDP to grow by 9.2% in Fiscal 2022. CRISIL Research forecasts India's real GDP for Fiscal 2022 to grow by approximately 9.2% and 7.8% for Fiscal 2023. In addition, the focus of Union Budget 2022-23 on pushing capital expenditure despite walking a Fiscal tightrope provides optimism and creates a platform for higher growth. The lift in the consumption cycle is now tied to broad based pick-up in economic activity and the Indian government is trying to engineer this through focus on investments. CRISIL Research estimates that this would enhance the growth potential of India's economy and bring endurance to growth in the medium term. However, CRISIL Research expects that refraining from giving a direct consumption support may curb the pace of economy recovery in short term. Further, in December 2021, the Indian government announced a 'precaution dose' for healthcare and frontline workers and senior citizens from January 10, 2022. The vaccination for children in the age group of 15-18 years was also announced from January 3, 2022. As of February 1, 2022, 714 million people have been administered two doses of vaccines. CRISIL believes that with increasing vaccination coverage and reduction in mortality rates, the economy recovery will be faster than envisaged earlier. However, the risk to growth arises from elevated inflation and it could pose a risk to recovery in demand. In addition, this could also lead to major central banks to unwind their extraordinarily easy monetary policies sooner than expected.

Inflation continues to face pressure from high international commodity prices, including edible oils and metals, which are at decadal highs and crude oil prices which remain beyond the comfort zone at over approximately USD 70 per barrel. Recent data has indicated that firms are passing on rising input costs to consumers despite weak demand conditions. CRISIL Research expects the pass-through to gain more steam as domestic demand is expected to strengthen in the second half of Fiscal 2022. CRISIL Research expects food to keep a check on overall inflation, as it had a high base in Fiscal 2021. However, the progress of monsoon and impact of rising global food prices will remain a key monitorable. CRISIL pegs the average consumer price index ("**CPI**") inflation at 5.5% for Fiscal 2022.

Due to higher liquidity push, CPI inflation moved out of target band; expected to decline in Fiscal 2022



Note: P – Projected; Source: National Statistics Office (NSO) and CRISIL Research

Macroeconomic outlook for Fiscal 2023

Macro variables	FY22P	FY23P	Rationale for outlook
GDP (year-on-year (“**y-o-y**”))	9.2*%	7.8%	Lower growth in Fiscal 2023 is expected to be mainly due to the high base of Fiscal 2022. The growth is expected to be supported by investments, largely by the Indian government and certain private entities that are driven by the production linked incentive (“**PLI**”) schemes in India. Consumption is expected to gradually revive.
CPI inflation (y-o-y)	5.5%	5.2%	Inflation is expected to remain elevated at above the midpoint of the Reserve Bank of India’s (“**RBI**”) target of 2-6% for the third year in a row. Firms are expected to pass on cost pressures to a greater extent as domestic demand is expected to strengthen in Fiscal 2023. While higher crude oil price is expected to add pressure, it is expected to be partially offset by lower excise duties on petroleum products relative to Fiscal 2021.
10-year government security yield (Fiscal -end)	6.8%	7.0^%	Increase in gross market borrowing by the Indian government, rate hikes by the RBI and the Federal Reserve System (“**The Fed**”) and surging crude oil price are expected to impose pressure on yields in Fiscal 2023.
Current account balance (“**CAD**”) /GDP (%)	-1.4%	-1.8%	The CAD is expected to slip further into deficit as trade deficit widens, and increase in imports, due to rise in brent crude oil prices and improvement of domestic demand. External demand may not support exports in Fiscal 2023, to the extent supported in Fiscal 2022, due to slow down in global growth.
₹/USD (March average)	75.0	76.0	The Fed’s tapering of its assets purchases and raising of its policy rate are expected to impose downward pressure on the rupee as demand for the dollar increases. Further, widening of the current account deficit will add to the depreciation pressure on the rupee.

*Note: *NSO estimate, ^ with upside risk, P – Projected*
Source: Reserve Bank of India (RBI), National Statistics Office (NSO), CRISIL Research

The geopolitical tensions arising out of ongoing Russia-Ukraine war is likely to have a negative impact on Southeast Asian countries, Hong Kong and Indian economy, due to an increase in global oil prices. Since India is a large consumer of oil, much of which is imported, the impact of higher oil prices is expected to be visible on inflation and the Fiscal situation. The Indian Union Budget for 2022-23 and RBI's announcement on the monetary policy, took place before the ongoing Russia-Ukraine war, and accordingly, did not factor in the impact of increase in crude price. Further, CRISIL Research expects tighter global financial conditions, elevated uncertainty, and risk of weaker global demand to pose a risk to India's economic growth.

GDP to bounce back over the medium term

After clawing back in Fiscal 2022, CRISIL Research forecasts India's GDP to grow at 6.0-7.0% per annum between Fiscals 2023 and 2025. This growth is expected to be supported by the following factors:

- Focus on investments rather than consumption thereby enhancing the productive capacity of the Indian economy;
- The PLI scheme, which aims to incentivize local manufacturing by giving volume-linked incentives to manufacturers in specified sectors
- Raft of reform measures by the Indian government along with a more expansionary stance of monetary policy leading to a steady pick-up in consumption demand; and
- Policies aimed towards greater formalization of the economy, which are expected to accelerate the per capita income growth

Union Budget 2022-23 turns expansionary with an eye on medium term

The Union Budget 2022-23 bet big on an investment push to lift economic growth, two years and three waves into the COVID-19 pandemic. The idea is to push the growth multiplier rather than stoke consumption through direct budgetary support. For Fiscal 2023, the Indian government's revenue expenditure is budgeted to grow less than 1% after growing 2.7% in Fiscal 2022. The total capital expenditure ("**capex**") of the Indian government, that includes budgetary capex, revenue grants for capital creation and capex by central public sector enterprises, is budgeted to rise 14.5% in Fiscal 2023 as compared to 3.1% in Fiscal 2022. Thus, the Indian government has tightened the belt around revenue expenditure and frontloaded infrastructure spending that is expected to lead to faster economic growth.

Among the sectors, infrastructure continues to be in the bright spot with a 30% hike in budgetary support. In addition, railways, water and green energy has also received strong impetus. If there is an overarching picture, it is that the Union Budget 2022-23 sets the tone for much-needed infrastructure growth for the next three to four years. That is expected to help sustain development and create jobs. Nevertheless, implementation, which is crucial, remains the elephant in the room. The Union Budget 2022-23 also tries to lift the medium-term growth potential through a sharper focus on financial sector reforms such as:

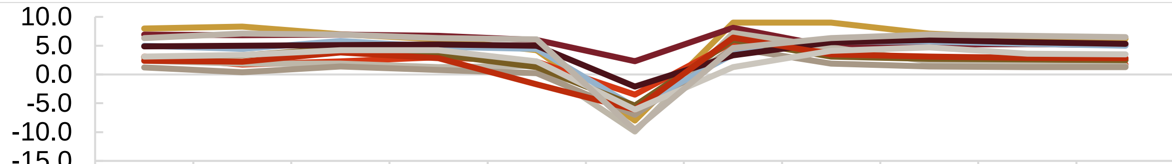
- **Deepening Financial Inclusion:** In another progressive step for the financial sector, the Indian government, in the Union Budget 2022-23, also announced its intention to add 0.15 million post offices to the core banking system to enable financial inclusion and access to accounts through net and mobile banking, and automated teller machines ("**ATMs**") and provide online fund transfers between post office and bank accounts; and

- **Extending ECLGS:** The allocation under Emergency Credit Line Guarantee Scheme ("**ECLGS**") has been increased from ₹ 4.5 trillion to ₹ 5.0 trillion and the timeline for sanctions has been extended to March 2023. However, the enhancement of ₹ 500 billion is earmarked exclusively for hospitality and related enterprises, which have been impacted the most due to the COVID-19 pandemic.

India's GDP to recover sharply

India was one of the fastest growing economies in the world pre-COVID-19, with an annual growth of around 6.7% between calendar years 2014 and 2019. However, while the economic growth in calendar year 2020 had been dented due to COVID-19 pandemic, CRISIL expects the economy to rebound and India to regain its tag of one of the fastest growing economies globally in the medium-term. Going forward, International Monetary Fund ("**IMF**") forecasts India's GDP to grow at a faster pace than other economies.

India is one of the fastest-growing major economies (GDP growth, % year-on- year)



	2015	2016	2017	2018	2019	2020	2021	2022 P	2023 P	2024 P	2025 P
India	8.0	8.3	7.0	6.1	4.2	-8.0	9.0	9.0	7.1	6.3	6.2
China	6.9	6.8	6.9	6.7	6.0	2.3	8.1	4.8	5.2	5.2	5.1
United States	3.1	1.7	2.3	3.0	2.2	-3.5	5.6	4.0	2.6	1.7	1.7
United Kingdom	2.4	1.9	1.9	1.3	1.5	-9.9	7.2	4.7	2.3	1.6	1.5
South Africa	1.2	0.4	1.4	0.8	0.2	-7.0	4.6	1.9	1.4	1.3	1.3
Malaysia	5.0	4.5	5.8	4.8	4.4	-5.6	3.5	5.7	5.7	5.3	5.0
Singapore	3.0	3.3	4.5	3.5	1.3	-5.4	6.0	3.1	2.7	2.6	2.5
Indonesia	4.9	5.0	5.1	5.2	5.0	-2.1	3.3	5.6	6.0	5.6	5.3
Hong Kong	2.4	2.2	3.8	2.8	-1.7	-6.1	6.4	3.5	3.1	2.9	2.8
Thailand	3.1	3.4	4.2	4.2	2.3	-6.1	1.3	4.1	4.7	3.6	3.5
Philippines	6.3	7.1	6.9	6.3	6.1	-9.6	4.6	6.3	6.9	6.7	6.5

Note: All forecasts refer to IMF forecasts. GDP growth is based on constant prices, Data represented is for calendar years, P: Projected

Source: IMF (World Economic Outlook – January 2022 update)

Key downside risks to the global outlook

1. The war between Russia and Ukraine could dent the incipient global recovery and result in a further spike in oil and commodity prices, thereby exacerbating already existing inflationary pressures. While recovery in global economies is visible, the current war between Russia and Ukraine poses a significant risk to global growth.
2. Emergence of new COVID-19 variants.
3. Vaccine access and spread: While vaccination programs across the globe are underway, lower than expected rate of vaccination remains a key monitorable.

Macroeconomic outlook for Southeast Asia and Hong Kong

Singapore

The Singaporean economy logged its worst contraction in calendar year 2020 as an outbreak of COVID-19 pushed the city-state into recession. However, sizeable headroom for the Singaporean government to spend and provide support to the segments that had been hit by COVID-19 and robust economic framework enabled the authorities to mount a coordinated, comprehensive response with the fiscal policy acting as a first line of defense. As a result, worse outcomes were prevented and real GDP, which contracted by 5.4% in calendar year 2020, is expected to have expanded by 6% in calendar year 2021. Over the medium term, IMF projects the growth to converge to 2.5%, subject to uncertainty arising out of unknown trajectory of the COVID-19 pandemic, both locally and globally. Over the medium to long term, higher government spending directed towards infrastructure, aging related outlays, climate change, push towards digitization, favorable policies (taxes and benefits payment) for reducing economic inequality and rising labor force participation rate is expected to boost consumption and support growth for the Singaporean economy.

Malaysia

Malaysia's economy entered the COVID-19 pandemic from a strong position owing to its strong fiscal, monetary and financial policy response, which helped cushion the economic shock from the COVID-19 pandemic and ensured financial stability. In calendar year 2021, the manufacturing and construction sector rebounded sharply, and it is expected to have caused the Malaysian economy to grow by 3.5% on year. Over the long term, policy support and government reforms for realizing the shared prosperity vision 2030 ("SPV 2030") is expected lead a GDP growth of 5.4% between calendar years 2021 and 2025.

Thailand

Due to the outbreak of COVID-19 pandemic in calendar year 2020, Thailand registered negative GDP growth owing to weak domestic demand, coupled with subdued global economy that contributed to weak headline and core inflation throughout the year. However, in calendar year 2021, the GDP growth rate is expected to have reached 1% led by a gradual recovery in domestic demand and goods export. The drag on tourism is expected to continue due to uncertainty around vaccine rollouts and full resumption of global travel. However, between calendar years 2021 and 2025, IMF has projected Thailand's economy to grow at compound annual growth rate ("CAGR") of 4.0%, riding on back of fiscal support focused on speeding up of public investment and protecting the vulnerable though social transfer schemes. Further, reduced dependence on contact intensive sectors, foreign travel and addressing long-standing structural issues such as limited digital infrastructure in Thailand and reliance on traditional channels such as agents and brokers to invest, combined with training and educational outcomes is also expected to promote innovation and catalyze digital transformation and mitigate the possible long term economic damage from the COVID-19 pandemic.

Indonesia

The Indonesian economy rebounded in calendar year 2021 despite moderations due to the wave of Delta variant of COVID-19 between June and August 2021.This led to growth slowing down to 3.5% y-o-y in the third quarter of calendar year 2021 after accelerating to 7.1% in the previous quarter. Exports and manufacturing activities remained relatively buoyant compared to mid-calendar year 2020 when restrictions were tighter and external demand and commodity prices were weaker. According to IMF, Indonesia's economy is projected to at a CAGR of 5.6% between calendar years 2021-2025, led by strong policy response, increased public investment and COVID-19 vaccine distribution plans. Structural measures such as adoption of the Omnibus Law for Job Creation and the Tax Harmonization Law is also expected to address the competitiveness gaps in infrastructure, health and attractiveness to foreign investments, which would lead to improvement in business environment and spur growth in the Indonesian economy.

Philippines

The Philippines economy showed signs of recovery in calendar year 2021, after the COVID-19 pandemic induced economic downturn in calendar year 2020, which led to GDP contraction of 9.6%. As domestic restrictions eased, real GDP rebounded from contraction of 1.4% quarter on quarter in the second quarter of calendar year 2021 to growth of 3.8% in the third quarter of calendar year 2021, leading to a growth of 3.2% for the full year.

Going forward, IMF has projected the Philippines' economy to grow at 6.3% in calendar year 2022. With the economic recovery on track, rebound in investment and a more expansionary policy stance, Philippines GDP is projected to grow at a CAGR of 6.6% between calendar years 2021 and 2025. Over the medium term, rebuilding fiscal space to prepare and respond to potential future shocks will also be important for the economy. Further, structural reforms such as formation of Corporate Recovery and Tax Incentives for Enterprises ("CREATE") and efficient implementation of Financial Institutions Strategic Transfer ("FIST") law is also expected to improve investment in Philippines.

Hong Kong

Hong Kong's economy expanded by 5.4% y-o-y in real terms in the third quarter of calendar year 2021, after an increase of 7.6% y-o-y in the previous quarter. Considering the actual growth in the first three quarters of calendar year 2021, Hong Kong is expected to have grown by 6.4% in 2021. Further, IMF has projected Hong Kong's real GDP growth to be around 3.5% in 2022. However, the Hong Kong government's sudden tightening of restriction on travel and social activity in response to the threat of an outbreak of the Omicron variant of COVID-19 highlights the risks to Hong Kong's economy and credit metrics that further waves of COVID-19 virus may pose if the government continues to adhere strictly to its "Zero Covid" approach. Further, IMF projects GDP growth to moderate below 3% by calendar year 2025 due to structural headwinds such as aging of population. However, faster than expected border opening could lead to stronger recovery in private consumption. Further, a faster than expected development of global recovery could lead to stronger export growth than currently envisaged, which could further improve medium and long-term growth prospects.

GDP growth of Southeast Asian Countries and Hong Kong

Country	2019	2020	2021P	2022P	2023P	2024P	2025P	2021-25 CAGR	2021 GDP (in USD Bn)
Singapore	1.3%	-5.4%	6.0%	3.1%	2.7%	2.6%	2.5%	2.7%	361
Hong Kong	-1.7%	-6.1%	6.4%	3.5%	3.1%	2.9%	2.8%	3.1%	370
Malaysia	4.4%	-5.6%	3.5%	5.7%	5.7%	5.3%	5.0%	5.4%	348
Thailand	2.3%	-6.1%	1.3%	4.1%	4.7%	3.6%	3.5%	4.0%	311
Indonesia	5.0%	-2.1%	3.3%	5.6%	6.0%	5.6%	5.3%	5.6%	775
Philippines	6.1%	-9.6%	4.6%	6.3%	6.9%	6.7%	6.5%	6.6%	367
Total									2,352

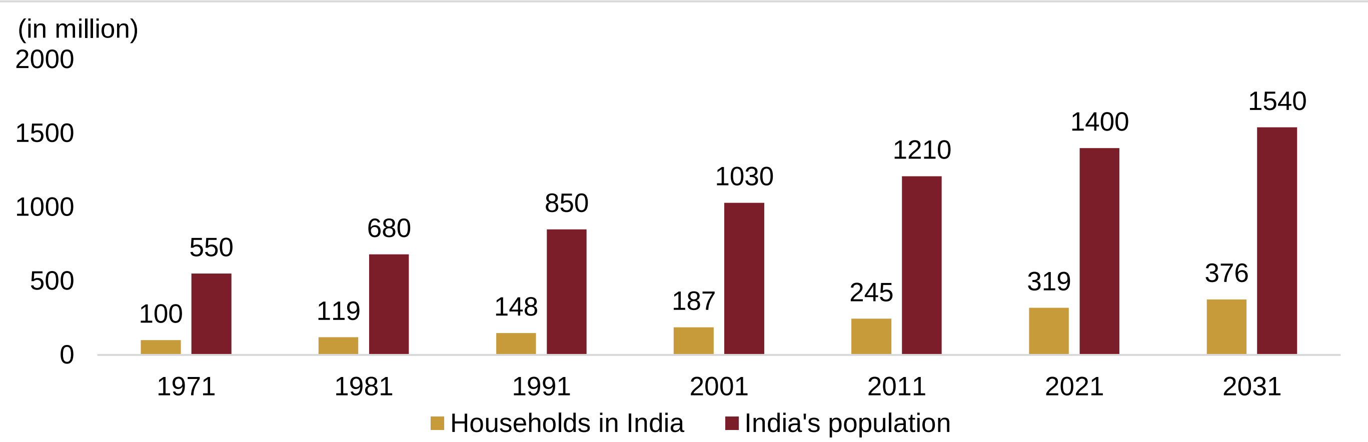
Note: P: Projected. Source: IMF, CRISIL Research

Key macro growth drivers

India has world's second largest population

As per Indian Census 2011, India's population was approximately 1.2 billion, and comprised nearly 245 million households. The population had increased by approximately 11% between calendar years 2011 and 2021, reaching approximately 1.4 billion. By the end of calendar year 2031, India's population is expected to reach 1.5 billion and the number of households are expected to reach approximately 376 million.

India's population and household growth trajectory

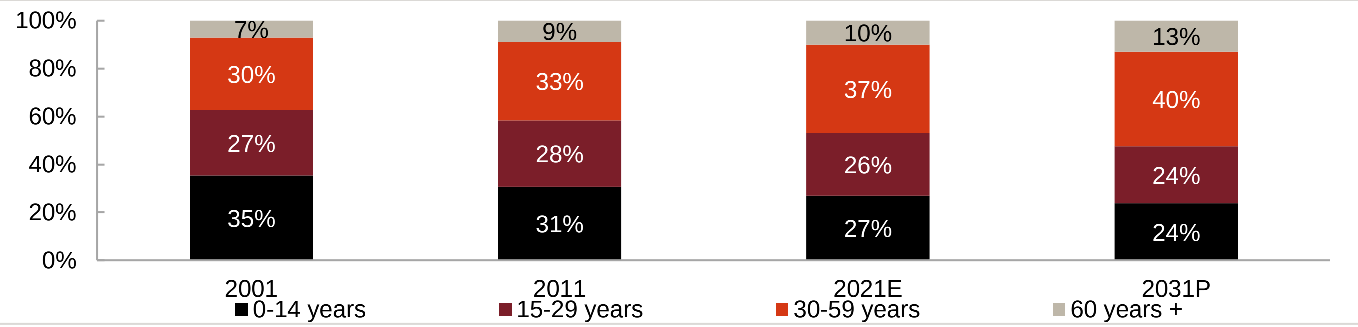


Note: P: Projected; Source: United Nations Department of Economic and Social affairs, Census India, CRISIL Research

Favorable demographics

As of calendar year 2020, India has one of the largest young populations in the world, with a median age of 28 years. CRISIL estimated that approximately 90% of Indians were still be below the age of 60 by calendar year 2021 and that 63% of them were between 15 and 59 years. In comparison, in calendar year 2020, the population of United States of America ("U.S."), China and Brazil below the age of 60 was 77%, 83% and 86%, respectively.

India's demographic dividend



Note: E: Estimated, P: Projected; Source: United Nations Department of Economic and Social affairs, CRISIL Research

Increasing per capita GDP

CRISIL forecasts that the per capita income will gradually improve with a pick-up in GDP growth, enabling domestic consumption between fiscals 2021 and 2025. As per IMF estimates, India's per capita income (at constant prices) is expected to grow at a CAGR of 6.2% between Fiscals 2021 and 2025.

Per capita income	Level in FY21 (₹ thousands)		Growth at constant prices (%)									
	Current prices	Constant prices	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21 E	FY25P
	146	100	3.3	4.6	6.2	6.7	6.8	5.7	5.8	2.9	-8.0	6.2*

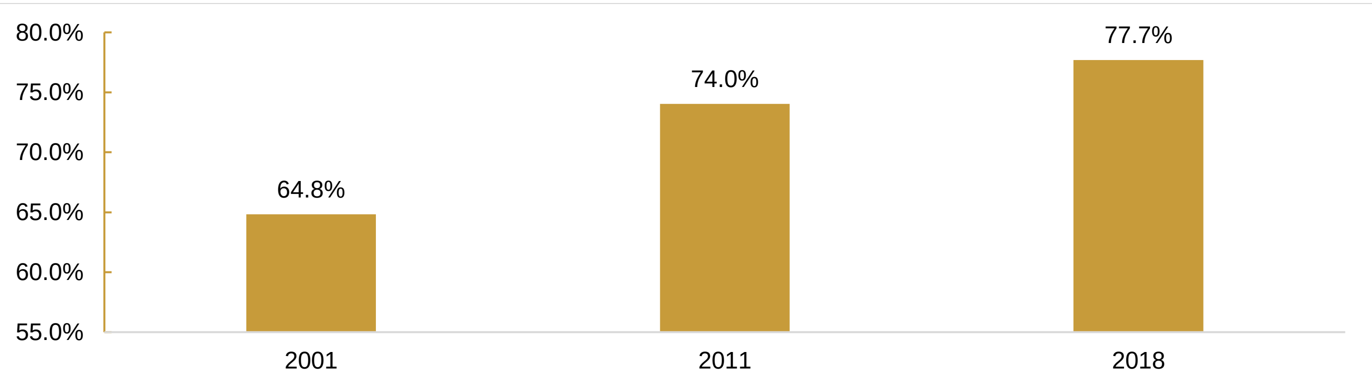
Note – E: Estimated, (*) - 4-year CAGR growth (FY21-FY25), As per IMF estimates of April 2021

Source – Ministry of Statistics and Program Implementation (MOSPI), International Monetary Fund (IMF), CRISIL Research

Financial penetration to rise with increase in awareness of financial products

As per the results of the National Statistical Office survey conducted from July 2017 to June 2018, the overall literacy in India is at 77.7%, which is still below the world literacy rate of 86.5%. However, according to the National Financial Literacy and Inclusion Survey ("NCFE-FLIS") 2019, only 27% of Indian population is financially literate indicating a huge gap and potential for the financial services industry.

Overall literacy rate on the rise in India



Source: Census 2011, NSO Survey on household social consumption (2017-18),CRISIL Research

With increasing financial literacy, mobile penetration, awareness, and the Prime Minister's Jan Dhan Yojana bank accounts, a scheme aimed at bringing the unbanked under the formal banking system, there has been a rise in the participation of individuals from non-metro cities in banking. With more people joining the formal banking sector, the demand for financial products in smaller cities has seen a major uptick in recent years. Going forward, CRISIL expects financial penetration to increase on account of increasing financial literacy.

Digitization, aided by technology to play a pivotal role in growth of economy

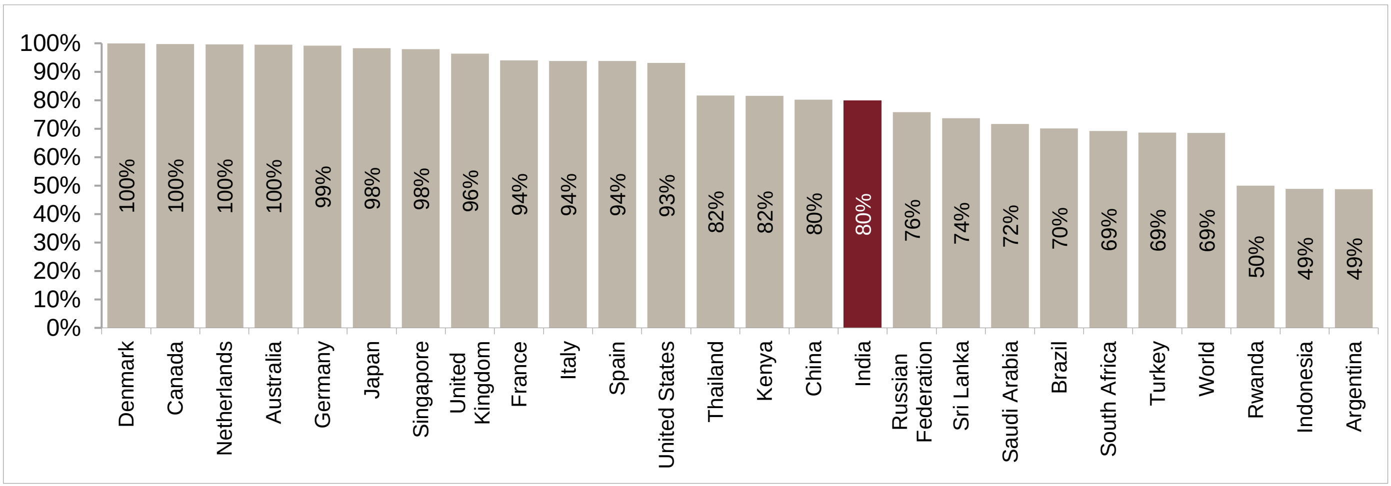
Technology is expected to play an important role by progressively reducing the cost of reaching out to smaller markets. India has seen a tremendous rise in financial technology ("fintech") adoption in the past few years and has the highest fintech adoption rate globally of 87%, which is significantly higher than the global average rate of 64% in September 2021 (Source: InvestIndia). This is expected to lead to faster and cheaper reach of financial services in the remote areas of India and is expected to bring more people under the financial fold.

Key structural reforms: Long-term positives for the Indian economy

Financial inclusion

According to the World Bank's Global Findex Database 2017, the global average of adult population with an account opened with a bank, financial institution or mobile money provider, was approximately 69% in calendar year 2017. India's financial inclusion has improved significantly over calendar years 2014 to 2017 as adult population with bank accounts increased from 53% to 80% (Source: Global Findex Database) due to the Indian government's concentrated efforts to promote financial inclusion and the proliferation of supporting institutions.

Adult population with a bank account (%): India vis-à-vis other countries



Note: 1. Global Findex data for India excludes northeast states, remote islands and selected districts. 2. Account penetration is for the population within the age group of 15+; Source: World Bank - The Global Findex Database 2017, CRISIL Research

Key initiatives launched by the Indian government to promote financial inclusion are the Pradhan Mantri Jan Dhan Yojana ("**PMJDY**"), Pradhan Mantri Jeevan Jyoti Bima Yojana (**"PMJJBY"**) and the Pradhan Mantri Suraksha Bima Yojana ("**PMSBY**").

Goods and service tax ("GST") implementation

Introduced on July 1, 2017, GST is an indirect tax regime that subsumed multiple cascading taxes levied by the Indian central and state Governments. The GST regime has been stabilizing fast and is expected to bring more transparency and formalization, eventually leading to higher economic growth.

Insolvency and Bankruptcy Code ("IBC"), a key long-term structural positive

IBC is a reform that is expected to structurally strengthen the identification and resolution of insolvency in India. IBC is expected to enhance investors' confidence when investing in India. Internationally, recovery rates have improved significantly after the implementation of bankruptcy reforms as follows:

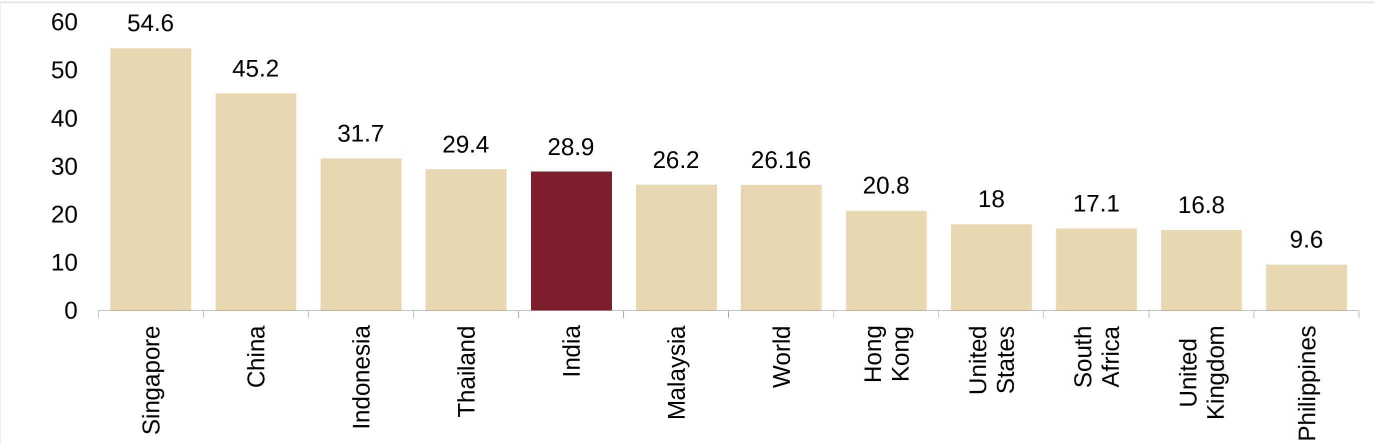
Country	Year of bankruptcy reform	Pre-reforms		Five years post-reforms	
		Recovery rate (%)	*Time (years)*	*Recovery rate (%)*	*Time (years)*
Brazil	2005	0.2	10.0	17.0	4.0
Russia	2009	28.2	3.8	42.8	2.0
China	2007	31.5	2.4	36.1	1.7
India	2016	26.0	4.3	43*	1.6*

*Note: * As of 2019; Source: World Bank, CRISIL Research*

Household savings to increase

According to the World Bank, the savings rate, or the proportion of gross domestic savings ("**GDS**") in GDP in the Indian economy has trended down in the past decade. India's GDS peaked at 36.8% of GDP in Fiscal 2008 and dipped to 32% in Fiscal 2009. That was largely on account of a sharp slowdown in public savings, with the government resorting to fiscal stimulus to address the external shock from the global financial crisis. However, India's domestic savings was still higher at 28.9% as compared to the world average of 26.16% at end of calendar year 2020.

India's domestic savings is higher than the world average (in %) (calendar year 2020)



Note: The savings rate is in %; Source: World Bank, CRISIL Research

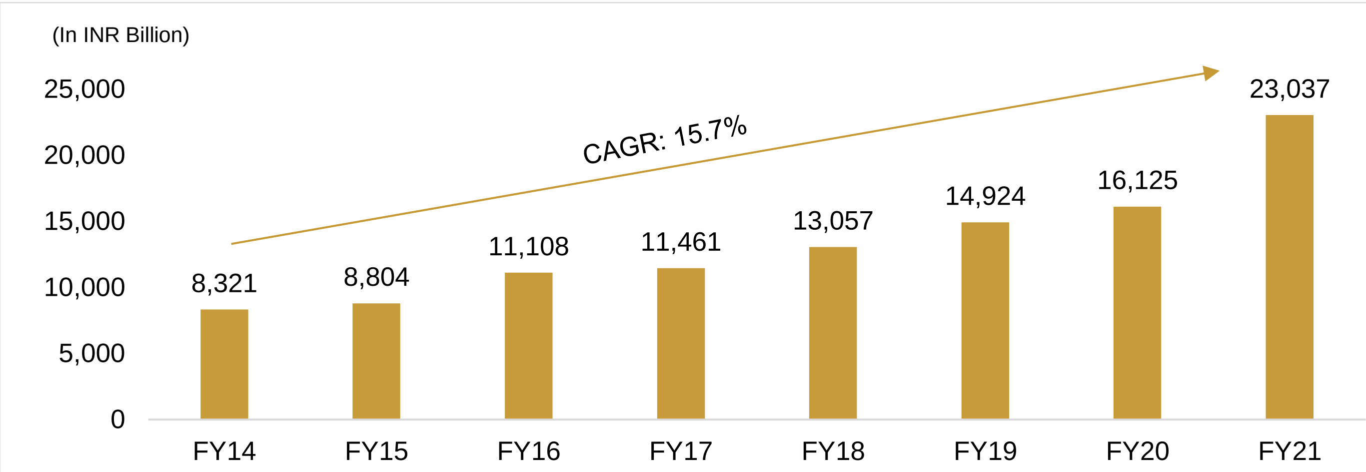
CRISIL Research expects India to continue being a high savings economy at least over the next decade. CRISIL Research expects household savings to increase further on account of an expected decline in discretionary spending during the COVID-19 pandemic. CRISIL Research is also sanguine on the savings rate increasing in the medium term, as households become focused on creating a nest egg for the future post the COVID-19 pandemic-induced uncertainty. Further, according to the Securities and Exchange Board of India ("**SEBI**"), during Fiscal 2021, until the third quarter, the household financial savings deployed in securities market had grown significantly to 1.2% of GDP as compared to 0.3% earlier. Going forward, if the amount of savings deployed in securities market sustained, it is expected to boost the capital markets and economy.

Gross domestic savings trend

Parameters (₹billion)	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21
GDS	36,082	40,200	42,823	48,251	54,807	60,003	59,959	55,924
Household sector savings (net financial savings, savings in physical assets and in the form of gold and silver ornaments)	22,853	24,391	24,749	27,871	32,966	38,446	39,291	43,906
Gross financial savings	11,908	12,572	14,962	16,147	20,564	22,636	23,991	31,089
Financial liabilities	3,587	3,768	3,854	4,686	7,507	7,712	7,866	8,052
Net financial savings	8,321	8,804	11,108	11,461	13,057	14,924	16,125	23,037
Savings in physical assets	14,164	15,131	13,176	15,946	19,442	23,094	22,735	20,484
Savings in the form of gold and silver ornaments	368	456	465	465	467	427	431	384

Note: The data is for financial year ending March; Physical assets are those held in physical form, such as real estate, etc.
Source: MOSPI, National Accounts Statistics, CRISIL Research

Net Household Financial savings growth

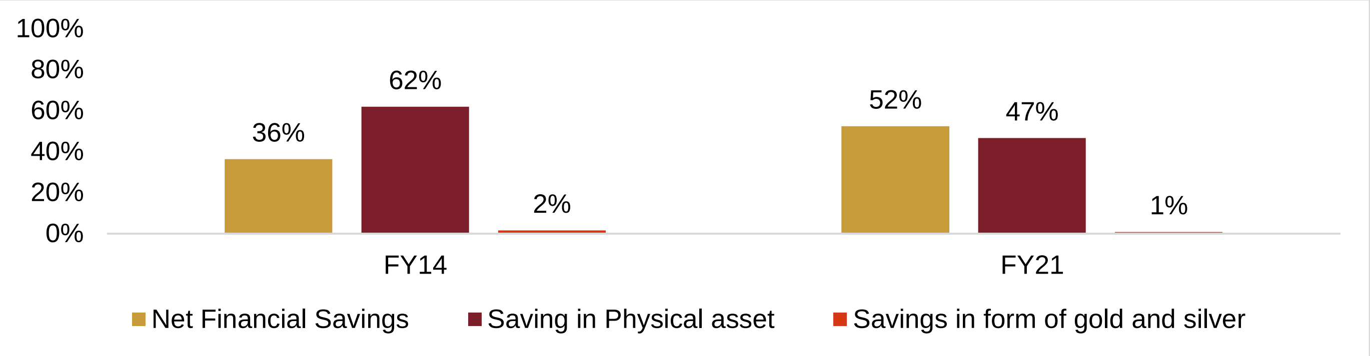


Note: The data is for financial year ending March; Net Household Financial Savings= Gross Financial savings – Financial Liabilities, Source: MOSPI, CRISIL Research

Capital markets to remain attractive part of financial savings

Between Fiscal 2014 and Fiscal 2021, the net financial savings increased at a CAGR of approximately 15.7% as compared to approximately 5.4% for saving in physical assets between the same period. This led to a decline in household savings in physical assets from 62% in Fiscal 2014 to 47% in Fiscal 2021. During the same period, financial savings grew from 36% to 52%. Along with an increase in financial literacy, the relative outperformance of financial assets over recent years, and the Indian government's efforts to fight the shadow economy, CRISIL Research expects the share of financial assets as a proportion of net household savings to increase over the next five years. The rise in financial assets is expected to further boost the financial investments under mutual funds ("**MFs**"), equity, pension schemes, insurance and alternate assets.

Share of net financial savings increased from 36% in FY14 to 52% in FY21



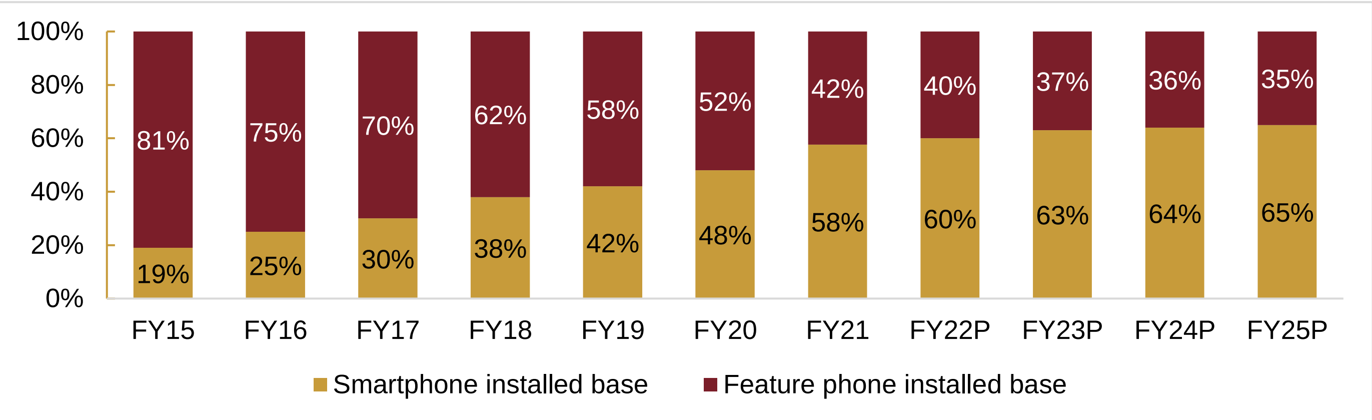
Note: The data is for financial year ending March; Source: Handbook of Statistics on Indian Economy 2018-19, RBI, MOSPI, CRISIL Research

Digitization to support economic growth and financial services

Technology is expected to play a pivotal role in taking the financial sector to the next level of growth, by helping to surmount challenges stemming from India's vast geography, which makes physical footprints in smaller locations commercially unviable. Technology is conducive for India, considering its demographic structure where the median age is 28 years.

Mobile penetration: Higher mobile penetration, improved connectivity, and faster and cheaper data speed, supported by Aadhaar and bank account penetration have led India to shift from being a cash-dominated economy to a digital one.

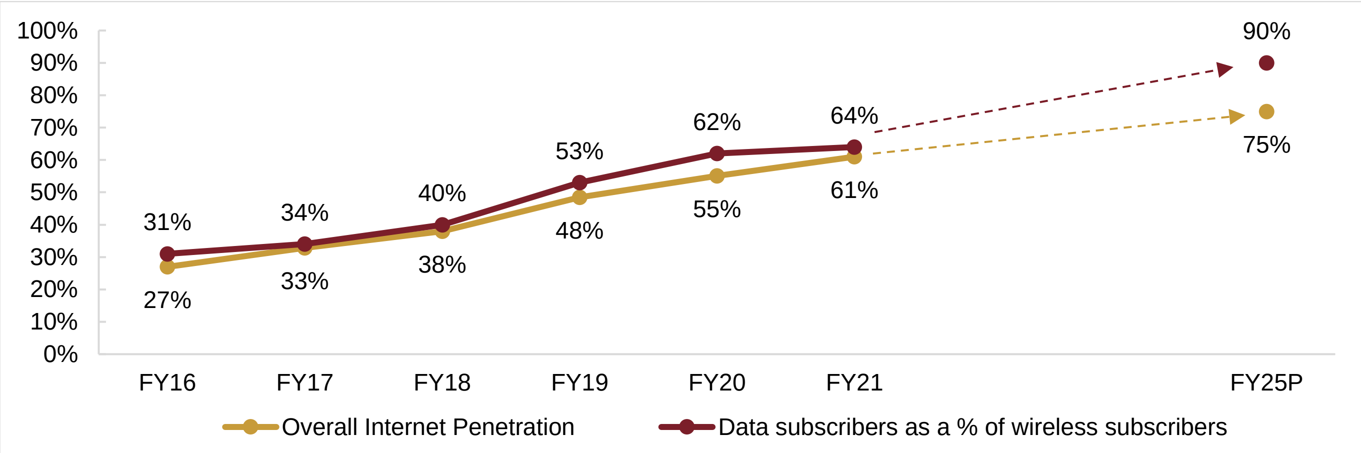
Data-savvy and younger users to drive adoption of smartphones



Note: P: Projected; Source: CRISIL Research

Internet penetration: India has witnessed a dramatic surge in internet users, fueled largely by cheaper smartphones and 4G connectivity. The internet penetration, as a percentage of total population, was approximately 60% in Fiscal 2021 compared to less than 30% in Fiscal 2016. CRISIL expects the total number of internet subscribers in India to increase from 795 million as of December 31, 2020, to 1,000 million in Fiscal 2025, resulting in internet penetration of approximately 75%. In calendar year 2021, Internet penetration in urban areas has crossed 100% and in rural areas, the penetration is still below 40%. However, the number of data subscribers in rural areas almost tripled to 308 million subscribers as of December 31, 2020, compared to 111 million subscribers as of March 31, 2016. *(Source: TRAI)*

Internet penetration continues to increase

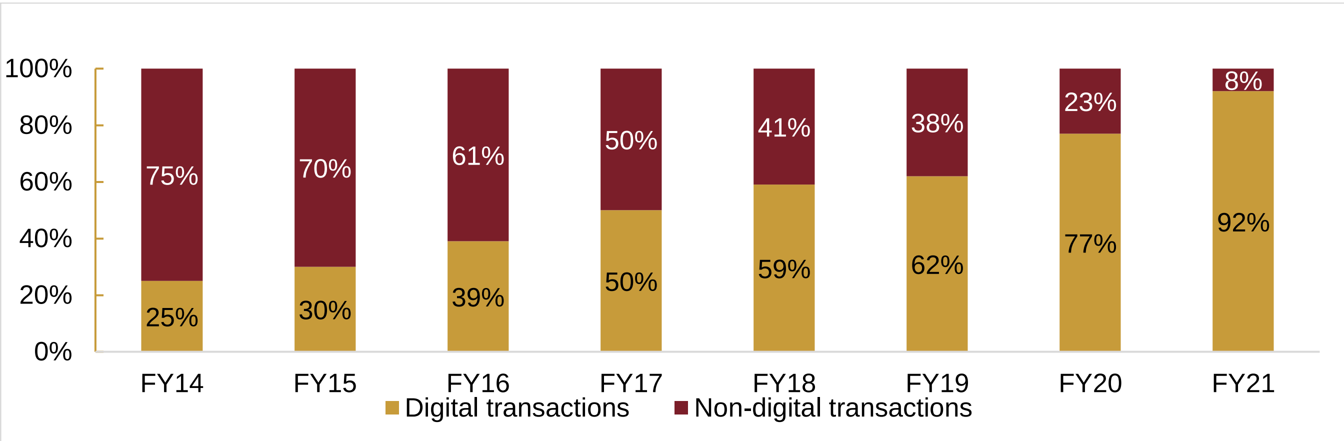


Note: P: Projected; Source: Telecom Regulatory Authority of India (TRAI), CRISIL Research

Increasing share of digital channels in domestic monetary transactions

Change in customer behavior favoring digital channels was led by demonetization when cash transactions slowed down and many new accounts were opened. Post-COVID-19, it further gain prominence due to avoidance of contact. The preference has also shifted from cost factors to convenience and ease of performing transactions, as it helps in saving time spent in queues and does not disturb the daily working hours.

Transactions in volume terms



Note: P: Projected; Digital transactions includes RTGS – excluding interbank clearing, ECS, NEFT, IMPS, NACH, cards and prepaid instruments; non-digital transactions include cheques/paper clearing and ATM transactions.

Source: RBI, CRISIL Research

Overview of Indian Market Infrastructure Institutions and Key Intermediaries

SEBI recognizes various organizations as market infrastructure institutions ("**MIIs**") and intermediaries which perform various activities for smooth functioning of capital markets. In any transaction, various entities that are involved act as an interface between companies and investors to perform different transactions in capital markets. SEBI has categorized stock exchanges, clearing corporations and depositories as MIIs since these are 'systemically important institutions', as they provide, among other things, infrastructure necessary for the smooth and uninterrupted functioning of the securities market. Further, SEBI has also categorized various other entities as intermediaries. Each market intermediary plays its role in a transaction based on the rules that are made by SEBI to ensure seamless execution of transactions and transfer of funds. These intermediaries are independent of one another and together create an ecosystem in which the financial market exists and play a leading role owing to their technological know-how and infrastructure, scale and track record. These intermediaries consist of various types of funds, asset managers, distributors, brokers, advisors that market their products and services to end-investor, as well as intermediaries which provide various products and services to the entities aforementioned entities and/or issuer of securities such as registrar and transfer agents, credit rating agencies and know your customer ("**KYC**") registration agency ("**Key Intermediaries**"). As a result of established client relationships, importance of scale as also technology and infrastructure, track record of deliveing services, and stricter compliance to regulations, CRISIL Research has observed that the MIIs and Key Intermediaries are characterized by the presence of a few scaled up players with high market share and margins.

In the paragraphs below, CRISIL has detailed the role performed by each of these MII and Key Intermediaries and given a snapshot of their revenues and profitability

Stock Exchanges

Stock Exchange is a vital component of capital markets and it facilitates the transaction between traders of financial instruments and targeted buyer. It is a platform where buyers and sellers come together to trade during the specific hours of business, while adhering to the guidelines defined by SEBI.

The list of exchanges and the segments permitted is provided below:

Exchanges	Segments Permitted
Bombay Stock Exchange (BSE)	Equity, equity derivatives, currency derivatives (including interest rate derivatives), commodity derivatives, debt
India International Exchange (India INX)	Equity derivatives (equity index derivatives and single stock derivatives), commodity derivatives, currency derivatives, debt
Indian Commodity Exchange (ICEX)	Commodity derivatives
Metropolitan Stock Exchange of India	Equity, equity derivatives, currency derivatives (including interest rate futures), debt
Multi Commodity Exchange of India (MCX)	Commodity derivatives

Exchanges	Segments Permitted
National Commodity & Derivatives Exchange (NCDEX)	Commodity derivatives
National Stock Exchange (NSE)	Equity, equity derivatives, currency derivatives (including interest rate derivatives), commodity derivatives, debt
NSE IFSC	Equity derivatives (equity index derivatives and single stock derivatives), commodity derivatives, currency derivatives, debt securities (masala bonds)

Source: SEBI, CRISIL Research

Clearing Corporations

Clearing corporations are established to ensure that the settlement of trades and transactions happen without any counterparty risk by acting as a buyer to every seller and a seller to every buyer, thereby guaranteeing the delivery of shares and ensuring total transparency in buying and selling of securities. According to SEBI, there are five clearing corporations in India, namely, Indian Clearing Corporation Limited ("ICCL"), Metropolitan Clearing Corporation of India Limited ("MCCIL"), The Multi Commodity Exchange Clearing Corporation Limited ("MCECCL"), National Commodity Clearing Limited ("NCCL"). and NSE Clearing Limited ("NCL").

Depository

Depositories are entities that hold all the records of all securities in an electronic form and offer dematerialized ("demat") accounts to individuals, where they store their securities and is a proof of ownership of an investor in a particular company. In India, there are two Depositories, namely, National Securities Depository Limited ("NSDL") and Central Depository Services Limited ("CDSL").

Registrar and Transfer Agents (RTAs)

Registrar and transfer agents are agencies that record and maintain a complete record of transaction of investors for the benefit of mutual fund houses or listed entities In India, Computer Age Management Systems ("CAMS"), Kfin Technologies Limited ("KFintech") and Link Intime are qualified RTAs ("QRTAs") which are responsible for the various activities such as:

Registrar to an issue – The registrar to an issue is responsible for collection of applications from investors with respect to an issue, proper maintenance of applications and assisting the corporate body in terms of determining the basis of allotment of securities, finalizing the list of persons entitled to allotment of securities, processing and dispatching allotment letters and executing other related documents in respect of the issue.

For mutual funds – The RTAs act as a mediator or agent between investors and asset management companies ("AMCs") and generate various statements such as portfolio valuation statements, transaction details of a folio and KYC verification of investors and is critical for functioning of other market intermediaries as well.

An investor can also place the following service request with an RTA:

- Cancellation or stoppage request of an ongoing systematic investment plan ("SIP"), systematic transfer plan ("STP") or systematic withdrawal plan ("SWP")
- Change in bank mandate and updating of records

- Redemption of mutual fund units

For AIFs – The RTAs provide the following services:

- Investor servicing
- Fund accounting
- KYC services

In India, CAMS and KFintech are the two qualified mutual fund RTAs, and CAMS and KFintech also extend services to AIFs. CAMs and KFintech's extensive branch network, technological capability and deep knowledge of the market help the AMCs service their investors efficiently and focus on their core business function. The economies of scale developed by RTAs along with their asset light business model have helped them to enhance offerings to multiple stake holders at minimal extra costs, leading to stable revenue growth and high EBITDA margins.

Credit Rating Agencies ("Credit Agencies")

Credit rating agencies ("Credit agencies") are entities that assess the financial strength of private and government entities, especially their ability to meet principal and interest payments on their debt. The rating, thus assigned to a given debt shows an agency's level of confidence that the borrower will honor its obligation. Accordingly, credit agencies play a critical role of investor protection against any malpractices and misinformation.

Currently, there are seven credit rating agencies in India:

1. Credit Rating Information Services of India Limited ("CRISIL")
2. Investment Information and Credit Rating Agency of India ("ICRA")
3. Credit Analysis and Research Limited ("CARE")
4. India Ratings and Research Private Limited
5. ACUITE Ratings and Research
6. Brickwork Ratings India Private Limited
7. Infomerics Valuation and Ratings Private Limited

KYC Registration Agency ("KRA")

KYC registration agency is an agency whose primary role is to maintain KYC records of investors centrally, on behalf of other capital market intermediaries. Introduced to bring uniformity and to eliminate duplication of KYC process, KRAs are registered with SEBI. Currently, there are five different KYC registration agencies in place to help the investors, namely CAMS Investor Services Private Limited ("CISPL"), NSE Data & Analytics Limited (formerly Dotex International) ("NDAL"), Karvy Data Management Services Limited ("KDMSL"), NSDL Database Management Limited ("NDML") and CDSL Ventures Limited ("CVL").

Financial snapshot of various MIIs and Key Intermediaries for Fiscal 2021

MIIs and Key Intermediaries have a financial profile generally characterized by high profitability and operating margins as specified below:

Segment	Players	Revenue from Operations (in ₹. Million)	Net Income (in ₹. Million)	EBITDA Margin (%)	PAT Margin (%)	Adjusted PAT Margin (%)
Stock Exchanges	National Stock Exchange (NSE)	56,248	35,734	76%	58%	58%
	Bombay Stock Exchange (BSE)	5,014	1,417	63%	22%	22%
	Multi Commodity Exchange of India (MCX)	3,906	2,252	80%	46%	46%
	National Commodity & Derivatives Exchange (NCDEX)	1,127	-146.3	1%	-10%	-10%
Clearing Corporations	NSE Clearing Limited	5,017	2,013	72%	36%	36%
	Multi Commodity Exchange Clearing Corporation	869	373	46%	43%	43%
	Indian Clearing Corporation	652	227	53%	28%	28%
	National Commodity Clearing Limited	120	-5.5	6%	-2%	-2%
Depository	National Securities Depository Limited	4,658	1,885	50%	36%	36%
	Central Depository Services Limited	3,437	2,012	87%	50%	50%
Registrar and Transfer agents	CAMS	7,055	2,052	44%	28%	28%
	KFintech	4,811	-645	45%	-13.3%	23.5%*
	Link Intime$	970	51.3	29%	4.2%	4.2%
Credit Rating Agencies	ICRA Limited	3,011	826	36%	24%	24%
	CRISIL Ratings #	2,598	260	52%	38%	38%
	CARE Ratings	2,484	909	45%	33%	33%
	Brickwork	625	304	51%	38%	38%
KYC Registration Agency	NDAL	1,376	632	67%	46%	46%
	CVL	719	393	63%	47%	47%
	NDML	686	311	53%	38%	38%
	CISPL	189	77.2	44%	34%	34%

Note: EBITDA Margin is a non-Generally Accepted Accounting Principles (GAAP) measure, EBITDA Margin is calculated as (Total Revenue - Employee Benefit Expenses – Operating Expenses – Other Expenses) / Total Revenue, PAT Margin is defined as Net Profit/Total Revenue,FY2021 means year ending March 2021, Above based on FY21 financials, $Financial year is ending June 2020, # Financials for the period ended December 31, 2020, Players are arranged in decreasing order of Revenues from Operations in each segment, Financials are on a consolidated basis; FY21 financials unavailable for MCCIL and KDMSL; *Reported PAT for KFintech is ₹ -645 million, Reported PAT margin is -13.3%, Adjustment of ₹. 1,812 million is made (₹669 million for Goodwill amortisation and ₹ 1,143 million as one-time expense), * Profit after Tax is adjusted for goodwill amortisation Fiscal 2021, For Fiscal 2021, One-time tax expense as the outcome on the difference between Goodwill as per the books of account and its updated tax base of Nil is also adjusted, Source: Company Reports, CRISIL Research

MIIs and Key Intermediaries have a high dividend payout as compared to other Nifty 50 companies

The market intermediaries also enjoyed a higher average dividend payout ratio of approximately 75% in the last three Fiscals as compared to other companies within NIFTY 50, that had an average dividend payout ratio of 30-35% during the same period, making it an attractive prospect for an investor.

Players	FY19	FY20	FY21	Average Dividend Payout
BSE Limited	114%	91%	80%	95%
MCX	77%	59%	82%	72%
CAMS	98%	36%	114%	83%
CDSL	52%	65%	29%	49%
Average of above players	85%	63%	76%	75%

Note: FY2021 means year ending March 2021; Source: Company Reports, CRISIL Research

Market size, Outlook and Growth Drivers

Mutual Funds

The Mutual Funds Industry in India

The Indian mutual fund industry started with the passing of an act for the formation of the Unit Trust of India ("UTI"), a joint initiative of the Government of India and the RBI in calendar year 1963. In calendar year 1987, other public sector banks entered the mutual fund space and in calendar year 1993, the industry was opened to the private sector. The year also saw the introduction of the first formal mutual fund regulations, namely, the Securities and Exchange Board of India (Mutual Fund) Regulations, 1993. In February 2003, following the repeal of the UTI Act, 1963, UTI was bifurcated into two separate entities, namely, Specified Undertaking of the UTI ("SUUTI") and UTI Mutual Fund. With this bifurcation, and several mergers among private sector funds, the mutual fund industry entered its current phase of consolidation and growth.

Classification of mutual funds

By structure

Open-ended schemes can be purchased and redeemed on any transaction day and do not have a fixed maturity period. Closed-end schemes can be purchased only during the new fund offer period and redeemed only at maturity, but such funds are listed on stock exchanges (as mandated by regulation), where investors can sell their units to other investors.

By fund management style

Passive funds are schemes that attempt to mimic a particular index and this category includes exchange-traded funds ("ETFs") and index funds. Active funds attempt to generate higher returns than their benchmark index by actively managing the portfolio and relies on an active fund investor and a fund manager who buys and sells securities based on his/her research and judgment. Expenses for passive funds are typically lower than that for active funds due to lower fund management cost associated with the former.

By distribution channel

'Direct plans' are schemes that allow investors to invest in mutual funds directly, i.e., without involving or routing the investment through any distributor/agent form. Whereas, schemes involving a mutual fund distributor/agent are termed as 'regular plans'. It is mandated to have a 'direct plan' counterpart for each mutual fund scheme (apart from a 'regular plan') as well so as to enable direct investments by investors. Direct plans have lower expense ratios as distribution costs are not applicable.

By asset class

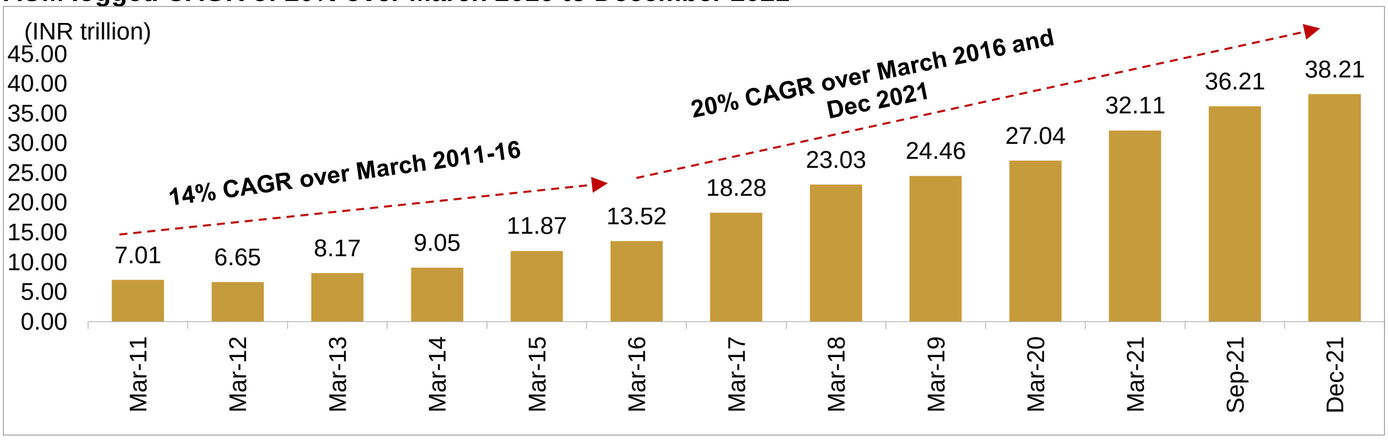
There are five broad categories of mutual fund schemes by asset class, namely, equity, hybrid, debt, solution-oriented, and other schemes. Each category, in turn, offers a plethora of funds.

Historical Assets under Management ("AUM") growth

Long-term AUM growth

The aggregate AUM of the Indian mutual fund industry has grown at a healthy pace over the past 10 years, against the backdrop of an expanding domestic economy, robust inflows, and rising investor participation, particularly from individual investors. Average AUM grew at CAGR of 17.5% to ₹ 38.21 trillion as of December 31, 2021 from ₹ 7.01 trillion as of March 31, 2011. However, between March 2016 and December 2021, the growth has been higher at a CAGR of 20% as compared to CAGR of 14% between March 2011 and March 2016.

AUM logged CAGR of 20% over March 2016 to December 2021

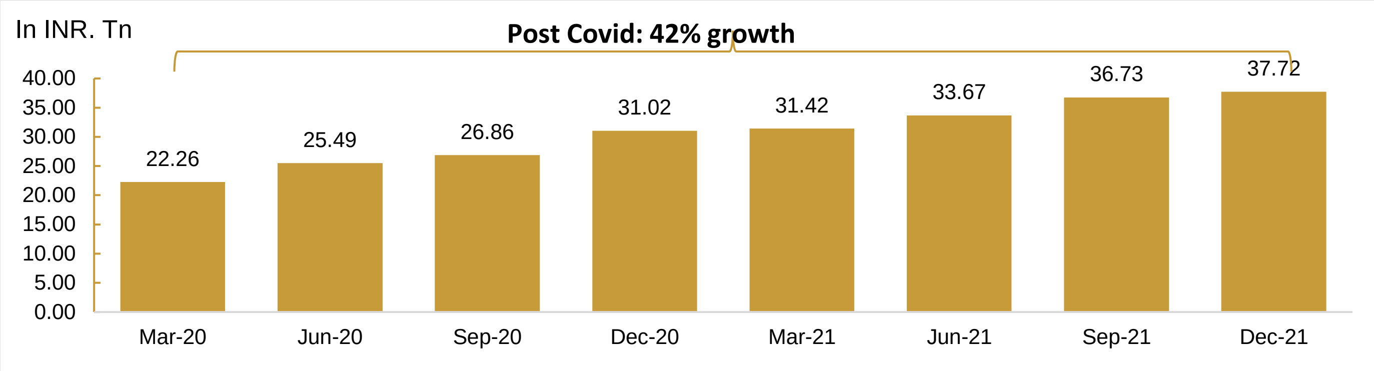


Note: Quarterly average AUM till December 2021 excluding infrastructure debt funds ("**IDFs**"); Source: AMFI, CRISIL Research

Post- COVID-19 impact

Aggregate industry AUM grew approximately 42% post-COVID-19 pandemic to ₹ 37.72 trillion as of December 31, 2021 from ₹ 22.3 trillion as of March 31, 2020, driven by recovery post the COVID-19 pandemic, increased penetration of beyond top 30 ("B30") cities and rising popularity of SIPs as an investment vehicle. The gains came despite a sharp fall of 16.12% between January 2020 and March 2020 due to worries over the COVID-19 pandemic and nationwide lockdown.

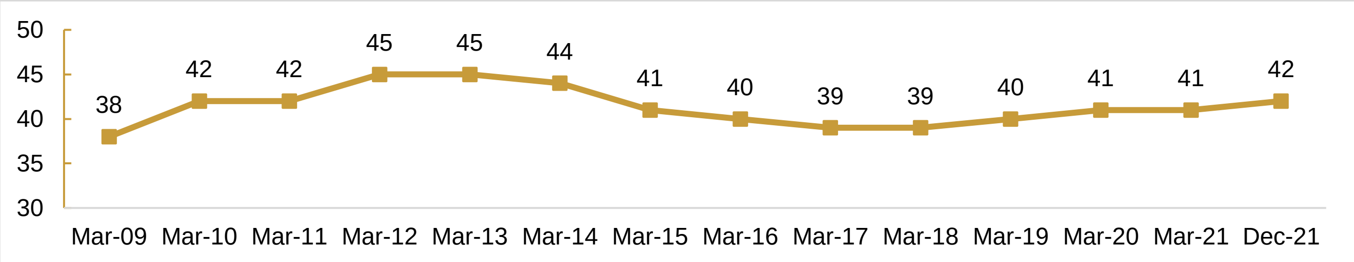
AUM over the past few quarters



Note: Data include net month-end AUMs, AUM excluding fund of funds – domestic but including fund of funds – overseas; Source: AMFI, CRISIL Research

Number of fund houses and investor services providers

As of December 31, 2021, there were 42 fund houses (excluding IDFs) having non-zero mutual fund AUM.

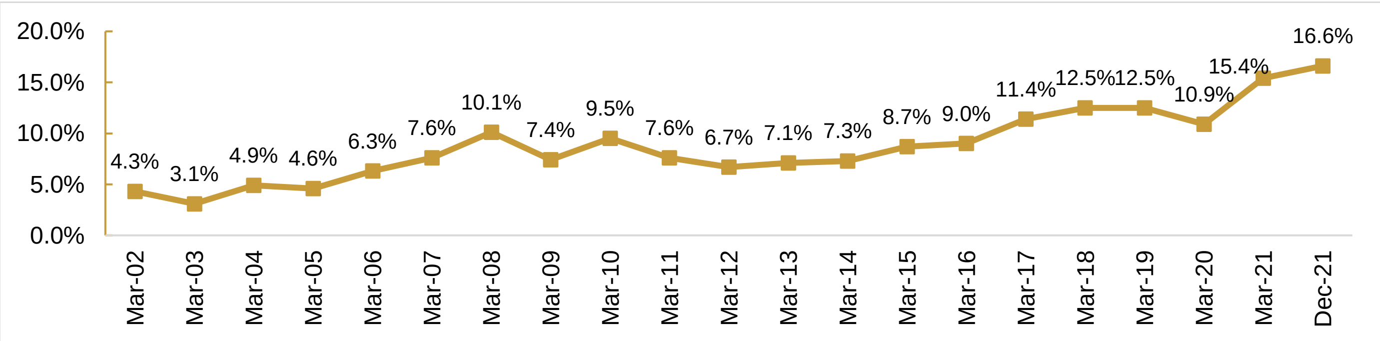


Note: Excluding IDFs; Source: AMFI, CRISIL Research

Mutual fund penetration

Mutual fund assets in India have seen robust growth, especially in recent years, driven by a growing investor base. This is due to increasing penetration across geographies, strong growth in capital markets, technological progress, and regulatory efforts aimed at making mutual fund products more transparent and investor friendly. Although mutual fund AUM as a percentage of GDP grew from 4.3% in Fiscal 2002 to approximately 16.6% in December 2021, penetration levels remained well below those in other developed and fast-growing peers.

Mutual fund AUM (as % of GDP)



Note: Based on end of Fiscal AUM and GDP at current prices; Source: AMFI, IMF, RBI, CRISIL Research

Under penetration of mutual funds in India and an opportunity to earn annuity income once the fund builds up a good book of assets are the main attractions for many players to foray into the mutual fund business. This has caused 10 houses to apply for mutual fund license, out of which some players like Navi Asset Management Company, NJ Asset

Management Private Limited, White Oak Capital Asset Management (acquired Yes Mutual Fund) and Samco Asset Management have already rolled out their mutual fund business. Other players such as Bajaj Finserv, Frontline Capital Services and Zerodha Securities have also received in-principal approval from SEBI for setting up a mutual fund business.

Names of new MFs since Fiscal 2017	RTA Name
Frontline Capital Services Limited	KFintech
Bajaj Finserv	KFintech
NJ Mutual Fund	KFintech
Samco Mutual Fund	KFintech
ITI Mutual Fund	KFintech
Trust Mutual Fund	KFintech
Quant Mutual Fund	KFintech
Yes Mutual Fund (now White Oak Capital)	CAMS
Mahindra Mutual Fund	CAMS

Note: Players are arranged in order of launch date (recent to old); Zerodha has not yet appointed the RTA for their mutual fund business, Source: Company Reports, AMFI, CRISIL Research

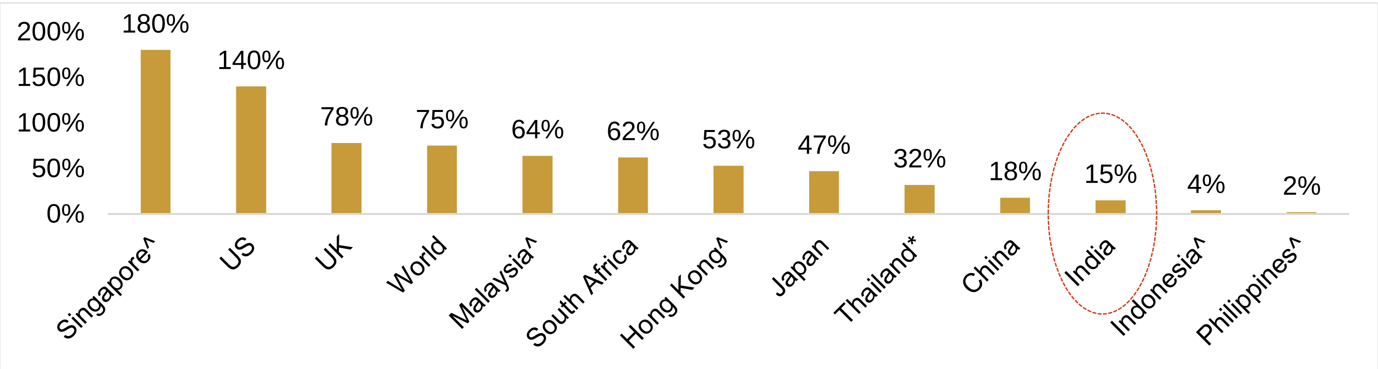
Further, there are seven mutual fund license applications under consideration by SEBI as of December 31, 2021:

1. Wizemarkets Analytics Private Limited
2. Unifi Capital Private Limited
3. Alchemy Capital Management Private Limited
4. Helios Capital Management PTE Limited
5. Old Bridge Capital Management Private Limited
6. Angel One Limited
7. Phonepe Private Limited

Indian mutual fund market is underpenetrated compared to other economies

India's mutual fund penetration (AUM-to-GDP) is significantly lower at 15% compared to the world average of 75%; and lower than many developed economies such as the U.S. at 140% and the United Kingdom ("**U.K.**") at 78%. In Southeast Asian countries and Hong Kong, Singapore has the highest mutual fund penetration of 180% whereas Indonesia and Philippines have the lowest mutual fund penetration of 4% and 2%, respectively at end of calendar year 2020.

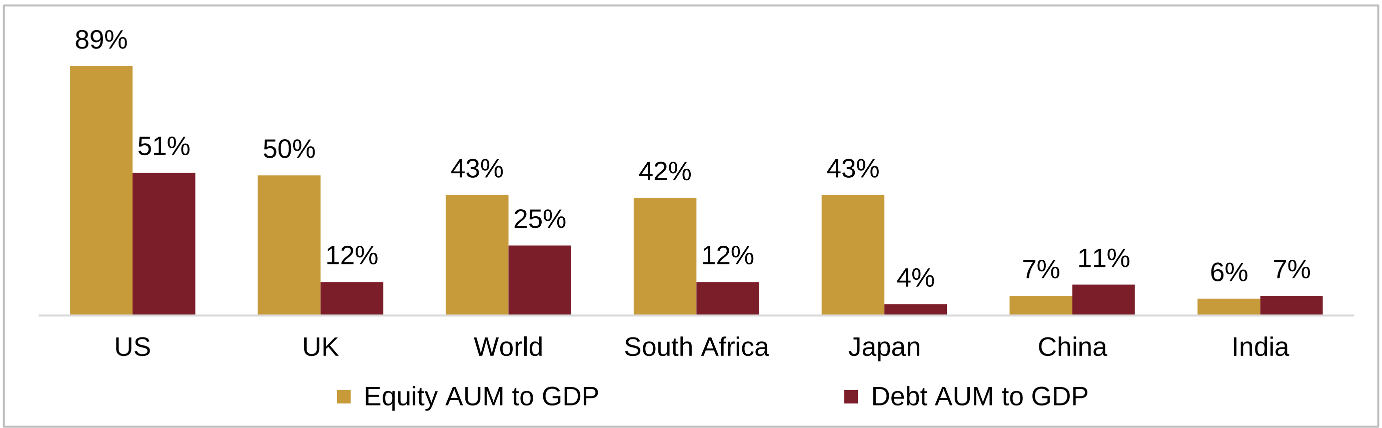
Comparison of economies – Mutual Fund AUM as a proportion of GDP



Note: * Data for 2019, ^ Domestic AUM is considered for calculating mutual fund penetration in the country as of calendar 2020, for all other countries; only open-ended funds have been considered. Includes, equity, debt and others. GDP is based on current prices estimation by IMF in world economic outlook October 2021. Source: IMF, IIFA, Monetary Authority of Singapore ("**MAS**"), Hong Kong Investment Fund Association, Securities Commission Malaysia, Association of Investment Management Companies (Thailand), Financial Services Authority of Indonesia, CRISIL Research

The ratio of the equity mutual fund AUM-to-GDP in India is considerably low at 6% compared with 89% in the US, 78% in Canada, 50% in the UK, and 30% in Brazil at end of calendar year 2020.

Comparison of economies - Equity and debt AUM as a proportion of GDP



Note: AUM data as of fourth quarter of calendar year 2020; only open-ended funds have been considered; guaranteed/protected, real estate funds and other funds have not been considered. Equity AUM include equity and balanced whereas debt AUM include bond and money market; GDP is based on current prices estimation by IMF; Source: IMF, IIFA, CRISIL Research

Top five AMCs continue to increase its share in overall industry AUM, however, are losing share in equity AUM

The mutual fund industry has been witnessing a strong growth. Within the mutual fund industry, in terms of overall AUM, the top five AMCs, which have a well-established business franchise with entrenched distribution and strong brand equity, continued to increase their market share from 48.7% in March 2016 to 56.2% in December 2021. This has come at the cost of other AMCs, cumulatively losing their share from 51.3% in March 2016 to 43.8% in December 2021.

Share of top five AMCs (in terms of overall AUM) increased to approximately 56.2% as of December 2021

AMCs	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	December 2021
Top five AMCs	48.7%	50.5%	51.9%	54.9%	56.5%	57.0%	56.2%
Rest of the Industry	51.3%	49.5%	48.1%	45.1%	43.5%	43.0%	43.8%

Note: Growth for December 2021 is calculated over March 2021; Source: AMFI, CRISIL Research

In terms of overall equity AUM, the rest of the industry, namely AMCs beyond top five in terms of overall AUM, have grown at a CAGR of 30% between March 2016 and December 2021 as compared to top five AMCs, that witnessed a CAGR of 28% between the same time period. This has led to an increase in the share of equity AUM for 'rest of the industry' to 55.4% as of December 31, 2021, from 53.6% as of March 31, 2016.

Share of equity AUM for rest of the industry continues to grow between March 2016 and December 2021

AMCs	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	December 2021
Top five AMCs	46.4%	48.6%	48.2%	47.8%	47.0%	45.6%	44.6%
Rest of the Industry	53.6%	51.4%	51.8%	52.2%	53.0%	54.4%	55.4%

Source: AMFI, CRISIL Research

Growth of rest of the industry (in terms of Equity AUM) is higher than top five AMCs

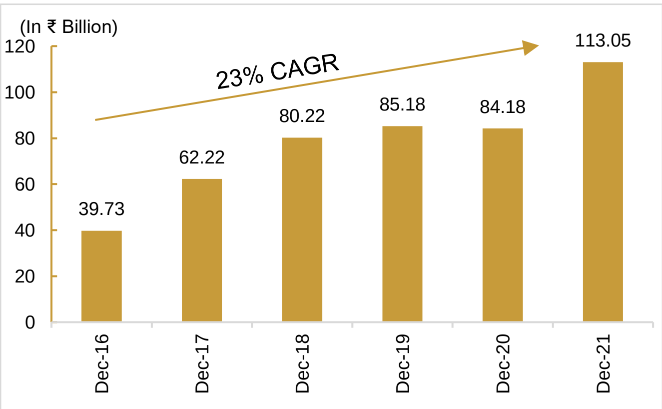
AMCs	March 2017	March 2018	March 2019	March 2020	March 2021	December 2021
Top five AMCs	46%	42%	13%	-4%	40%	31%
Rest of the Industry	33%	45%	15%	-2%	48%	37%

Note: Growth for December 2021 is calculated over March 2021; Source: AMFI, CRISIL Research

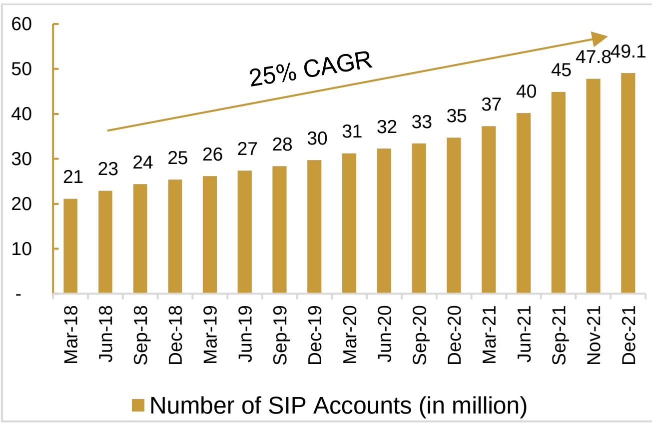
SIPs

SIPs have helped further retail investor participation in the mutual fund space. Several benefits accrue from SIPs, such as avoidance of behavioral weakness during uncertain periods, aggregation of a high number of small amounts of investments, and certain tax incentives for investors. SIPs have helped grow, diversify net inflow and reduce volatility in the aggregate inflows. Monthly inflows through SIP have steadily increased, from approximately ₹ 40 billion in December 2016 to approximately ₹ 113 billion in December 2021. The number of SIP accounts increased from 21.10 million as of March 2018 to 49.07 million as of December 2021. Popularity of equity funds, rising participation of investors, recent investor education initiatives, and apparent benefits of SIPs to households that traditionally did not invest in mutual funds indicate that growth in inflows from SIPs is expected to accelerate over the foreseeable future. This is expected to make SIPs an increasingly important component in overall AUM growth.

Monthly SIP grew at CAGR of 23% between December 2016 and December 2021

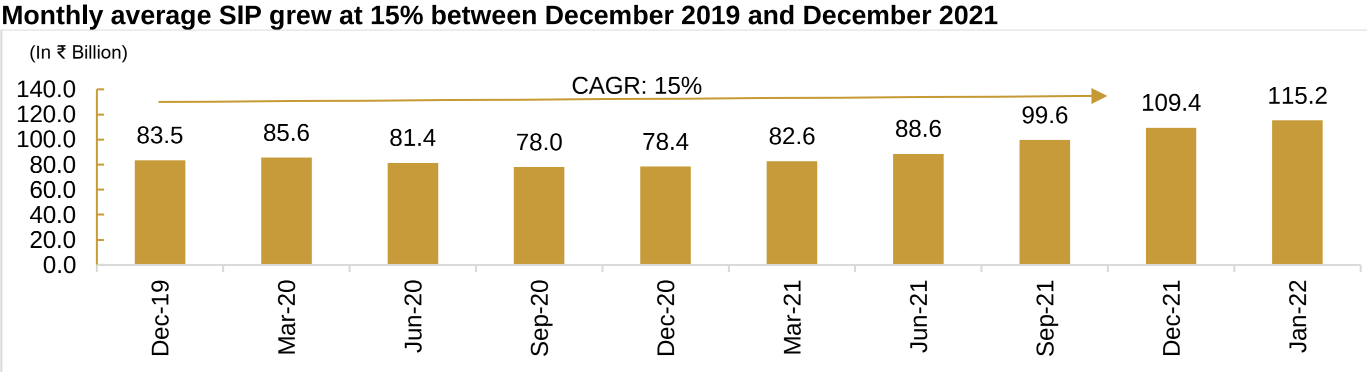


Quarterly number of outstanding accounts for SIP



Source: AMFI, CRISIL Research

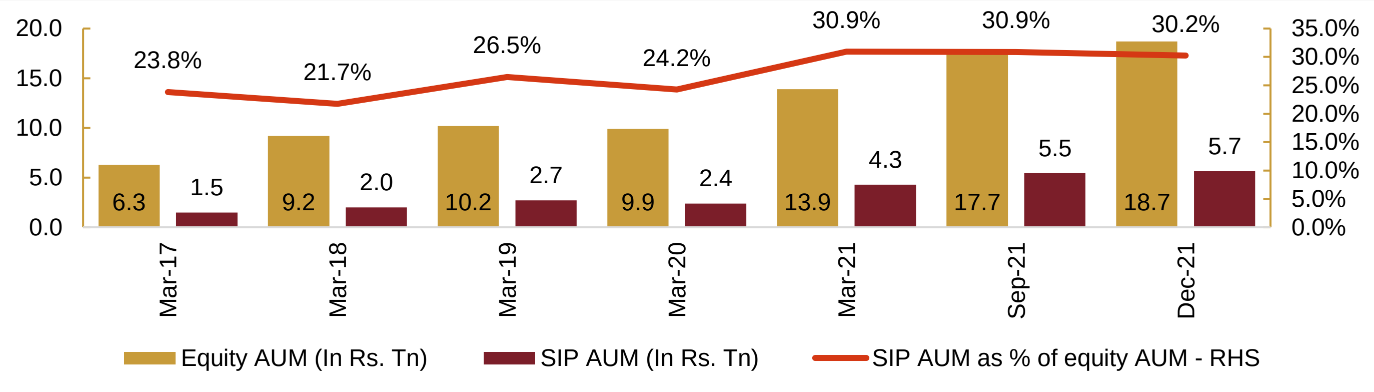
Monthly average SIP grew at 15% between December 2019 and December 2021



Note: Data represents monthly average SIP on a quarterly basis, January 2022 data is monthly SIP; Source: AMFI, CRISIL Research

SIP AUM as a proportion of equity AUM

The aggregate monthly average equity AUM rose from ₹ 6.28 trillion as of March 2017 to ₹ 18.69 trillion as of December 2021, thereby clocking a CAGR of 26%, whereas SIP AUM during the same period increased from ₹ 1.49 trillion to ₹ 5.65 trillion, thereby growing at a CAGR of 32%. The SIP AUM as % of equity AUM has increased to 30.2% as of December 2021 from 23.8% as of March 2017.



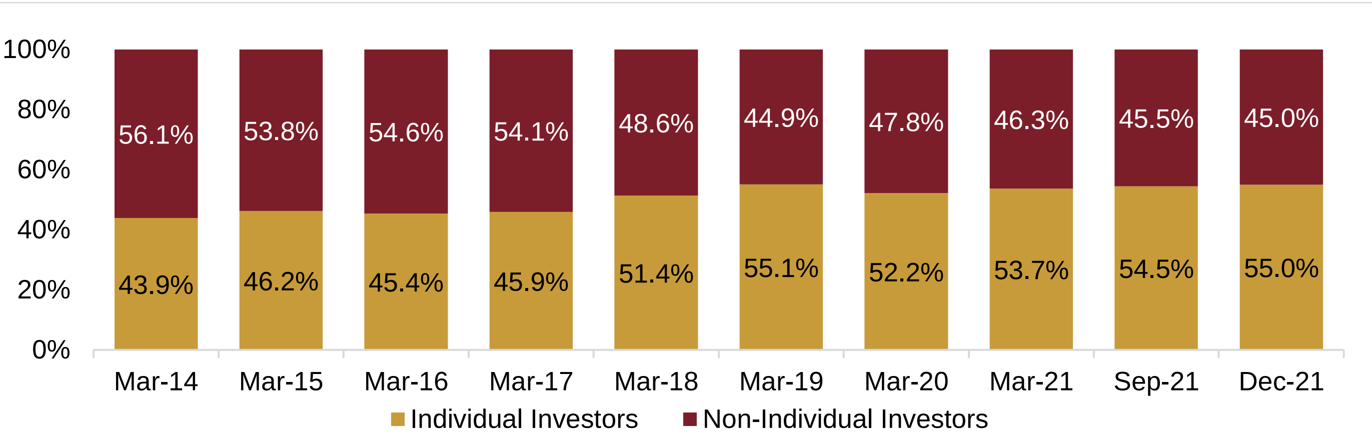
Notes: (1) Equity includes equity funds, equity-lined saving scheme ("**ELSS**"), index funds, solution-oriented funds, and balanced funds, (2) Equity AUM is based on closing monthly numbers, (3) SIP inflows numbers represent total SIP inflows including debt; Source: AMFI, CRISIL Research

Investor profile of the industry

Individuals outpace institutional investors in terms of AUM

Historically, majority of the industry's assets were held by institutional investors, mainly corporates. However, the share of institutional investors, corporates, banks / financial institutions ("**FIs**") and foreign institutional investors ("**FIIs**") / foreign portfolio investors ("**FPIs**") has gradually declined from 56.1% as of March 2014 to 45.0% as of December 2021. This is because, while institutional AUM grew at approximately 15% CAGR over the period, individual AUM saw a faster trajectory of 21% CAGR on the back of rising participation, especially in equity funds.

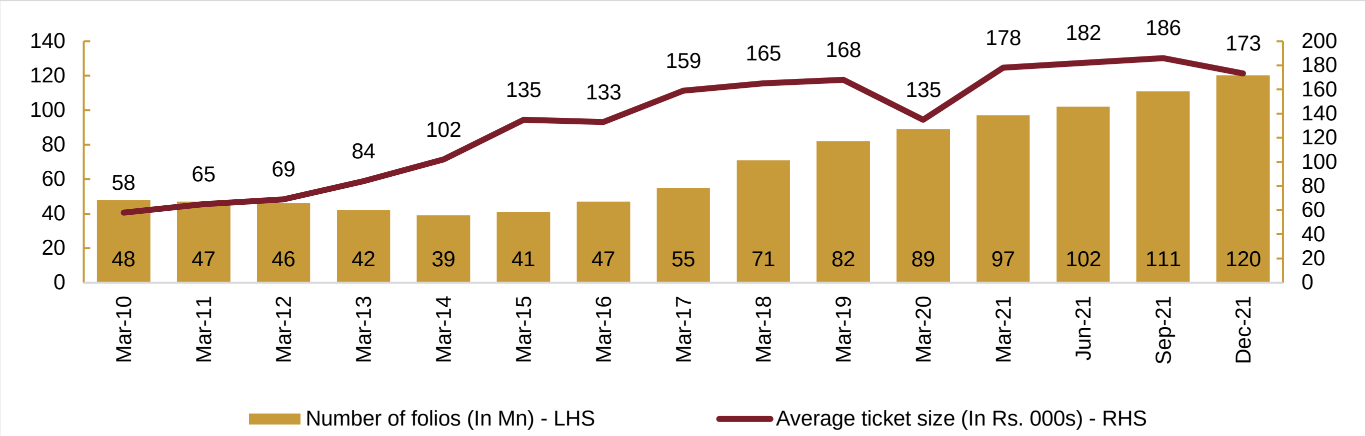
Share of AUM by investor classification



Notes: (1) Average monthly AUM for the period considered, (2) Individual investors include retail and high net worth individuals ("HNI") investors. Institutional investors include corporates, banks/FIs, and FII / FPIs; Source: AMFI, CRISIL Research

The mutual fund industry has seen increased participation from households in recent years, owing to growing awareness, financial inclusion, improved access to banking channels and increased adoption of technology by non-bank distributors. Between March 2015 and December 2021, the industry's folios increased by approximately 80 million to 120 million, at a CAGR of approximately 14%, driven almost entirely by individual investors, namely, retail and HNIs. Further, the average ticket size increased from ₹ 135,000 as on March 31, 2015, to ₹ 173,000 as on December 31, 2021.

Trend in individual investor folio and average ticket size

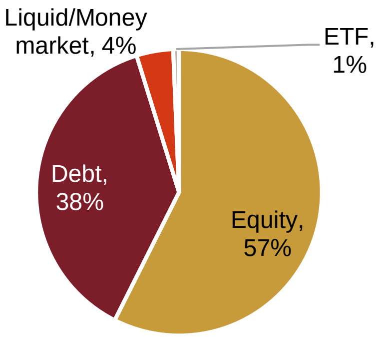
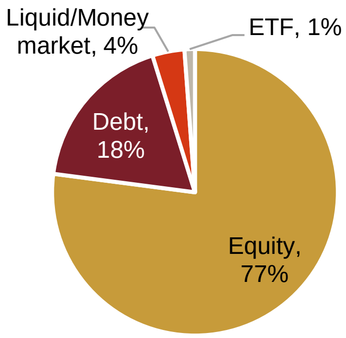


Note: Number of folios as on end of Fiscal. Average ticket size is calculated as outstanding AUM divided by number of folios; Source: AMFI, CRISIL Research

Individual investors highly concentrated in equity funds

As of December 2021, 77% of individual investors' AUM was invested in equity-oriented funds, up from 57% in March 2016. This was because of a sharp reduction in debt-oriented funds as a result of the Infrastructure Leasing and Financial Services (IL&FS) default and the ensuing NBFC crisis, relative outperformance of equities over other asset classes, and higher push of equity products by AMCs and distributors owing to their relatively higher profitability and expense ratios. The NBFC crisis started with IL&FS falling short on cash and defaulting on several of its obligations, which jeopardized number of investors, banks and mutual funds associated with IL&FS and sparked a panic among the investors. There were fears that this would turn out to be a contagion and many institutions refused to give money to NBFCs, resulting in a dearth of funds for the NBFCs. This choked the flow of credit into the system and hit the consumption demand in the economy. The proportion of ETF and equity-oriented funds have risen for institutional investors as well. The rise in the ETF category is also due to investment of 15% of the employees' provident fund organization's ("**EPFO**") fresh accretion into equity ETFs by its fund managers.

Equity is leading in case of retail and growing its preference with institutional investors along with ETF

Investor category	March 2016	December 2021
Individual investors		

Notes: (1) As per AUM as on end of the Fiscal, (2) Equity includes equity funds, ELSS, index funds, solution-oriented funds, and balanced funds. Debt funds include gilt, income, conservative hybrid, floater funds, and fund of funds ("**FoFs**") investing overseas. ETF includes gold ETFs and other ETFs. Liquid/ money market includes liquid funds, overnight funds, and money market funds. Source: AMFI, CRISIL Research

Investor segment and asset class-wise historical AUM distribution

Historically, retail investors have largely invested in equity-oriented funds while HNIs have actively managed allocations across debt and equity funds. Over the last few years, the exposure of both these categories of investors in equity assets has been rising with proportion of equity rising to 77% in December 2021 from 57% in March 2016.

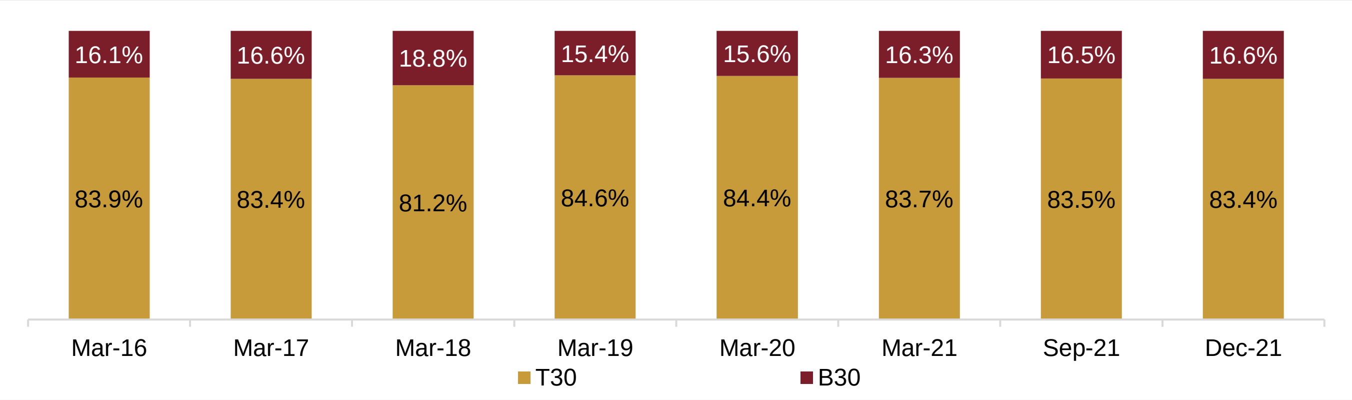
Among institutional investors, banks and FIs majorly invest in liquid /money market-oriented funds. Investments by corporate investors are spread largely across debt and liquid / money market-oriented funds. FIIs/ FPIs have investments primarily spread across debt and equity-oriented funds. Investments by FIIs / FPIs in equity assets have swelled as a proportion of total mutual fund assets. Corporates and banks/FIs have been increasing exposure to ETFs in recent years.

Importance of the presence of AMCs in B30 markets

In December 2021, the monthly average AUMs in the top 30 ("**T30**") cities stood at ₹31.62 trillion compared with ₹6.29 trillion for B30 cities as per AMFI data. In 2018, SEBI reclassified top 15 ("**T15**") and beyond the top 15 ("**B15**") as T30 and B30, respectively, to encompass a wider set of cities that have lower penetration after seeing the share of B15 cities improve regularly in previous years.

According to AMFI, the share of T30 AUM, as a proportion of aggregate industry AUM, decreased to 83.4% in December 2021 from 84.6% in March 2019. Conversely, the share of B30 AUM increased to 16.6% from 15.4% over the same period, illustrating the rising importance of higher-growth B30 cities. Between March 2019 and December 2021, the AUM in B30 cities has increased at a faster CAGR of approximately 20.2% as compared to approximately 16.5% for T30 cities.

Composition trends of overall T30 and B30 AUMs



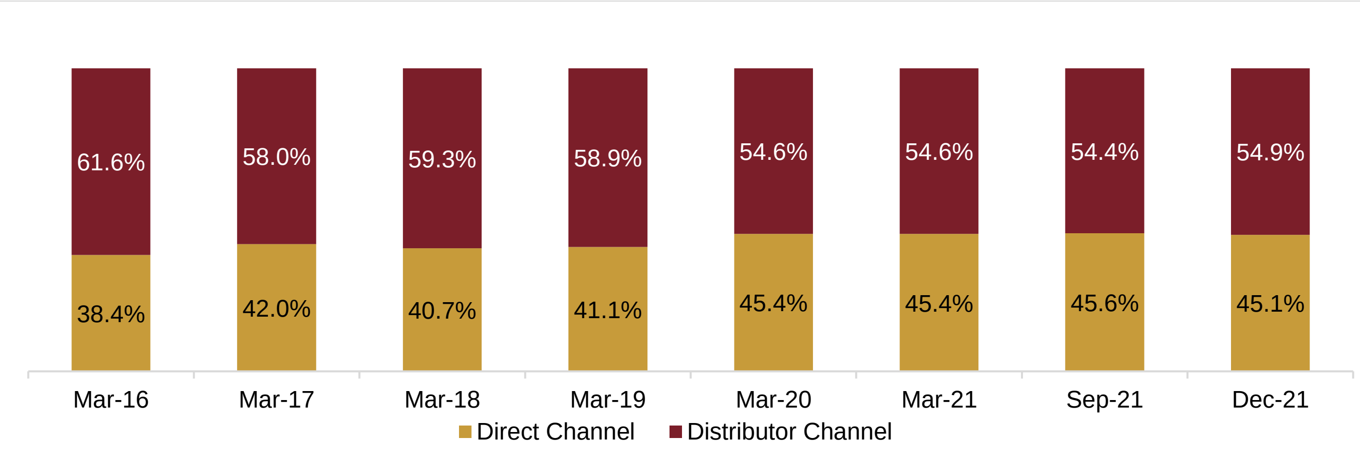
Note: Based on month end AUMs; Data for March 2016, 2017, and 2018 represents T15 and B15 cities; Source: AMFI, CRISIL Research

Investment channels

Direct route becoming more important

In September 2012, SEBI mandated mutual fund houses to offer products through the direct route alongside distributors. Asset managers launched a slew of direct plan offerings from January 2013. Consequently, AUMs of direct plans grew at an annualized 23% between March 2016 and December 2021. At ₹ 17.09 trillion, AUMs under direct plans now represent 45.1% of aggregate industry AUM, up from 38.4% share as of March 2016.

Growth of AUMs through direct plans since March 2016



Note: Based on monthly average AUM; Source: AMFI, CRISIL Research

Going forward, CRISIL expects increasing investor awareness and integration of user interfaces through digital channels to lead to further growth in direct plan AUMs. Direct plans offer the benefit of lower expense ratios to investors compared with regular plans. They also allow AMCs to directly connect with investors without depending on intermediaries.

Regular plans as compared to direct plans

As of December 2021, institutional investors accounted for approximately 74% of aggregate direct plan monthly average AUMs (up from 59.4% on March 31, 2016) as compared to 21.4% for individual investors (up from 13.1%

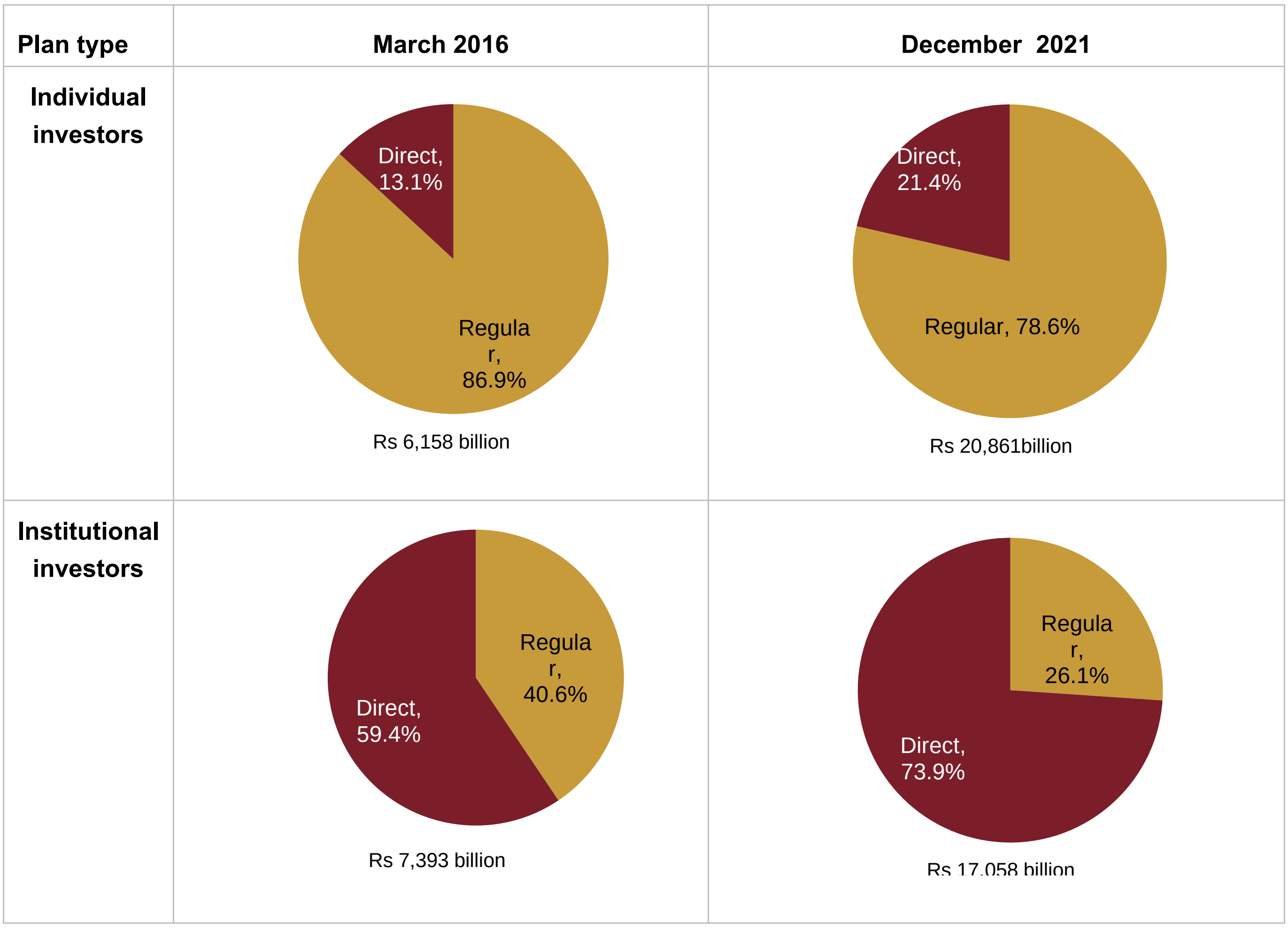
as of March 31, 2016). The rising popularity of direct plans among individual investors has attributed to various campaigns and investor education initiatives undertaken by the mutual industry. CRISIL believes that the share of direct plan will gradually increase on account of investors looking to reduce costs as compared to investing through regular plans.

Regular and direct plans' split for individual and institutional investors' AUM (₹ billion)

(₹ Billion)	Mar-16				Nov-21			
	Regular plans	Direct plans	Total	Mix of direct plan in total AUM	Regular plans	Direct plans	Total	Mix of direct plan in total AUM
Individual investors	5,350	808	**6,158**	**13.1%**	16,395	4,465	**20,861**	**21.4%**
Institutional investors	3,000	4,393	**7,393**	**59.4%**	4,429	12,629	**17,058**	**74.0%**
Total	**8,350**	**5,201**	**13,551**	**38.4%**	**20,824**	**17,094**	**37,918**	**45.1%**

Note: Based on monthly average AUM. Source: AMFI, CRISIL Research

Regular and direct plans' split for individual and institutional investors' AUM



Note: Based on monthly average AUM. Player-wise analysis in the last chapter (Analysis of top 10 AMCs); Source: AMFI, CRISIL Research

As of December 2021, regular plans accounted for a higher share of B30 assets (79%) and constituted the majority of aggregate equity AUM. In the past, AMCs incurred additional distribution costs to on-board retail customers, thereby leading to increased spending on infrastructure and marketing capabilities. However, with rise of fintechs, the reach has become easier without major spend on traditional brick and mortar model. As a result, CRISIL believes that AMCs with more focus towards technology and robust presence in B30 markets are well-placed to penetrate these markets more profitably.

Expense ratios

Expense ratios have declined noticeably across the industry over the past given years, owing to increasingly stringent regulations by SEBI, rising competition among managers, and availability of alternative investments. Management fees, and distributor commissions have been declining as well, driven in part by an increased use of technology, improving efficiency of employees, and expense ratio regulations issued by SEBI. As managers are increasing in size, economies of scale are beginning to show in declining expense ratios. As fee increases are not proportionate to AUM growth, average expense ratios have shrunk over the years. Further, direct plans have significantly lower expense ratio compared to regular plans as distribution and brokerage expenses are not applicable in direct plans.

Average expense ratios for various type of schemes as on December 2021 (%)

Category	Regular	Direct
Aggressive hybrid fund	2.19	0.97
Arbitrage fund	1.01	0.36
Banking and PSU fund	0.69	0.29
Conservative hybrid fund	1.84	0.78
Corporate bond fund	0.70	0.28
Credit risk fund	1.51	0.71
Dynamic bond fund	1.25	0.58
ELSS	2.03	0.96
Focused fund	2.21	0.88
Index funds / ETFs	0.43	0.08
Large- and mid-cap fund	2.15	0.92
Large cap fund	2.26	1.12
Mid-cap fund	2.10	0.81
Multi-cap fund	2.04	0.67
Small-cap fund	1.85	0.59
Value / contra fund	2.19	0.91

Note: Average expense ratio; funds ranked under CRISIL Mutual Fund Ranking are considered for each category

Infrastructure category is excluded from CRISIL Mutual Fund Ranking from the March 2021 quarter; Source: Monthly portfolio disclosures by AMCs, CRISIL Research

As per CRISIL Research, India follows a bundled expense ratio structure wherein various commission expenses are embedded in the expense ratios of the funds. Other than these expenses, the investors do not bear any additional cost such as platform fees or advisory fees. Funds in India are not allowed to charge performance fees. Thus, in direct comparison, the expense ratios may appear higher, but they are bundled and have no other costs attached. Mostly, retail investors invest in actively managed funds and passive flows are from institutional investors. Thus, the Indian market, though small, is a fast-growing one. The market comprises high retail participation unlike global peers where larger institutions are the major investors in funds.

Outlook for the Indian Mutual Funds Industry

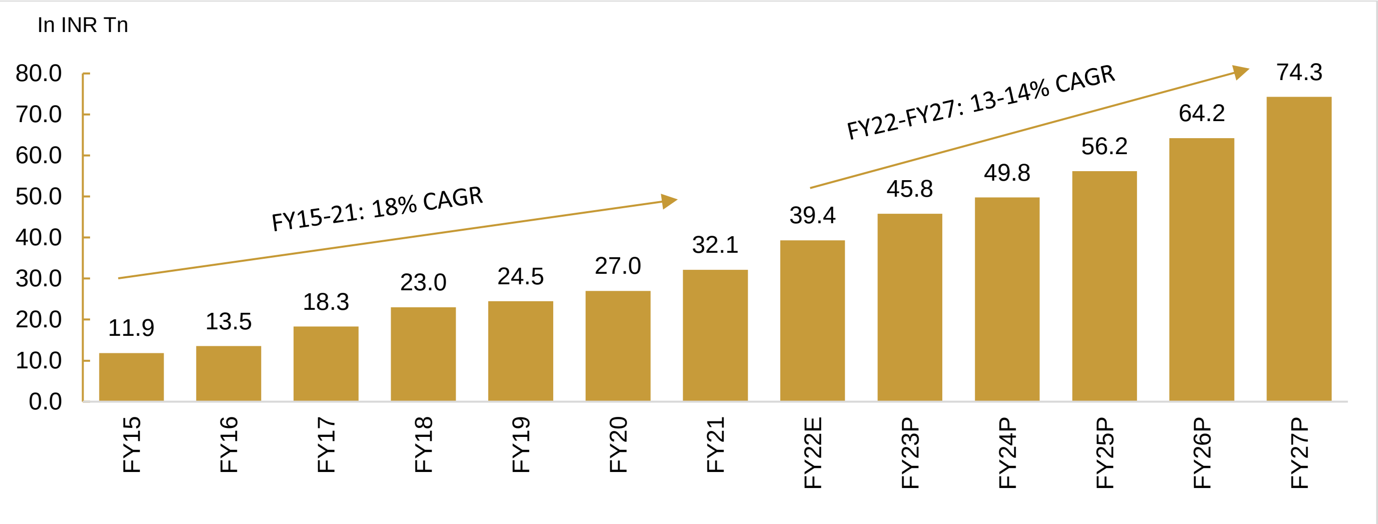
AUM to sustain double-digit pace between Fiscals 2022 and 2027

In the long term, i.e., between Fiscals 2022 and 2027, the overall industry's AUM is projected to sustain a high growth trajectory of 13-14% CAGR, reaching approximately ₹ 74 trillion. This growth in the mutual fund industry is expected to be driven by:

- Pick-up in corporate earnings following stronger economic growth
- Higher disposable income and investable household surplus
- Increase in aggregate household and financial savings
- Deeper regional penetration as well as better awareness of mutual funds as an investment vehicle
- Continuous improvement in ease of investing, with technological innovations and expanding internet footprint
- Perception of mutual funds as long-term wealth creators, driven in part by initiatives like 'Mutual Fund Sahi Hai' campaign

The announcement in the Indian Union Budget 2021-22 of taxing contributions over ₹ 250,000 per annum in unit-linked insurance plans, which is in-line with equity mutual funds, is also expected to partly aid inflows into mutual funds.

AUM trajectory (in ₹ trillion)



Note: E: Estimated, P: Projected; AUM is the average of last quarter for each Fiscal, AUM excluding FoFs – domestic but including FoFs– overseas; Source: AMFI, CRISIL Research

Category-wise growth - March 2015 to December 2021

The industry's aggregate QAAUM[1] grew at 18.9% CAGR over March 2015 to December 2021, to reach ₹ 38.20 trillion. This was driven by increasing aggregate financial savings combined with growing investor awareness of mutual fund products. However, AUM in the last quarter of Fiscal 2020 fell on account of the nationwide lockdown due to COVID-19 pandemic and corresponding fall in capital market indices. Between March 2015 and December 2021, ETFs posted the highest growth to reach Rs. 3.91 trillion, with assets swelling at a CAGR of approximately

[1] Quarterly Average Assets Under Management (QAAUM)

64.0% over a low base. Institutional investors, such as the EPFO, began investing a portion (currently approximately 15%) of their fresh accretion/incremental deposits into equities through passively managed funds. CRISIL expects this industry trend to sustain in the long term.

Average AUM of equity-oriented funds grew at a CAGR of 27.5% as of December 2021, to ₹ 18.77 trillion, while debt-oriented funds rose a noticeably lower at a CAGR of 7.6%, largely because of the IL&FS default and the ensuing NBFC crisis. These events, and the subsequent Franklin Templeton episode of shutdown of six credit risk schemes, had a negative impact on investor confidence in debt instruments. However, as the effects of the COVID-19 pandemic subside, investor appetite for debt is expected to return. Meanwhile, average AUM of liquid/ money market funds logged a CAGR of 14.20% between March 2015 to December 2021, supported by corporate investments, stable returns, and re-allocation from long-term debt instruments.

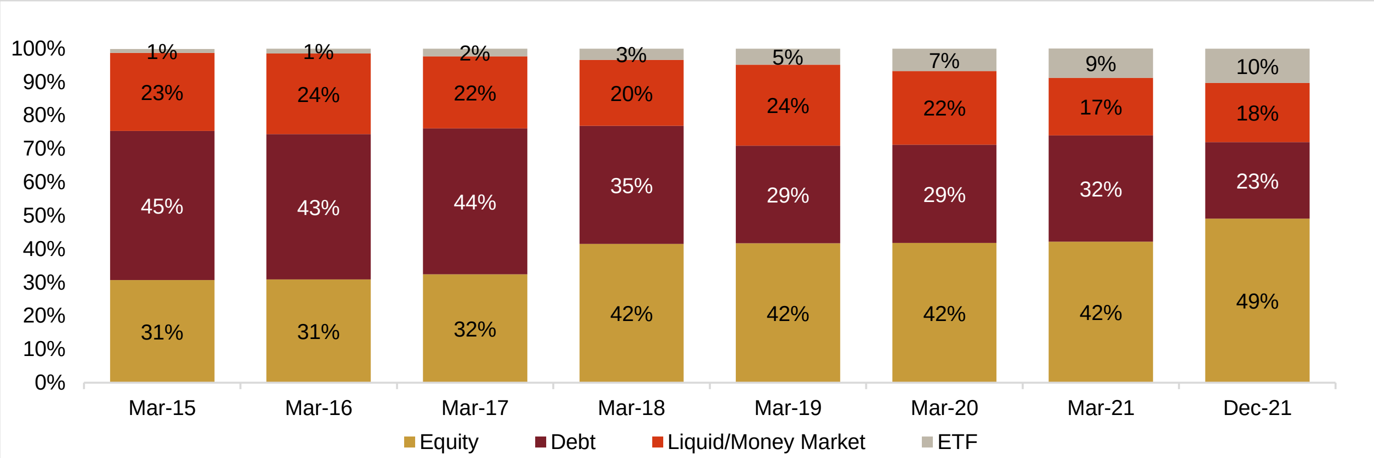
AUM growth trajectory across categories

Categories (₹ Trillion)	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Dec-21	Mar-15 to Dec-21 CAGR
Equity	3.65	4.18	5.93	9.58	10.21	11.31	13.55	18.77	**27.5%**
Debt	5.31	5.88	7.99	8.13	7.15	7.97	10.22	8.73	**7.6%**
Liquid/Money Market	2.77	3.27	3.94	4.56	5.92	5.96	5.54	6.79	**14.2%**
ETF	0.14	0.19	0.43	0.76	1.19	1.81	2.88	3.91	**63.8%**
Total	**11.88**	**13.52**	**18.28**	**23.03**	**24.46**	**27.04**	**32.11**	**38.20**	**18.9%**

Notes: (1) Equity includes equity funds, ELSS, index funds, solution-oriented funds, and balanced funds. Debt funds include gilt, income, conservative hybrid, floater funds, and FoFs investing overseas. ETF includes gold ETFs and other ETFs. Liquid/ money market includes liquid funds, overnight funds, and money market funds, (2) Segment-wise AUM data is available since March 2015 with AMFI, (3) Quarter average AUM excludes IDFs; Source: AMFI, CRISIL Research

Category-wise, the share of equity funds rose from 31% as of March 2015 to 49% as of December 2021, led by sharp rise in inflows through the SIP route and mark-to-market ("**MTM**") gains in the underlying stocks. The other big gainer was the ETF segment, which expand from a marginal 1% to 10% during the period, supported by institutional investing, especially by the EPFO. In contrast, the share of the debt fund category decreased to 23% in the December quarter of Fiscal 2022 from 45% in the March quarter of Fiscal 2015 as the Franklin Templeton episode snowballed into large scale redemptions across debt funds. The QAAUM share of liquid and money market funds also declined, from 23% as of March 2015 to 18% as of December 2021, as the category lost out on the amortisation benefit after being MTM, and as investors chased higher yields in short maturity debt funds.

Trend in share of various mutual fund segments

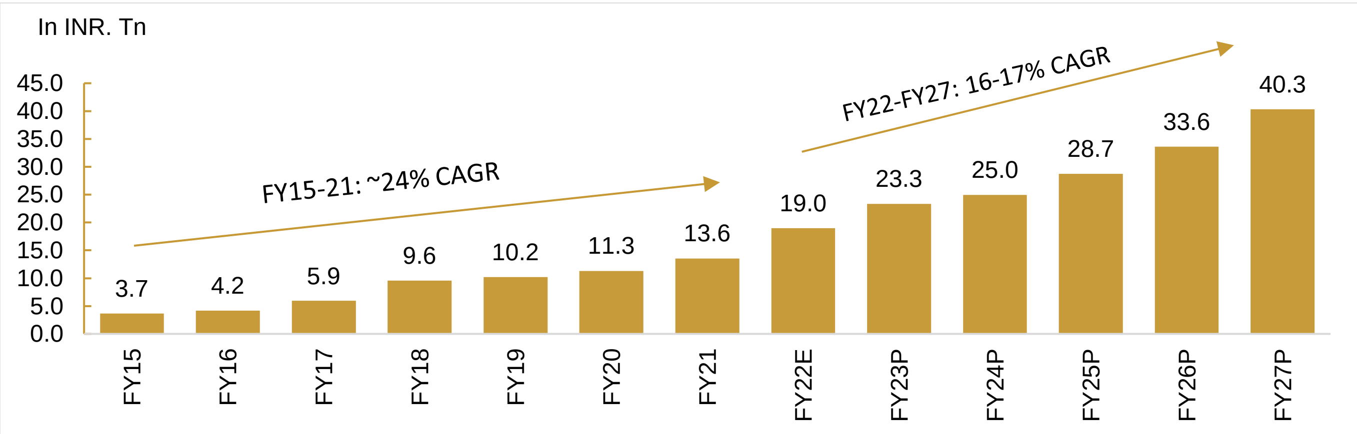


Notes: (1) Equity includes equity funds, ELSS, index funds, solution-oriented funds, and balanced funds. Debt funds include gilt, income, conservative hybrid, floater funds, and FoFs investing overseas. ETF includes gold ETFs and other ETFs. Liquid/ money market includes liquid funds, overnight funds, and money market funds, (2) Segment-wise AUM data is available since March 2015 with AMFI, (3) Quarter average AUM
Source: AMFI, CRISIL Research

Category wise growth outlook

Equity AUM grew approximately 20% in Fiscal 2021 due to higher MTM gains. In Fiscal 2022, CRISIL estimates equity AUM to grow by approximately 40% to reach approximately ₹. 19 trillion. CRISIL expects the Equity AUM to grow at 16-17% CAGR, the second fastest growth amongst all MF categories, over March 2022 to March 2027.

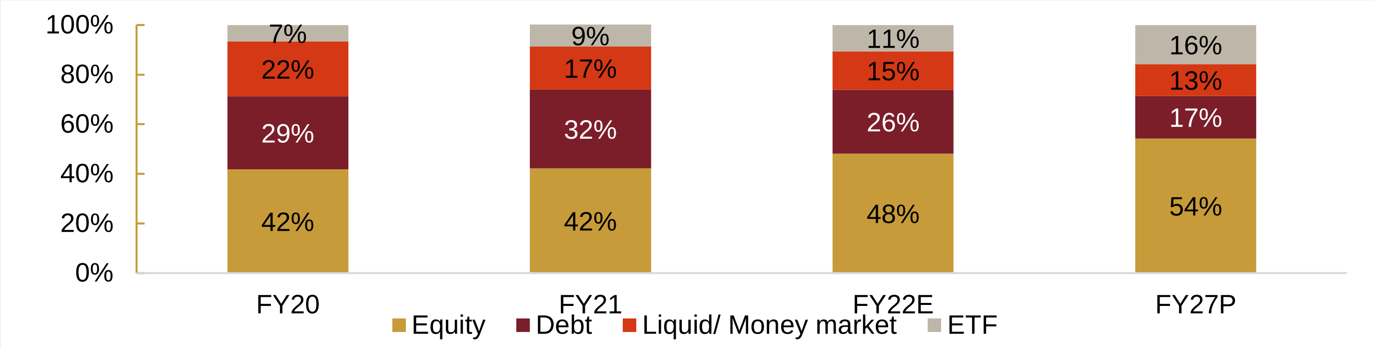
Growth trend in equity AUM



Note: E: Estimated, P: Projected, As per quarterly average AUM; equity includes equity funds, ELSS, index funds, solution-oriented funds and balanced funds AUM excluding Fund of Funds – Domestic but including Fund of Funds – Overseas; Source: AMFI, CRISIL Research

In FY22, Debt mutual fund is estimated to have declined marginally. Over March 2022 to March 2027, CRISIL expects the segment to grow at 4-5% CAGR on the back of economic recovery and improving business outlook. Liquid/money market funds are estimated to grow by 10% in FY22. CRISIL expects the segment to grow at approximately 9% CAGR between March 2022 to March 2027. CRISIL also expects ETFs to grow at approximately 23% CAGR over March 2022 to March 2027.

Equity AUM to continue to grow from 48% of overall AUM in FY22 to 54% in FY27 (%)



Note: P: Projected, the data is as per quarterly average AUM. Equity includes equity funds, ELSS, index funds, solution-oriented funds, and balanced funds. Debt funds include gilt, income, conservative hybrid, floater funds, and FoFs investing overseas. ETF includes gold ETFs and other ETFs. Liquid/ money market includes liquid funds, overnight funds, and money market funds. Source: AMFI, CRISIL Research

Trend in AUM as well as growth across mutual fund segments till March 2027 (₹ trillion)

	Mar-20	Mar-21	Mar-22E	YoY growth (Mar 20-Mar 21)	YoY growth (Mar 21-Mar 22)	Mar-27P	CAGR (FY22-27)
Equity	11.31	13.55	18.9	19.8%	40%	40.3	16.3%
Debt	7.97	10.22	10.1	28.2%	-1%	12.8	4.8%
Liquid / Money	5.96	5.54	6.0	-7%	10%	9.5	9.2%
ETFs	1.81	2.88	4.3	59.1%	45%	11.7	22.9%

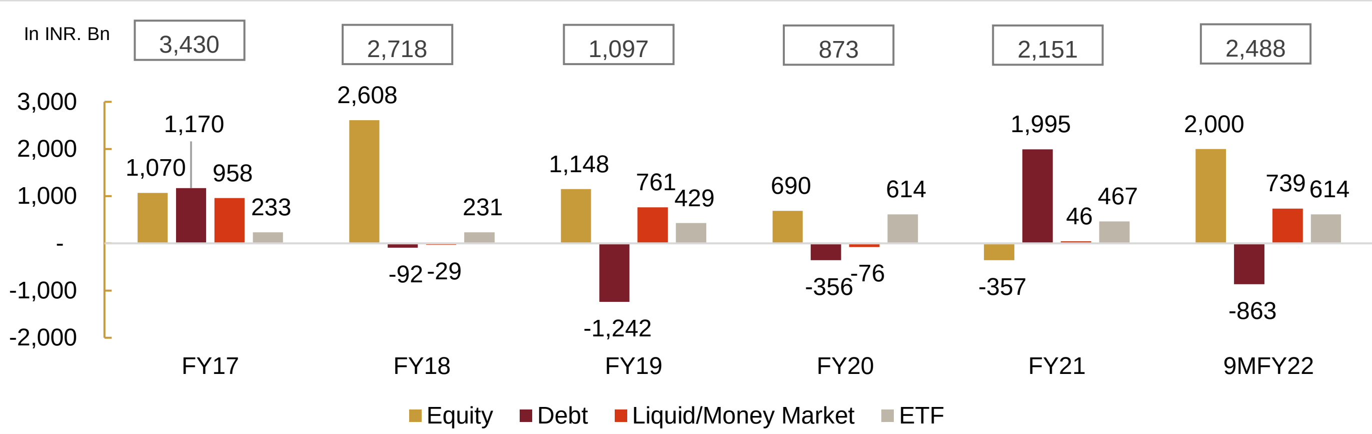
E: Estimated, P: Projected; Note: As per quarterly average AUM. Equity includes equity funds, ELSS, index funds, solution-oriented funds, and balanced funds. Debt funds include gilt, income, conservative hybrid, floater funds, and FoFs investing overseas. ETF includes gold ETFs and other ETFs. Liquid/ money market includes liquid funds, overnight funds, and money market funds. Source: AMFI, CRISIL Research

Net inflow in mutual funds to strengthen with retail participation

Net inflow in mutual funds declined in Fiscals 2019 and 2020, post two strong years (Fiscals 2017 and 2018), backed by equity inflows and corporate bond issuances. A major event in the form of the NBFC crisis in Fiscal 2019 slowed inflows during the year, followed by Fiscal 2020, which ended with the disruption caused by the COVID-19 pandemic. In Fiscal 2021, led by resurgence of investor interest despite the COVID-19 pandemic, aggregate inflows totaled ₹2,151 billion.

As per AMFI monthly disclosure, mutual fund industry witnessed an inflow of approximately ₹ 2,488 billion as of December 2021. Retail participation also increased with monthly inflows into mutual funds through the SIP route increasing from approximately ₹86 billion in April 2021 to approximately ₹113 billion in December 2021. During the same time, number of SIP accounts increased from 38 million in April 2021 to 49 million in December 2021. In the long term, with expectations of higher returns from the capital markets, the fund flow into equity funds is expected to be high. Increasing share of mutual funds in the financial savings of households, driven by expectations of higher and stable returns, is a key factor that is expected to contribute to fund inflows, especially into passive and equity fund categories.

Equity funds saw highest inflows in first nine months of Fiscal 2022

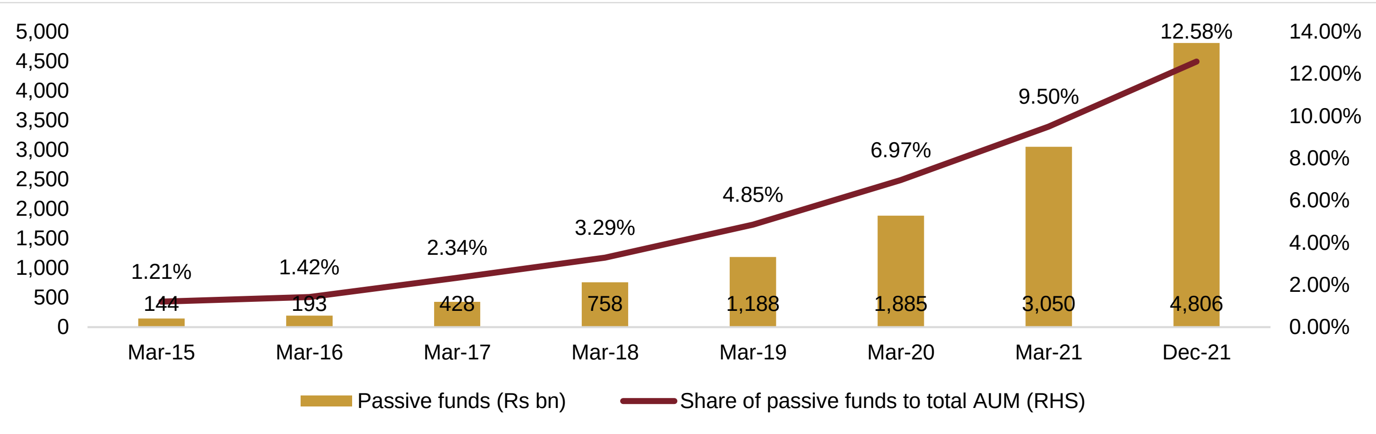


Notes: (1) As per quarterly average AUM. Equity includes equity funds, ELSS, index funds, solution-oriented funds, and balanced funds. Debt funds include gilt, income, conservative hybrid, floater funds, and FoFs investing overseas. ETF includes gold ETFs and other ETFs. Liquid/ money market includes liquid funds, overnight funds, and money market funds, (2) Figures in the box represents net inflow for the period; Source: AMFI, CRISIL Research

Share of passive funds low in overall industry AUMs, but has risen steadily over small base

Unlike the U.S. and other developed countries, where passive asset management garners a larger share, passively managed ETFs and index funds are yet to gain traction in India. However, their AUM share has risen from 1.21% as of March 2015 to 12.58%, or approximately ₹ 4.8 trillion, in December 2021, having grown at a CAGR of approximately 68.2%. ETF investments received a boost with the EPFO pumping in approximately 15% of its fresh accretion into the category.

Share of passive funds in AUMs



Note: Passive funds include gold ETFs, other ETFs and index funds. Figures exclude index funds from March 2020. QAAUM has been considered; Source: AMFI, CRISIL Research

While the space is dominated by institutional investors, retail demand has picked up in the recent past owing to discounts provided through Indian government disinvestment schemes, namely CPSE ETF (Central Public Sector Enterprises Exchange Traded Fund) and Bharat 22 ETF. These schemes are aimed at increasing retail investor participation. The rising interest can also be attributed to the low cost and well-diversified nature of ETFs, namely, gold ETFs and investments in equities beyond India. In addition, they also act as alternatives to actively managed funds. AMCs having higher share of these funds can better cross-sell other products to their retail base and, thus, save on costs incurred for marketing and business acquisition of retail customers. High growth potential of this fund category also makes it an attractive for AMCs, and the large chunk of institutional mandates makes managing the funds more profitable.

Growth Drivers for the Indian Mutual Funds Industry

Economic growth

India's nominal GDP is projected to grow at 11% CAGR between Fiscal 2021 and Fiscal 2025. Economic growth, coupled with rise in middle-income population and increase in financial savings is expected to boost mutual fund industry in India.

Financial inclusion

The low mutual fund penetration in India is largely due to the lack of awareness. However, penetration is increasing owing to various government initiatives towards investor education and awareness. Other government and regulatory initiatives aimed at widening the formal financial system are also expected to aid this growth.

Investor education

SEBI's has directed AMCs to annually set aside at least 2 basis points ("bps") of their daily net assets for spending on investor-education initiatives such as boosting awareness about capital market investment products. Such spending is expected to rise along with growing industry AUM, thereby helping deepen mutual fund penetration among new investors, particularly in B30 markets. CRISIL Research believes that investor education, coupled with better risk management and transparency within the mutual fund industry will boost investor confidence and lead to increased investments and growth in the industry.

Retirement planning

Retirement planning is an untapped market in India and if channeled through mutual funds, has the potential to significantly improve penetration among households. EPFO's move to invest 15% of its fresh accretion into ETFs has boosted the industry, thereby illustrating how mutual funds can be promoted as a vehicle for retirement planning in India. The substantial proportion of young population offers huge potential for retirement planning.

Tax benefits

The popularity of ELSS, a mutual fund product that helps investors save income tax under Section 80C of the Income Tax Act, 1961, has also grown. The aggregate AUM as of March 2019 stood at ₹ 1253 billion, up from ₹ 416 billion in March 2016, clocking a CAGR of 24.6%.

Key risks and challenges to the Indian Mutual Funds Industry

Stamp duty on mutual funds

A stamp duty of 0.005% is charged on all mutual fund purchases starting July 1, 2020. This move has impacted large corporates, which mostly put their money in liquid funds for shorter periods. However, as the holding period increases, there would be less impact on returns.

Downturn or volatility in mutual funds and other market-linked products

Retail participation and inflows into mutual funds and other market-linked products are heavily influenced by market performance and sentiment. Any downturn or volatility could make investors shy away from market-linked products and push them towards less-riskier assets.

Poor financial literacy in India

Unless addressed properly, low financial literacy and the lack of awareness is expected to continue hindering the mutual funds industry from capitalizing on the full potential of the Indian economy. Mutual funds and other market-linked products should continue pushing products in India. Therefore, regular interaction will play a critical role in building trust, retaining investors and increasing penetration. Development of new distribution channels, regulatory and government support, education initiatives and greater focus on retirement planning will be critical for the mutual funds industry to realize its full potential.

Competition from other financial instruments

Investors have been gradually reallocating their savings to mutual funds in recent years. However, in addition, insurance products such as unit-linked investment products ("ULIPs"), which provide dual benefits of protection and long-term savings, are competing for market share.

High cost of retail expansion

Expanding into the B30 markets would require substantial investments in marketing and distribution, which could exert pressure on profit margins of fund houses. Innovative mobile/online interfaces to reach out to consumers in these markets could reduce the cost of customer acquisition, compliance and other processes. Further, optimal utilization of the branch network of India Post and public sector banks is expected to play an important role in finding the right balance between online interface and in-person interaction.

Political instability or shift away from the pro-growth policy

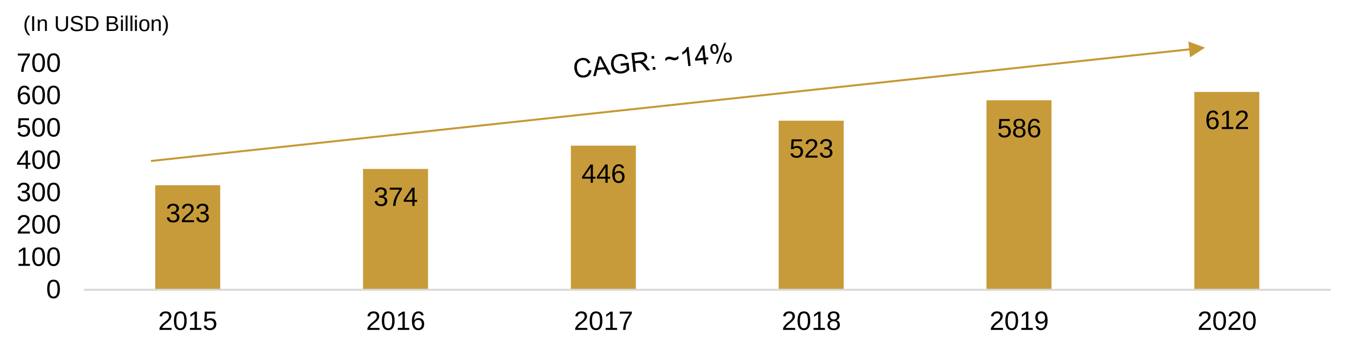
Political instability in India or regions across the globe, any harsh protectionist measures by larger economies, or faster-than-required tightening of monetary policy could impact growth and global trade.

Mutual Fund Industry in Southeast Asia and Hong Kong

Singapore

Singapore's total AUM (excluding AIFs) grew by 14% in calendar year 2020 to reach USD 2.8 trillion, driven by both net inflows of funds and valuation gains. In South East Asia, Singapore acts as a global Asia Pacific gateway for serving and intermediating international investors and asset managers with 78% of the AUM being sourced from outside Singapore. Thus, Singapore's total domestic AUM (excluding AIF) reached USD 612 billion in calendar year 2020. The year also witnessed a net increase of 67 registered and licenses asset managers in Singapore taking the tally to a total of 962.

Domestic asset management industry in Singapore clocked USD 612 billion in calendar year 2020

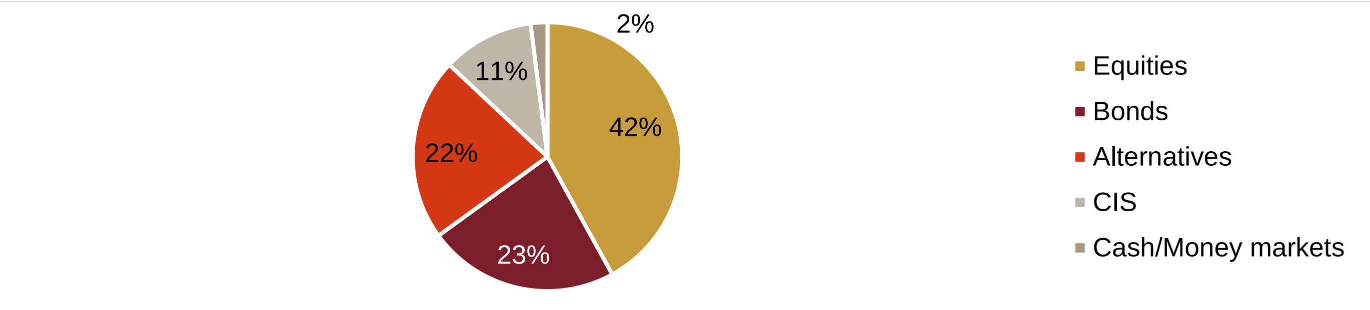


Note: Data includes only domestic mutual fund industry assets under management for year ending 31st December 2020, Currency exchange: 1 SGD = 0.75 USD, Data excludes AIFs in Singapore; Source: MAS, CRISIL Research

Overall asset mix of Singapore based asset managers

In calendar year 2020, allocation to equities stayed constant at 42% of overall AUM (USD 3.5 trillion) while the proportion of investments into fixed income assets decreased from 26% in calendar year 2019 to 23% in calendar year 2020. Investments into alternatives increased significantly by 36%, with proportion of AUM increasing from 18% in calendar year 2019 to 22% in calendar year 2020.

Investment by asset class in Singapore (2020)

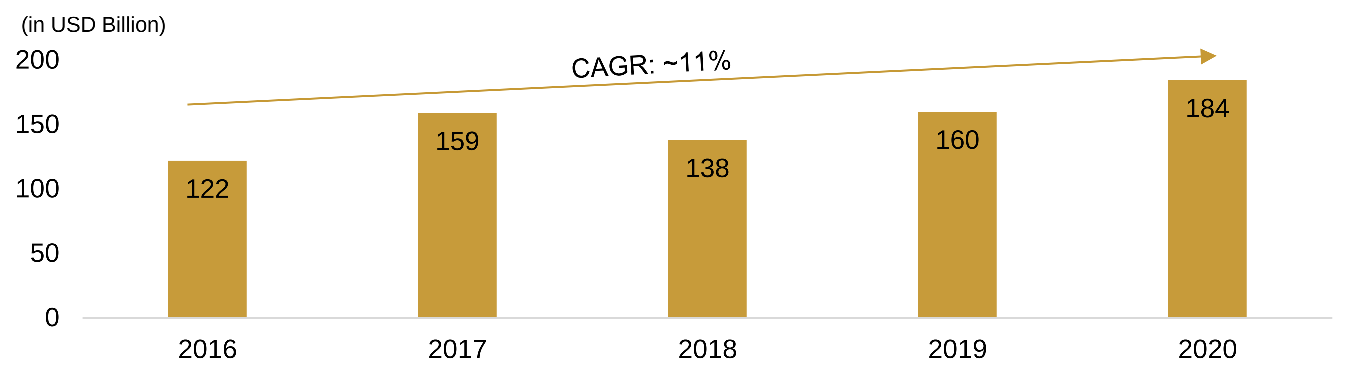


Note: Data includes overall assets under management (USD 3.5 trillion) of Singapore for year ending December 31, 2020; Source: MAS, CRISIL Research

Hong Kong

The total asset and wealth management business (including AIFs) in Hong Kong reached USD 4.5 trillion in calendar year 2020, thereby witnessing a growth of 21.4% on year. In calendar year 2020, the net fund inflows of USD 0.3 trillion was recorded for the asset and wealth management business, up from USD 0.2 trillion in calendar year 2019. This was primarily driven by non-Hong Kong investors which represent about 64% of the total asset and wealth management business in the country. The domestic asset management industry in Hong Kong is a growing industry, having witnessed a CAGR of 11% from USD 122 billion in December 2016 to reach USD 184 billion in December 2020. In calendar year 2020, the industry also witnessed an increase of 4% in the number of licensed corporations to carry out asset management activities and it reached 1,878 at end of December 2020. The number of individuals licensed to carry out such activities also grew by 3% on year to reach 13,074 in 2020 from 12,686 in calendar year 2019.

Domestic asset management industry of Hong Kong reached USD 184 billion in calendar year 2020

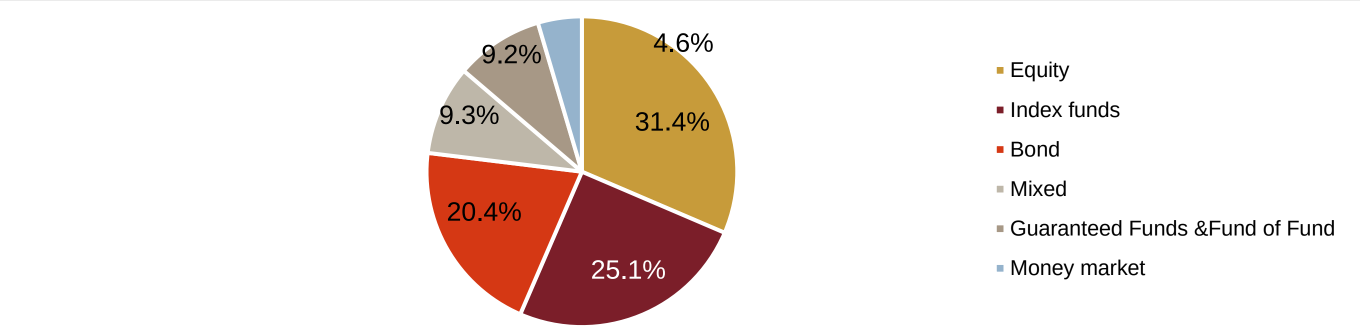


Note: Data is for year ending 31st December 2020, Data includes Hong Kong domiciled SFC authorized funds; Source: Hong Kong Investment Fund Association, CRISIL Research

Overall asset mix of Hong Kong based asset managers

As of December 31, 2020, majority of assets managed by Hong Kong domiciled funds were invested in equities and index funds which together accounted for approximately 57% of the total assets.

Asset mix of Hong Kong domiciled Securities and Futures Commission of Hong Kong ("SFC") authorized funds (2020)

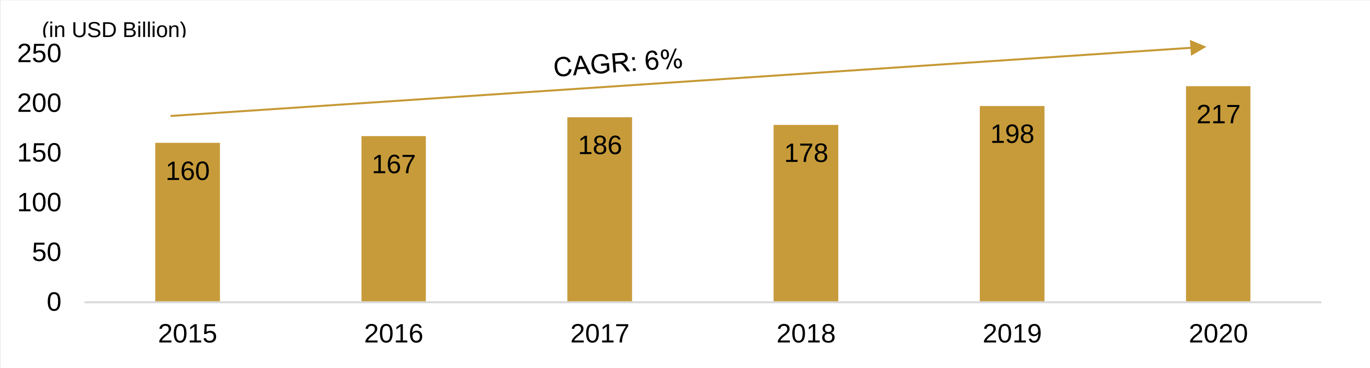


Note: Data is for year ending 31st December 2020, Data includes Hong Kong domiciled SFC authorized funds; Source: Hong Kong Investment Fund Association, CRISIL Research

Malaysia

The Malaysian asset management industry has achieved a strong growth over the last two decades, with AUM experiencing a double-digit growth. However, the growth started to taper following the global financial crisis, and between calendar years 2015 and 2020, the asset management industry in Malaysia witnessed a CAGR of 6%, with the industry witnessing a contraction in calendar year 2018. The asset management industry in Malaysia is highly concentrated and is anchored by a few large players. As of December 2020, there were a total of 82 portfolio management companies licensed by Securities Commission Malaysia ("**SC**"), with the top five contributing 55.27% of the total AUM in calendar year 2020. The source of funds under management largely came from unit trust funds, employees provident fund, corporate bodies and wholesale funds and majority was these funds were deployed inside Malaysia and accounted for 71.74% of the total AUM at end of calendar year 2020. As on January 31, 2022, there are 60 asset management companies in Malaysia across wholesale funds, unit trust funds and private retirement schemes.

Asset under management in Malaysia reached USD 217 billion in calendar year 2020

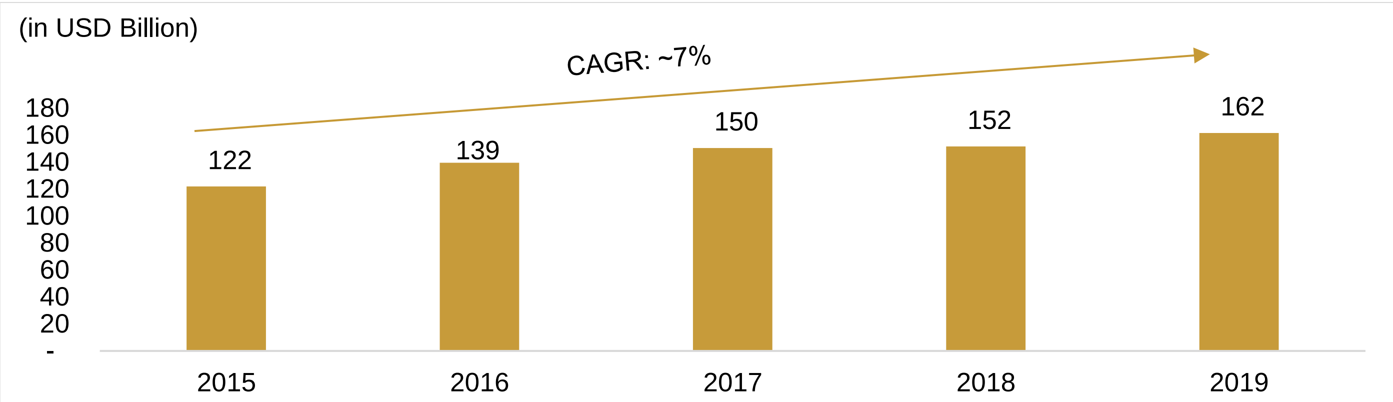


Note: Data is for year ending December 31, 2020, Currency rate: 1 RM = 0.24 USD; Source: Securities Commission Malaysia, CRISIL Research

Thailand

The mutual fund industry in Thailand took off in calendar year 1992 when the Ministry of Finance ended Mutual Fund Plc.'s sole market power. Since then, the mutual fund industry has witnessed steady growth and has grown at a CAGR of 7% between calendar years 2015 and 2019 to reach USD 162 billion. Between these periods, the number of funds in the country has also increased from 1,464 to 1,838. In June 2019, the Capital Market Supervisory Board made certain regulatory amendments, allowing retail mutual funds to invest directly in qualified private equity funds. Previously, retail funds were only allowed to invest in these funds through collective investment schemes. This has led to private funds witnessing higher traction as investors look for higher yield amidst the low interest rate environment.

Asset under management in Thailand reached USD 162 billion in calendar year 2019

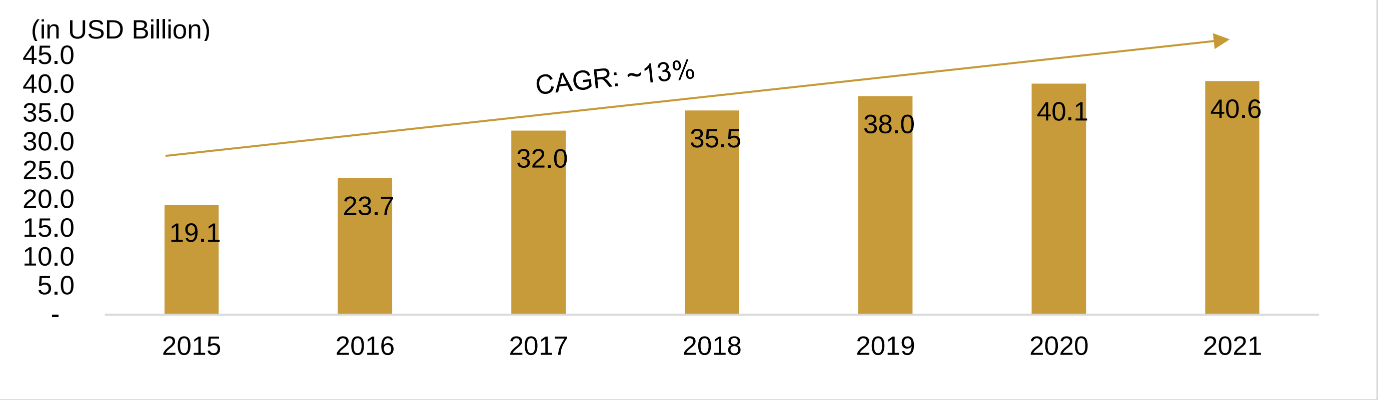


Note: Data is for year ending December 31, 2019, Currency exchange: 1 Thailand Baht = 0.03 USD; Source: Association of Investment Management Companies (Thailand), CRISIL Research

Indonesia

Indonesia's mutual fund industry is highly dependent on the banking industry as distributors of mutual funds. In the past, the mutual funds were considered an exclusive product, available only to priority bank clients with high net worth. However, this is no longer the case with the regulator positioning mutual funds as an easily accessible investment option. This has led to increased participation in the mutual fund industry, which has witnessed a CAGR of 11% between calendar years 2016 and 2021 to reach USD 40.6 billion.

Asset under management in Indonesia reached approximately USD 41 billion in calendar year 2021

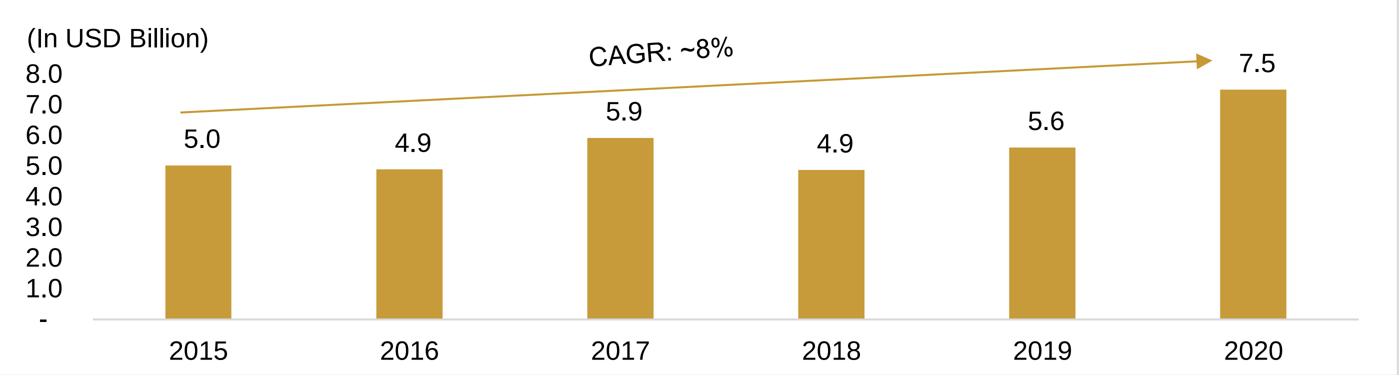


Data is for year ending December 31, 2021, Currency exchange: 1 Indonesia Rupiah Baht = 0.00007 USD; Source: Financial Service Authority of Indonesia, CRISIL Research

Philippines

The Philippines' mutual fund industry grew at a CAGR of 8% between fiscal 2015 and 2020 to reach USD 7.5 billion. This growth can be attributed to a gradual rise in number of investors and the performance of money market and equity funds in the country. Over the past few years, the industry has also witnessed a shift from fixed income type funds to more equity-oriented funds.

Asset under management in Philippines reached USD 7.5 Billion in calendar year 2020



Note: Data is for year ending December 31, 2020; Source: IIFA, CRISIL Research

GDP and Mutual Fund AUM of Southeast Asian countries and Hong Kong

Country	GDP (2021) (in USD Bn)	Mutual Fund AUM (2020) (in USD Bn)
Singapore	361	612
Hong Kong	370	184
Malaysia	348	217
Thailand	311	162
Indonesia	775	41
Philippines	367	7.5
Total	**2,352**	**1,224**

Source: IMF, IIFA, MAS, Hong Kong Investment Fund Association, Securities Commission Malaysia, Association of Investment Management Companies (Thailand), Financial Service Authority of Indonesia, CRISIL Research

Growth Drivers for the Mutual Funds Industry in Southeast Asia and Hong Kong

Singapore

Singapore Fund Industry group to strengthen and develop Singapore as Asset Management Hub

In calendar year 2021, the MAS partnered with various industry stakeholder within the funds ecosystem to establish Singapore Funds Industry Group ("**SFIG**") which is aimed at bringing together all key players across the entire asset management value chain such as fund managers, lawyers, tax advisors and fund administrators together to identify industry trends, new market opportunities and recommend developmental initiatives to transform Singapore into an asset management hub. This is expected to further strengthen financial market capabilities, bring higher transparency and drive sustainable developments in the Singapore mutual fund industry. In addition, the Singapore government's thrust towards digitization, favorable policies in relation to taxes and benefits payment for reducing economic inequality, rising labor force participation and efforts towards making Singapore a regional economic hub is also expected to aid capital market participation and boost the mutual fund industry.

Hong Kong

Increased investor pool and client engagement to drive Hong Kong's mutual fund industry

To broaden the investor base for Hong Kong funds and promote the development of local investment expertise and strengthen Hong Kong's position as an asset and wealth management center, the SFC is promoting cross border offerings of qualified Hong Kong public funds into overseas markets through mutual recognition arrangements. This led to the implementation of Mainland-Hong Kong Mutual Recognition of Funds ("MRF") scheme in calendar year 2015. In calendar year 2021, it entered into a memorandum of understanding which allows eligible Hong Kong and Thai public funds to be distributed in the other markets. In addition, ongoing development of Greater Bay Area to enhance distribution channels, advances in technology and increased client engagement are further expected to drive growth for mutual fund industry in Hong Kong.

Malaysia

Broadening distribution channel and embracing digital disruption to bolster Malaysia's industry

While agency model remains a key distribution channel for retail investors in the Malaysian mutual fund industry, digital disruption and rise of on-demand services has caused the industry to further broaden their distribution channel through partnership and reach out a larger customer base. Further, digitization of financial services and adoption of robo-advisory models for creation of tailor-made long term strategic investments for the client has increased the pace of financial literacy and mutual fund penetration in Malaysia. Going forward, the trend is expected to continue which will bolster Malaysia's mutual fund industry.

Thailand

Sustainable finance to drive growth for mutual funds industry in Thailand

The Securities and Exchange Commission Thailand ("SEC Thailand") as the capital market regulator refers to sustainability in one of the foundation statements of the organization. According to Thailand's Capital Market Strategic

Plan (2020-2022), SEC Thailand had defined four major goals around sustainability, financial inclusion, development of capital market infrastructure and increasing investors' trust and confidence. In January 2022, the Stock Exchange of Thailand formulated a three-year strategic plan (2022-2024) based on the concept of "Connecting opportunities X Transforming possibilities", to develop current market and connect to the future world to ensure growth and sustainability aspects. Going forward, increasing retail participation, rising investor confidence coupled with increased asset diversity of fund owing to sustainable investing going mainstream in Thailand is expected to provide a stimulus to the mutual fund industry in Thailand.

Indonesia

Government push to deepen capital market to provide a fillip to Indonesia's Mutual Fund Industry

Despite a CAGR of 13% between calendar years 2015 and 2021, the mutual fund penetration in Indonesia is still at 4% which provides a huge headroom for growth. Indonesia Stock Exchange ("IDX") launched multiple campaigns in the past few years to raise public awareness on the benefits of long-term investing in capital market products. The Indonesian government has also lowered the corporate tax for listed companies in the hope of encouraging private companies to go public, thereby increasing the number of companies listed on the stock exchange. The relevant authorities have also taken various efforts to expand the distribution of mutual funds to allow parties with an extensive customer network to participate as an agent of mutual fund sales force. Going forward, these measures are expected to provide a fillip to the mutual fund industry in Indonesia.

Philippines

Shift in attitude towards managed investment schemes to spur Philippines Mutual Fund Industry

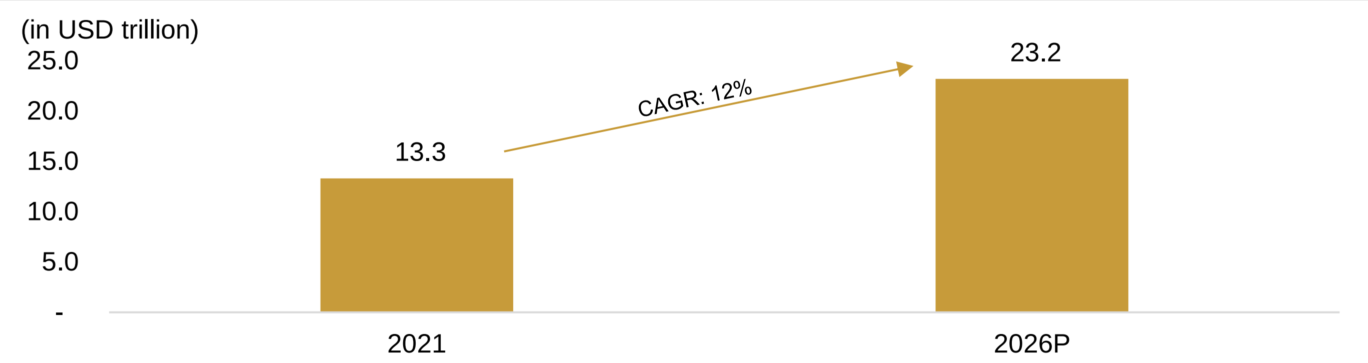
The mutual fund market in Philippines is still at a nascent stage and has a long way to catch up with other South East Asian countries. According to Financial Inclusion Survey (2019) of Central Bank of Philippines, the investment ownership in Philippines increased to 25% in calendar year 2019 from 22.5% in calendar year 2017. The most common types of contributions went towards Social Security System as 88% of investment owners contributed to this scheme; and Pag-IBIG as 52% of investment owners invested in this scheme, while a mere 3% of investment owners invested in stock, bonds, unit investment trust funds, mutual funds and other managed investment schemes. Going forward, structural reforms and educational initiatives to strengthen financial literacy and deepen capital markets are expected to cause a shift towards managed investment schemes. Further, expanding digital landscape in Philippines and encouraging financial empowerment through sachet investing is also expected to aid the growth to mutual fund in Philippines.

Alternative Investment Funds ("AIFs")

Global AIF Industry

According to Preqin, the global alternative asset under management is expected to nearly double over the next five fiscals, swelling to USD 23.2 trillion by fiscal 2026 from an estimated USD 13.3 trillion at end of fiscal 2021. The growth is projected to be driven by growth in private equity owing to its ability to deliver superior returns to investors while countering changes in market realities and regulatory landscape. The contributions from HNIs and wealth managers are also expected to increase with increasing investor awareness and education. Further, alternative assets are generally not in correlation with public markets and provide the necessary portfolio diversification, thereby ensuring low volatility and strong performance through market cycles which makes it an attractive proposition.

Global alternate assets to cross USD 23 trillion by end of fiscal 2026



Note: P: Projected, Alternatives include hedge funds, private equity, real estate, infrastructure, private debt and natural resources; Source: Preqin (Alternatives in 2022 - January 2022)

Indian AIF Industry

SEBI defines AIFs as privately pooled investment vehicles, which collect funds from investors for investing as per a defined policy for the benefit of its investors and are not covered by any other regulations of the SEBI that govern fund-management activities. Equity AIFs cater to the Ultra HNI ("**UHNI**") / HNI clients and compete with equity portfolio management services ("**PMSs**") for the wallet share of such clients. While the private equity industry saw strong growth over the past decade, with investors rushing to invest in start-ups in India, newer products such as social ventures, arts, small and medium enterprise ("**SME**") funds, and real estate funds are also gaining prominence. On the debt side, institutional investors such as insurance companies and pension funds are investing in alternative assets in search of higher yields.

According to SEBI, AIFs are classified in three broad categories:

Category of AIF	Fund includes
Category I	Venture capital funds, SME funds, social venture funds, infrastructure funds
Category II	Private equity funds, real estate funds, funds for distressed assets, FoFs
Category III	Hedge funds, Private investment in Public Equity Funds ("**PIPE**")

Investor Profile

Resident Indian individuals, Non-resident Indian ("NRIs") and foreign nationals can invest in AIFs. However, due to minimum investment requirement of ₹ 10 million (₹ 2.5 million in the case of angel funds), only sophisticated private investors such as HNIs can invest in AIFs. Further, as per guidelines issued by SEBI, AIFs can only be marketed through private placement. The directors, employees and fund managers of AIFs are permitted to invest in AIFs with minimum investment of ₹. 2.5 million.

AIF has gained strong traction in recent years

In recent years, AIFs have gained significant attraction due to its ability to generate higher returns for UHNIs / HNIs by investing in funds such as real estate funds, venture capital funds and start-up funding., as well as enabling investors to take exposure to specific themes such as private debt focused on entities focused on financial inclusion. The growth in AIF industry could be attributed to the surge in investment activities and fund raising in India along with support from regulatory reforms brought by SEBI. As of December 21, 2021, there were 828 AIFs overseeing over ₹. 5 trillion in investor commitments, as against 209 AIFs with ₹ 0.38 trillion in commitments as of March 31, 2016, reflecting an impressive approximately 14x growth during the interim period.

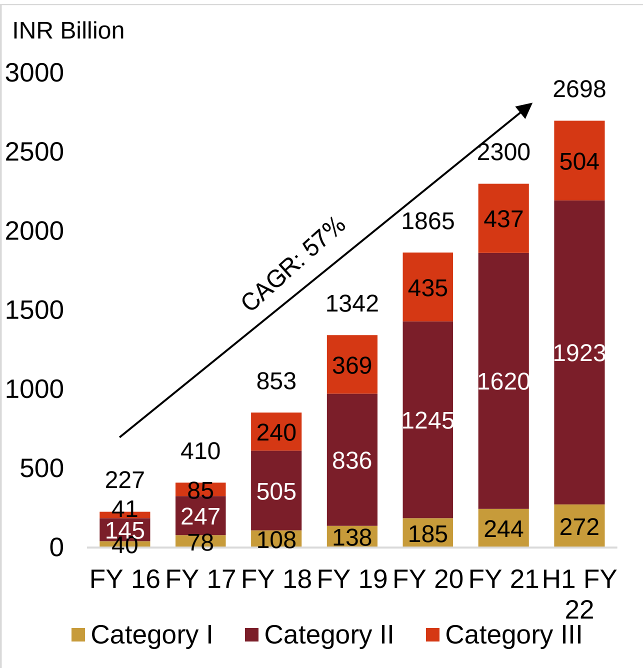
Despite such a strong growth in AIF, India's AIF market is still underdeveloped as compared to rest of world. For example, in 2019, the AIF industry size in the U.S. was USD 10.3 trillion. The key factors for the underdeveloped AIF market in India are higher investment ticket size and higher returns from traditional investment options. The higher investment criteria keep a large number of potential investors away from AIF market, which in turn could bring in higher amount of funds.

Recent interest rate cuts and other moves by the RBI have brought down bank fixed deposit ("**FD**") yields, money market rates and bond yields. Earlier, higher yields from investment grade bonds had kept investors away from AIF market as investors could enjoy good returns at low risk. Going forward, yield from investment grade bonds is expected to be relatively less attractive, which is expected to bring investors to AIF in search of higher yields.

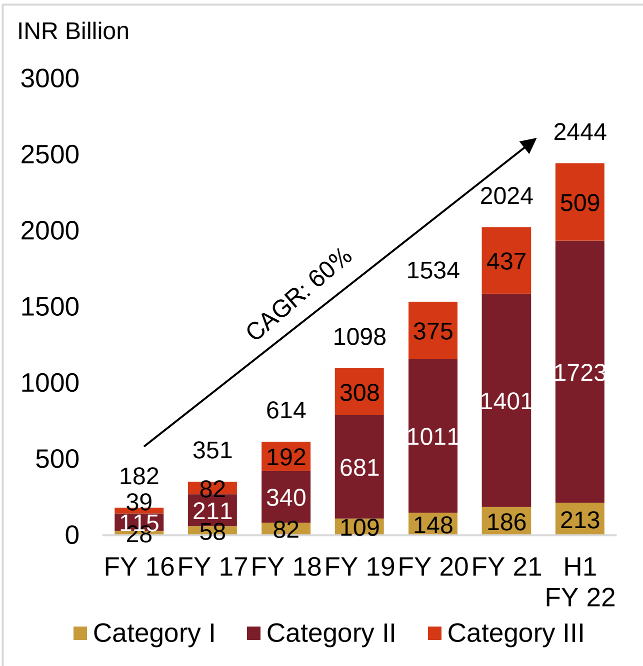
Pension funds and insurance companies are expected to increase their allocation to private debt as AIF market matures and generates higher yields as compared to traditional asset class. Furthermore, offshore funds and UHNIs/HNIs are expected to continue to bring in additional funds for higher returns.

Investment made and funds raised in AIFs have increased significantly (₹ Billion)

Trend in funds raised



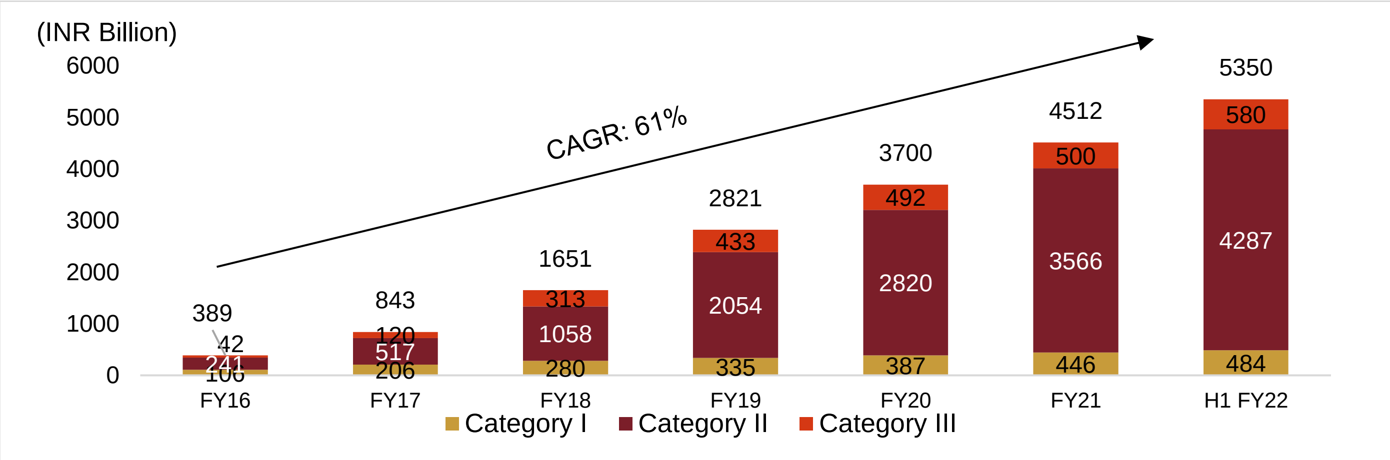
Trend in investment made



Source: SEBI Statistics, CRISIL Research

Around 80% of commitments raised and 71% of fund raised by AIFs as on September 2021 are under Category II funds, which includes real estate funds, private equity funds and debt funds. Category III funds were able to raise commitments and funds of around ₹ 580 billion and ₹ 504 billion, which is 11% of overall commitments raised and 19% of overall fund raised by AIFs as of September 2021. Category III funds are permitted to invest in commodity derivatives until 10% of investible funds and they are also allowed to leverage up to two times.

Commitment and funds raised across AIF categories in last five years (Fiscal 16 to Fiscal 21)

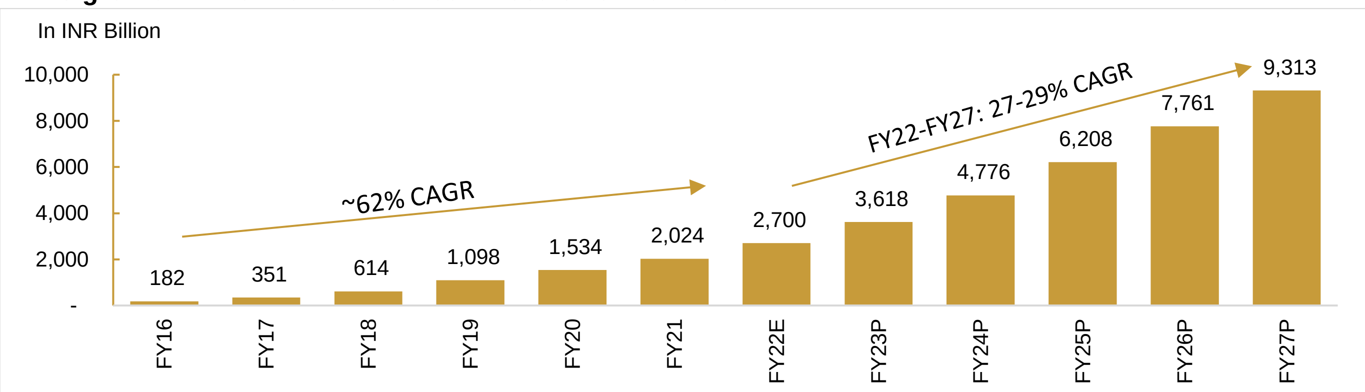


Source: SEBI Statistics, CRISIL Research

Indian AIF Industry Outlook

With the phenomenal rise of many AIFs and rising inflow of funds into this category, CRISIL Research expects the AIF industry to grow at a CAGR of 27-29% between Fiscal 2022 and Fiscal 2027. It is expected to help expand the allied investor services industry by serving the rising demand.

AIF to grow at 27-29% CAGR between Fiscals 2022 and 2027



Source: CRISIL Research Estimates

Growth drivers of AIF Industry in India

RBI allowance of foreign investment

Category III AIF with foreign investment are permitted to make portfolio investments in only those securities or instruments in which an FPI can invest under the Foreign Exchange Management Act, rules or regulations made thereunder. In May 2021, SEBI, in consultation with RBI, doubled the overseas investment limit for AIFs from USD

750 million to USD 1500 million.

Simplification of procedures

The regulatory powers of four regulators, namely, RBI, SEBI, Insurance Regulatory and Development Authority ("IRDA") and Pension Fund Regulatory and Development Authority ("PFRDA") are vested in International Financial Services Centres Authority ("IFSCA"), which ensure single window approval for investors to apply for various approvals and make it easier for them to set up units. Accordingly, AIFs set up in Gujarat International Finance Tec-City ("GIFT City") only require approval from International Financial Services Centre ("IFSC") and not the four regulators. IFSC has permitted higher leverage level for Category II funds with the consent of the fund's investors. Additionally, the IFSC has offered flexibility to fund the managers' and investors with regards to co-investment and diversification norms for fund portfolio.

GIFT City

GIFT City is a global financial and information technology ("**IT**") services hub on the lines of globally benchmarked financial centers. It includes a special economic zone ("**SEZ**") having the status of an IFSC, set up with the objective of undertaking financial services transactions that are currently carried out outside India by overseas financial institutions and overseas branches/ subsidiaries of Indian financial institutions. As part of the overall regulatory endeavor to facilitate growth of financial services intermediaries in IFSC, various regulatory reforms have been introduced in IFSC. As a result, it is fast emerging as an attractive alternative to AIFs. GIFT City is brought under IFSCA regulations, which simplified deal structuring, provided flexibility, and allowed for allocation of more capital to opportunities and offered various tax exemptions. GIFT City AIFs have several preferential rules concerning single window clearance, leverage, diversification restrictions, absence of SEBI approval for investments outside India as well as deal structuring and capital allocation.

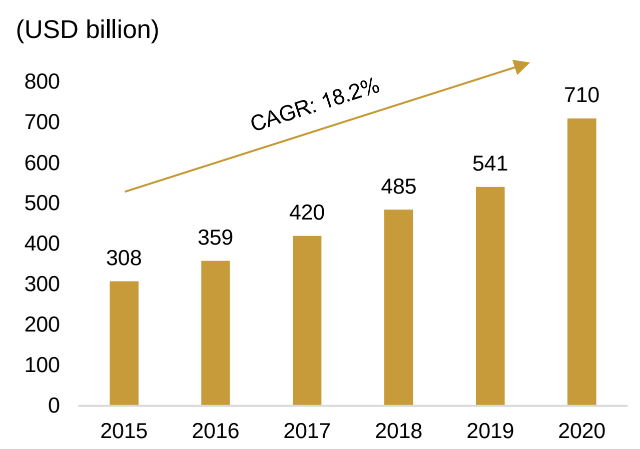
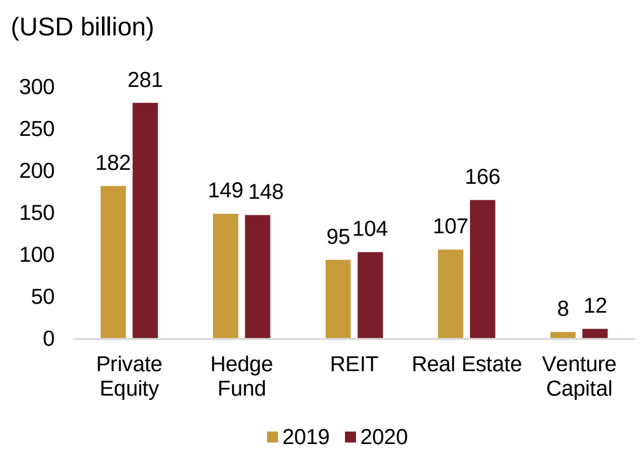
Tax incentives

Non-resident investors' income earned, derived, or received from offshore investments made through a Category I or II AIF is not taxable in India. Non-resident investors are exempt from filing income tax returns if they earn income solely from investments in Category I or Category II AIFs in the IFSC and tax is deducted on the distributions made by such AIFs to non-resident investors. Additionally, such non-resident investors are not required to obtain a PAN in India. Whereas Category III AIFs are taxed at the fund level and various exemptions are provided to non-resident investors. Investors are tax exempt on income accruing to, arising from, or received from the Category III AIF or on the transfer of its units. Additionally, the provisions of the alternate minimum tax do not apply to Category III AIFs. Stamp duty, securities transaction tax, and commodities transaction tax exemptions apply to transactions conducted on IFSC exchanges. These exemptions would promote higher investments from non-resident investors in AIF industry.

AIF Industry in Singapore

At the end of calendar year 2020, total AIF assets under management in Singapore grew at a whopping 31.3% to reach USD 710 billion, up from USD 541 billion in calendar year 2019. Between calendar years 2015 to 2020, the AIF AUM in Singapore has witnessed a growth at a CAGR of 18.2%. Within the alternatives sector, y-o-y growth for private equity ("**PE**") and venture capital ("**VC**") AUM was robust in calendar year 2020 at 54% and 49%, respectively, owing to efforts by MAS to develop Singapore as an Asia Pacific private markets hub, and investors seeking higher yield. Going forward, the AIF market in Singapore is expected to grow owing to regulatory support and growing interest of PE/VC managers and investors to opportunities in digitalization and sustainability.

Singapore alternate assets crossed USD 700 Billion in calendar year 2020

AIF AUM (in USD Billion)	AUM by sector (in USD Billion)
	

Note: Currency exchange: 1 SGD = 0.75 USD; Source: MAS, CRISIL Research

Wealth management

Industry overview

Depending on goals and constraints of clients, the wealth management industry provides professional investment advice, financial planning and management services that best suits their requirement. It also provides value-added services, such as investing in art and antiques, and helps clients in philanthropic activities. The wealth management industry has seen robust growth over a low base, because of fresh investments from household savings going into organized financial assets, and increasing need for customization, with clients typically asking advice for asset management, financial planning, tax planning, estate planning, and succession planning.

Type of wealth management services

Advisory: In this type of service, investment decisions can be at the wealth management company's discretion or solely taken by the client. This is typically for HNIs and UHNIs. As Indian investors are not accustomed to paying a fee for wealth management advice, the fee-based advisory model has not yet matured in India. Many wealth managers refrain from offering fee-based advisory services, instead focusing on commission from transactions.

Distribution: This type of service is primarily transaction-oriented, where the client assigns the wealth manager to execute specific transactions related to his/her wealth management. However, investment planning, decision and further management remain vested with the client. This service is offered for products, such as mutual funds, ETFs, portfolio management services, alternative investment funds, tax-free bonds, and fixed deposits. These services are also offered by brokerage firms, apart from the wealth management firms.

Custody, servicing and safekeeping of assets: A wealth manager is only entrusted with management, administration and oversight of the process of investment. All investment planning, investment decisions, and execution is done by the client.

Family office: Family office services provide large businesses and families with customized solutions to manage their wealth better, and aid in succession planning. It offers services, such as tax planning and wealth management, philanthropy, will execution, and estate planning. Family offices charge fees based on percentage of assets managed above the fixed amount of fees. Approximately 25-30 bps is the typical yield charged. Family offices is ideal if the portfolio is over ₹ 1 billion.

Customer profile in wealth management industry

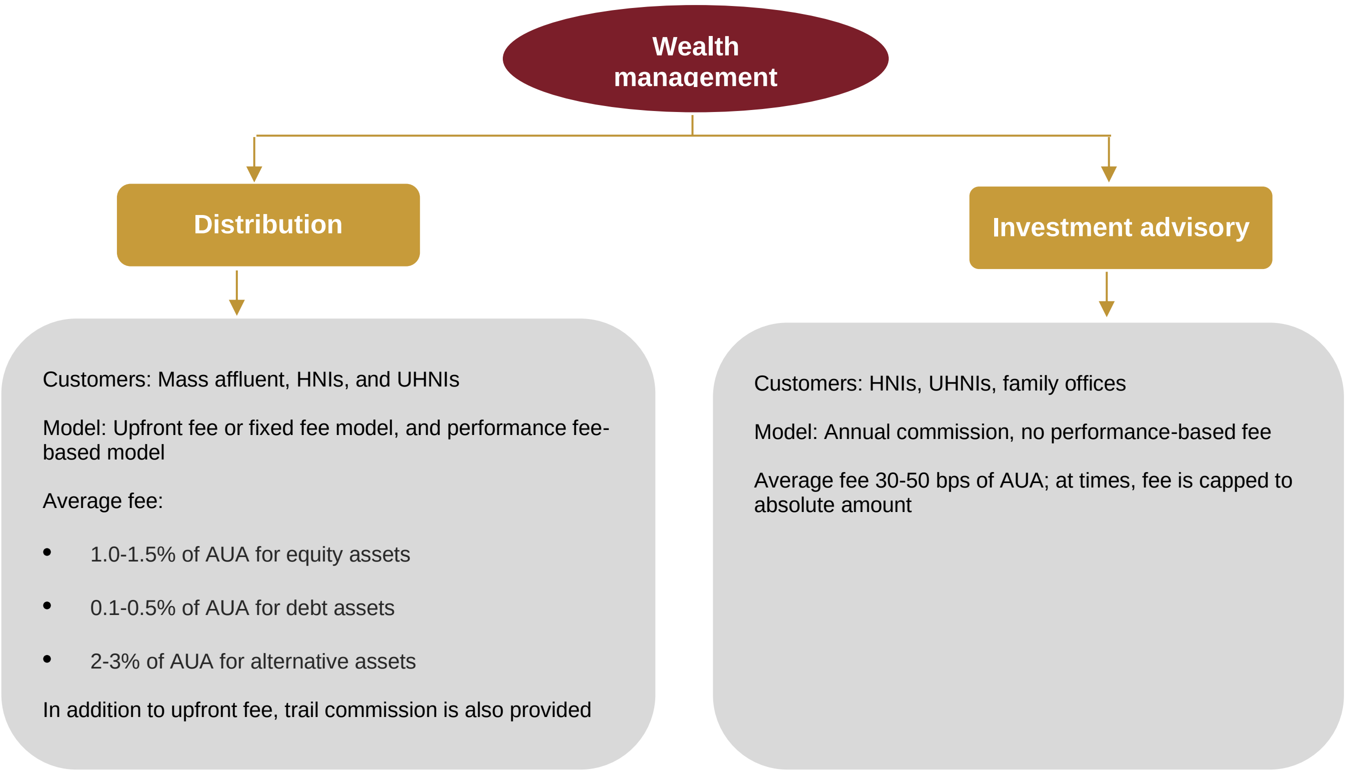
UHNIs: These are entrepreneurs, corporate executives, or wealthy families who have an investable assets base of over ₹ 250 million, excluding their primary residence, collectibles, consumables, and consumer durables. They usually require structured customized solutions from the wealth manager.

HNIs: They have an investable asset base of over ₹ 50 million, excluding their primary residence, collectibles, consumables, and consumer durables. With rising income levels, increasingly professionals and salaried individuals are able to generate surplus income, which they prefer to channel into productive investments. Thus, newer categories of customers, affluent and mass affluent, have emerged in the last few years

- **Affluent customers:** Wealth management players and brokers provide distribution and custodial services to this segment. Affluent customers are those who have investable asset base of ₹ 5.0 million to ₹ 50 million
- **Mass affluent/ retail investors:** These are customers with less than ₹ 5.0 million of investable asset base

Wealth management firm have different strategies, based on the profile of the customer. There are different teams catering to UHNIs and HNIs, and those catering to affluent and mass affluent customers. For instance, one relationship manager ("**RM**") typically services 400-700 customers in the affluent/mass affluent category; the corresponding number ranges between 50-70 clients per RM in the case of HNIs and 10-20 clients per RM for UHNIs.

Revenue model in wealth management services



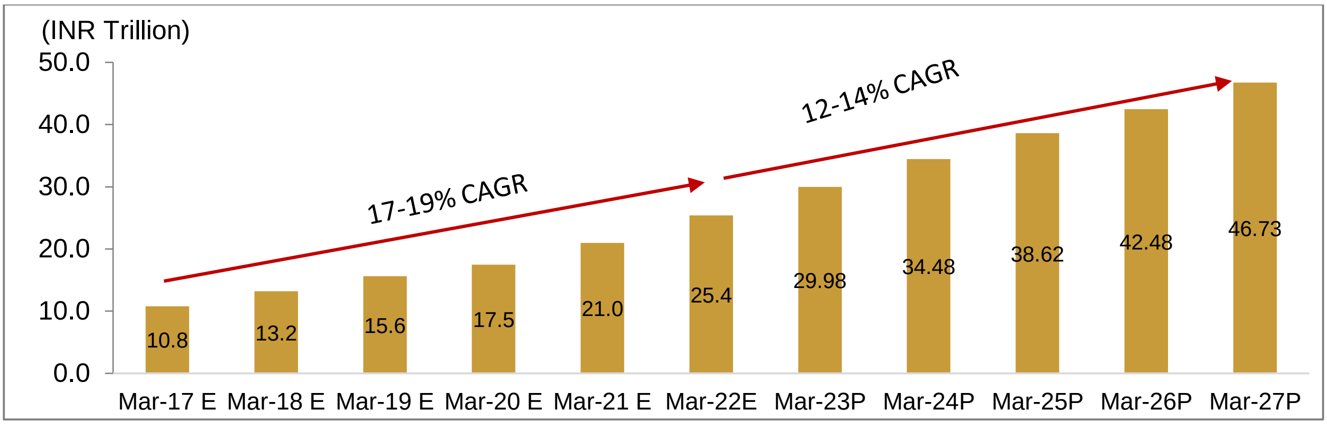
Source: CRISIL Research

Industry outlook for Wealth Management in India

The wealth management industry in India is still at a very nascent stage. It has huge potential to become a high-growth market supported by a young affluent investor base, improving wealth levels, strengthening regulatory environment, and an increasing share of organized players, including banks, independent wealth advisors, and brokers, who act as financial advisors. The thrust on customization, technology dependence, rising awareness, and thrust on financial assets as against physical assets is expected to create large opportunities for the wealth management industry in India. In terms of offerings, family office solutions and estate planning have been seeing increasing demand in recent years.

CRISIL Research estimates India's wealth management industry, including banks and broking companies offering such services, assets to be at around ₹ 25 trillion in Fiscal 2022. CRISIL Research projects the market to grow at a CAGR of 12-14% over March 2022 to March 2027 and cross ₹ 47 trillion by Fiscal 2027. This is expected to be supported by significant under penetration compared to other developed economies, increasing population of affluent clients, increase shift from physical assets to financial assets and increasing complexity of assets amid rising competition.

Wealth management industry AUM to grow at 12-14% CAGR over Fiscals 2022 to 2027



E: Estimated; P: Projected, Source: CRISIL Research

Key growth drivers for Indian Wealth Management

- **Low penetration of organized wealth management:** The assets under administration ("**AUA**") of wealth management market in India, at approximately ₹ 25.4 trillion, is only approximately 11% of India's GDP. In established markets, advised wealth, as a percentage of GDP, is at 60-75%. However, there has been a rising demand for wealth managers in the tier 1 cities in India, owing to rising awareness among affluent and mass affluent customers, and increasing number of potential clients on account of growing income levels. The increase in penetration of wealth management companies into tier 2 and 3 cities is expected to help drive growth, given more than 40% of the UHNIs live in non-metros, and their wealth is majorly managed by independent financial advisors ("**IFAs**") and chartered accountants.
- **Increasing population of affluent clients with rising income levels:** With an expanding economy, middle class incomes and investable assets of UHNIs in India have increased sharply over the past few years. This, along with increasing financial literacy and growing customer awareness, has led to increase in demand for wealth products. India has one of the world's fastest growing UHNI population, both in terms of the number of individuals and wealth levels. The rise in the UHNI population has been partly driven by e-commerce start-ups and rising income levels.
- **Increase in wealth allocated towards financial products**: Individuals and investors are increasingly moving away from traditional physical investments, such as real estate and gold, and making higher allocations into financial assets, such as equity, bonds and alternative investments, thereby creating higher potential for wealth products. This, along with ease in accessibility of different investment products on one platform, is expected to help propel growth.
- **Increasing complexity of products requiring advice:** There is increasing complexity of the financial products in the market, thereby requiring advice from professionals for better understanding of the products before investing. This is expected to help drive growth of the investment advisory business.

The net average fees earned by the advisory services is in the range of 30-50 bps of AUA, with the fees being on the higher side for mass affluent and HNI customers compared with UHNIs. Sometimes, these advisory fees are capped up to a fixed amount for HNIs and UHNIs customers. For distribution, average fee is approximately 1-1.5% of the AUA for equity products with similar or marginally lower trail yields and 0.1-0.5% of AUA for debt products. For alternative assets, average upfront distribution fee is 2-3% of AUA with no trail commission. Firms have been trying to optimize their cost to income ratios through appropriate investments in talent acquisition, technology and tools.

Portfolio management services in India

In India, PMS is offered by AMCs, banks, brokerages and independent investment managers. PMS is usually focused on customized discretionary, non-discretionary or advisory service offerings tailored to meet specific investment objectives through basic portfolio management services for stocks, cash, fixed income, debt, structured products and other individual securities. Apart from managing mutual fund schemes, AMCs in India have started offering tailor-made strategies with higher flexibility to investors through PMS. As of December 19, 2021, there were 363 portfolio managers (including AMCs) registered under SEBI. As of October 2021, discretionary PMS dominated the space with 84% share, followed by advisory (10%) and non-discretionary (6%) services.

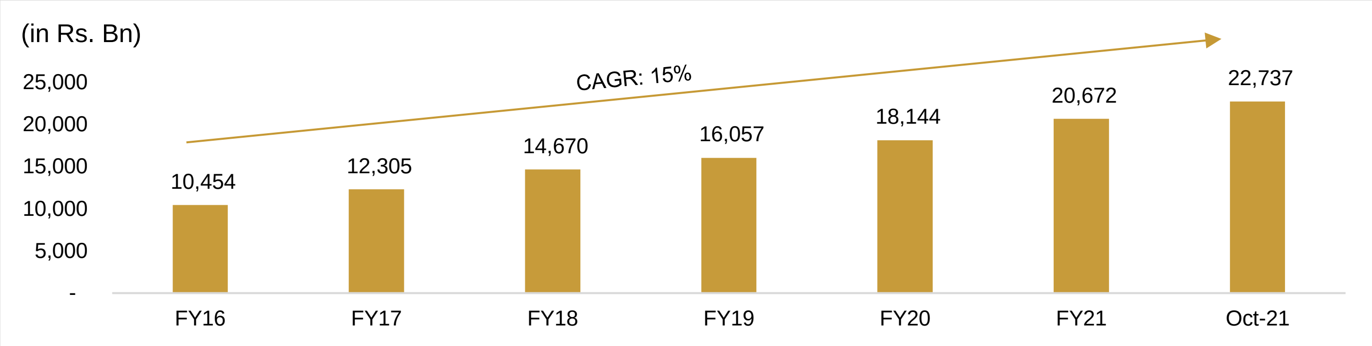
Over the last five years, the PMS industry has seen significant growth, with the market becoming more mature, increasing number of HNIs, greater need for customized asset allocation based on risk-return profiling, and growing awareness of PMS as a product. As of October 2021, the AUM of PMS asset managers stood at approximately ₹ 22.7 trillion, reflecting a CAGR of 14% over the last five years. For last 12 months, the AUM of PMS asset managers had grown approximately 18% in October 2021 to approximately ₹ 22.7 trillion from ₹ 19.2 trillion in October 2020.

However, on November 20, 2019, SEBI announced an increase in the required minimum ticket size for investing in PMS, from ₹ 2.5 million to ₹ 5.0 million, and the minimum net worth requirement for PMS providers, from ₹ 20 million to ₹ 50 million, effective within 36 months. Along with additional changes aimed at increasing transparency for retail investors, CRISIL expects this to impact growth of the PMS' AUM as the number of potential investors is expected to decrease. The increase in net worth requirement, though, is expected to likely limit the number of businesses that enter and retain their registration, thereby helping bigger players, which, in turn, could lead to increased investor confidence in the product.

There are broadly three types of PMS

1. Discretionary PMS – Where the investment is at the discretion of the fund manager, and the client does not intervene in the investment process
2. Non-discretionary PMS – Non-discretionary services are the ones in which managers involve the client in the decision-making process. Non-discretionary clients are usually institutional clients, such as pension funds, insurance companies, and HNIs.
3. Advisory PMS: Advisory services are where managers advise clients about investing strategy

PMS AUM grew at a CAGR of 15% between Fiscals 2016 and 2021 and 18% on-year in October 2021



Source: SEBI, CRISIL Research

Recent developments

The guidelines issued by SEBI in 2013 had allowed distributors to set up a separate division to offer advisory services. However, after discussion on SEBI's recent consultation paper on review of regulatory framework for investment advisers, SEBI announced that investment advisors will be barred from simultaneously selling financial products and advisory services to curb mis-selling and protect investors. The board meeting also focused on bringing clarity in payment of fees and setting an upper limit on the fees charged to investors.

National Pension System (NPS)

NPS is a retirement benefit scheme introduced by the Government of India to facilitate income post retirement to all the subscribers and is governed by the PFRDA. The scheme was initially launched only for government employees but was later opened for all sections. This scheme also provides tax benefits, wherein the subscribers get an additional deduction of up to ₹50,000 over and above the section 80C limit of ₹ 150,000.

Over the past three years, NPS has seen the number of subscribers under the "All Citizen" model, meant for citizens other than Central and State government employees, double from 0.92 million at end of March 2019 to 1.94 million at end of December 2021. During the same period, AUM under "All Citizen" model also increased from ₹ 96 billion to ₹ 287 billion. By end of December 2021, the total number of subscribers across various models of NPS reached 15.2 million with AUM of more than ₹ 6.7 trillion.

Rise in subscribers and AUM for NPS

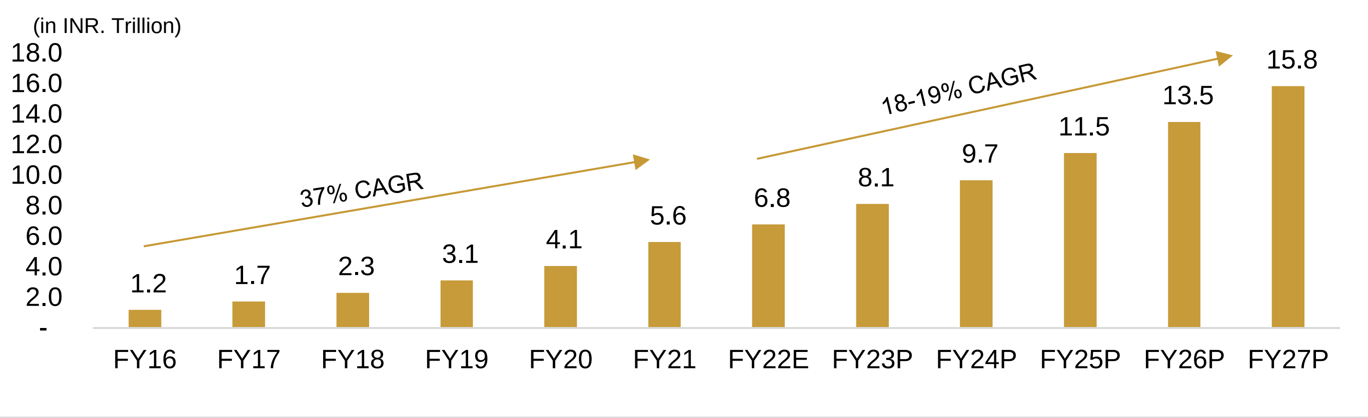
Metrics	FY17	FY18	FY19	FY20	FY21	Dec-21	CAGR
NPS Subscribers (million)	10.57	11.57	12.40	13.41	14.39	15.20	8%
AUM (in ₹ Billion)	1,726.7	2,307.6	3,113.5	4,069.5	5,623.4	6,793.6	33%

Source: NPS Trust, CRISIL Research

NPS AUM to grow at a CAGR of 19% over the next five years

CRISIL Research expects AUM for NPS to grow at a CAGR of 18-19% between Fiscal 2022 and Fiscal 2027, owing to a rise in subscriber base due to the tax benefits provided by NPS. Additionally, NPS provides the investor with an option to choose equity schemes such as inflation beating investments for their retirement planning which is expected to provide higher returns than deploying money in FDs and other such fixed income investments.

NPS AUM to grow at 18-19% CAGR between Fiscal 2022 and Fiscal 2027



Note: E: Estimated, P: Projected; Source: NPS Trust, CRISIL Research

Entities involved in NPS

The PFRDA has appointed multiple agencies for different NPS services to ensure better transparency and efficiency, which includes:

- **NPS Trust:** It is responsible for taking care of funds under NPS by prudently monitoring/auditing portfolio of Pension Fund Manager on a regular basis to ensure subscriber interests

- **Central Recording Keeping Agency ("CRA"):** As on January 31, 2022, KFintech and Protean eGov Technologies Limited (erstwhile NSDL e-Governance Infrastructure Limited) are the two operating CRAs appointed by PFRDA to maintain data and record of NPS subscribers. They are responsible for record keeping, administrating and customer service functions for all subscribers of NPS. CAMS has also received a CRA license and has commenced operations from March 2022.

- **Point of Presence ("POP"):** It is responsible for facilitating registration, submission of contributions and requests for any modification or exit/withdrawal from NPS funds.

- Pension Fund Managers ("**PFMs**"): The contributions made by the subscribers are managed by the PFMs who are appointed by PFRDA and are government by regulatory guidelines. The flexibility of choosing the PFMs is given to the subscriber at the time of opening the NPS account.

- **Annuity Service Providers ("ASPs"):** After completing 60 years of age, the main function of the ASPs is to provide annuity payments to the subscribers at the time of exit from the NPS. This is done based on the annuity contract purchased by the subscriber under the NPS.

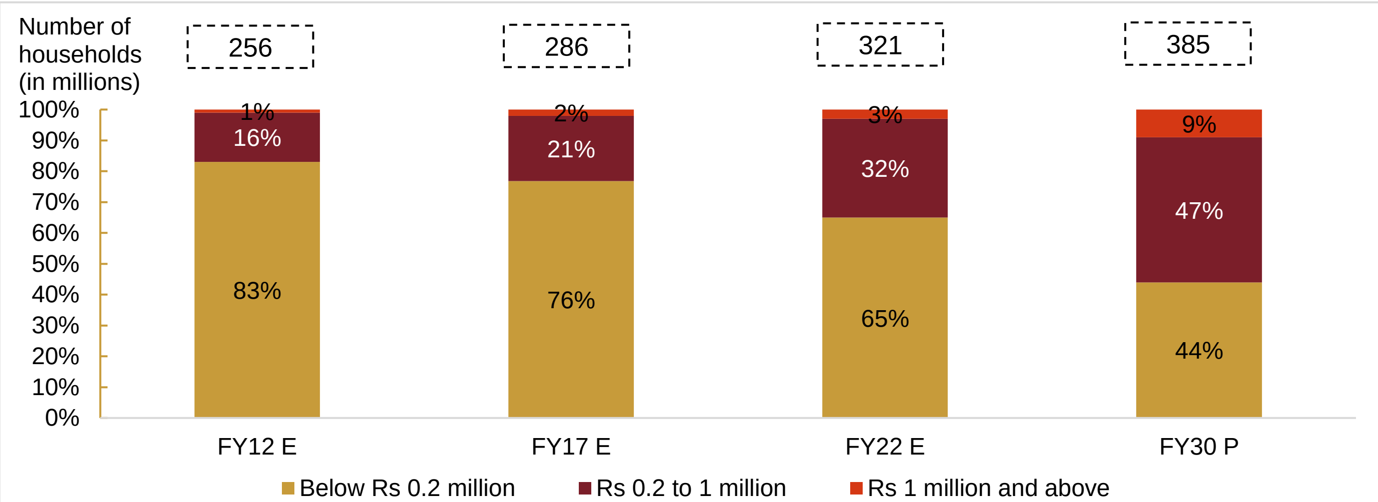
Growth Drivers

Rising Middle India population to aid NPS accounts growth

An estimated 83% of households in India had an annual income of less than ₹ 0.2 million in Fiscal 2012. This proportion has reduced to reach 76% in Fiscal 2017 and is estimated to touch 65% in Fiscal 2022, with continuous increase in the GDP and household incomes. Proportion of middle-income India, defined as households with annual income of between ₹ 0.2 to 1 million, has been on a rise over the last decade and is expected to grow further with rise in disposable incomes. To illustrate, CRISIL Research estimates that there were 41 million households in India in this category as of Fiscal 2012, and by Fiscal 2030, they are projected to increase to 181 million households translating into a CAGR of 9% over this time-period.

A large number of these households, which have entered the middle-income bracket in the last few years, are likely to be from semi-urban and rural areas. The rise in incomes in these areas is also evident when one observes the trend in share of deposits coming into banks. As of March 2021, districts outside the top 200 districts, accounted for 30% of total deposits, up from the 25% share as of the same period in 2015. This growth in the number of middle-income households coupled with improvement in the financial literacy, access to information and awareness is expected to aid growth of NPS accounts.

Household distribution by income



Note: E: Estimated, P: Projected, The boxes on top of each bar in the chart represent the total number of households in millions; Source: CRISIL Research

Tax benefit and option to choose equity schemes to bolster NPS subscriber accounts

Data on income tax filings by individuals further corroborates the rise in incomes as well as a steady rise in formalization over the last few years. The total number of tax filings have increased from 36.5 million in assessment year ("**AY**") 2014-15 to 55.3 million in AY 2018-19. Further, the number of tax fillings in the lower income bracket have declined over the years. The share of individuals with gross total income between ₹ 0.5 million to ₹ 1.0 million, which come under the tax bracket of 20% (according to old regime and 10%-15% as per new regime) has increased over the years from 18% in AY 2014-15 to 27% in AY 2018-19. Similarly, the share of individuals with gross total income of more than ₹ 1.0 million, which come under the tax bracket of 30% (according to old regime and 20%-30% as per new regime) has increased over the years from 7% in AY 2014-15 to 10% in AY 2018-19. Tax benefits offered by the NPS is expected to attract these individuals, leading to a growth in NPS accounts.

Further in Indian Union Budget 2022-23, the limit of deduction under section 80CCD of the Income Tax Act was proposed to be increased from existing 10% to 14% in respect to contribution made by the state government to the account of its employee. This amendment will take effect retrospectively from April 1, 2020 and will accordingly apply in relation to AY 2020-21 and subsequent years. This is expected to boost attractiveness for NPS.

Increasing formalization of the economy to drive growth

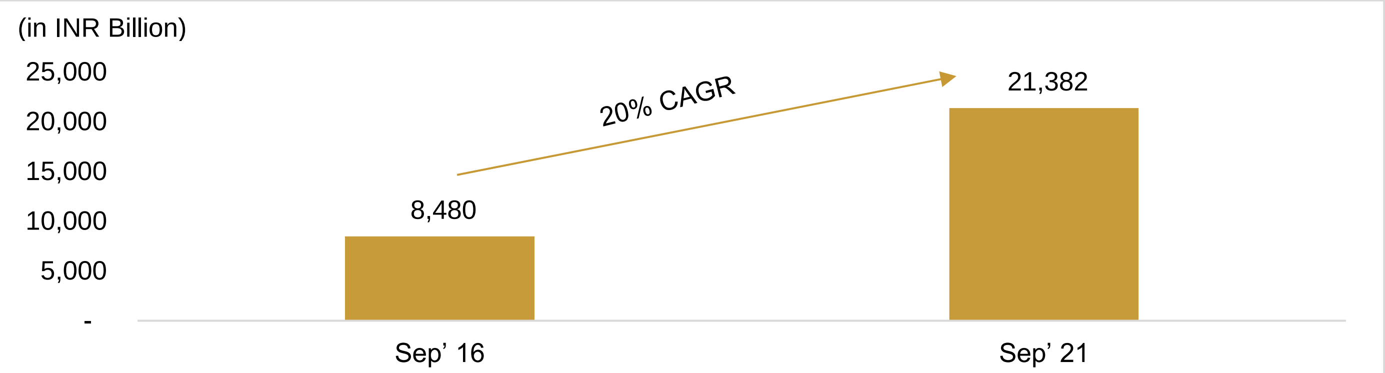
India has been promoting formalization of the economy since calendar year 2016, with measures such as demonetization, introduction of GST, digitization of financial transactions and enrolment of informal sector workers on various government internet portals. These measures have caused people to shift towards digital payments and discouraged businesses to deal with unregistered entities in the informal sector. Consequently, the informal sector got itself registered to remain in the supply chain leading to formalization of firms. Going forward, an increasing pace of formalization of firms coupled with rising number of new start-ups is expected to eventually lead to further formalization of workforce and the economy. Over the long term, this could also lead to rising number of subscribers for NPS.

Direct equity investments

Retail accounts for approximately 9% in NIFTY 500 companies

The ownership of individual investors, namely investors excluding promoters and institutions, in NIFTY 500 companies has increased steadily to 8.8% from 8.2% between September 2016 and September 2021. A steady increase over the last couple of years is a reflection of strengthened participation of retail investors in Indian equity markets. In term of market capitalization, the value of individual investors' direct equity ownership in NIFTY 500 companies has grown at a CAGR of approximately 20% between September 2016 and September 2021, with approximately 16% owing to rise in index and the remaining due to increased retail participation, as seen in this graph below:

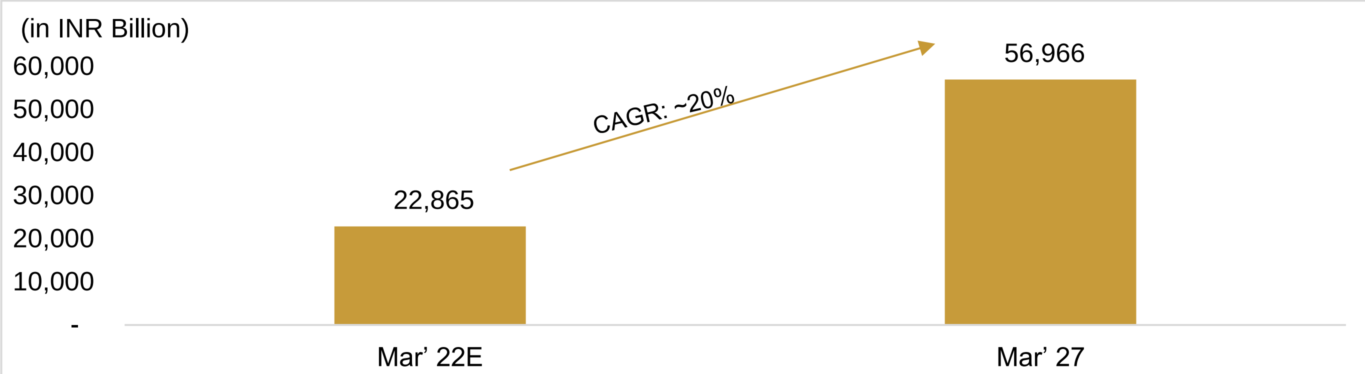
Value of retail investor in NIFTY 500 companies grew at a CAGR of 21% between September 2016 and September 2021



Note: Data includes NIFTY 500 companies, Value is computed basis the shareholding pattern; Source: NSE Market Pulse Report (November-December 2021), NSE India Ownership Tracker, CRISIL Research

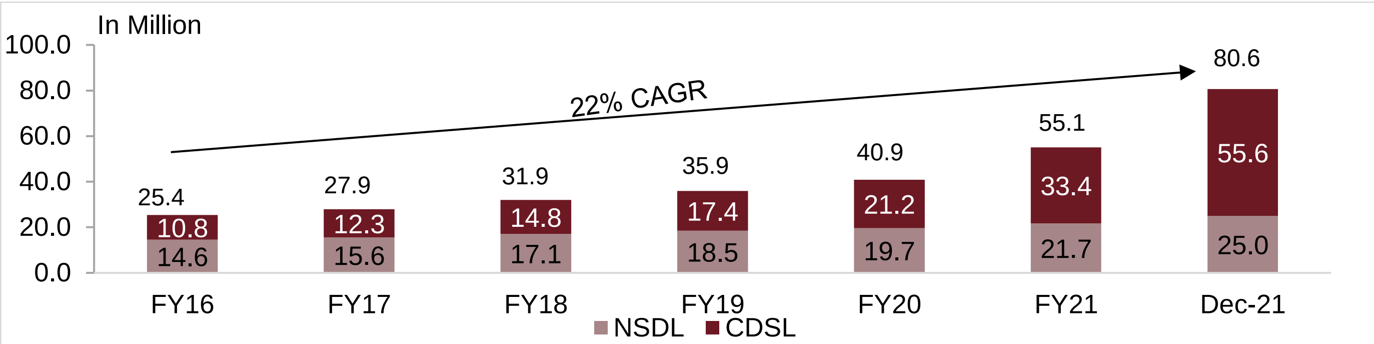
Equity markets jumpstarted calendar year 2022 on a high note, after successive on average declines in November and December 2021. BSE Sensex and NIFTY 50 rose 3.3% and 3.5% on month. However, the rise did not continue throughout the month. Further, weak global cues, including the United States Federal Reserve's plan to hike interest rates in March, soaring crude prices and the on-going tensions between Russia and Ukraine weighed on the investors. Between March 2022 and March 2027, CRISIL projects the value of individual investors' direct equity ownership in all NSE companies to grow at approximately 20% CAGR owing to rise in index, listing of new companies and increased participation of retail investors in equity markets.

Value of retail investor in all NSE companies to grow at a CAGR of approximately 20% between Fiscals 2022 and 2027



Note: Data includes 1920 companies; Source: NSE Ownership Tracker, NSE Market Pulse, CRISIL Research Estimates

Growth in demat accounts since Fiscal 2016



Note: SEBI Bulletin, SEBI Annual Report, CRISIL Research

Growth in public shareholders since Fiscal 2018

	FY18	FY19	FY20	FY21
Public shareholders	**44,519,501**	**48,040,935**	**57,805,680**	**75,214,194**
Growth	**6%**	**8%**	**20%**	**30%**

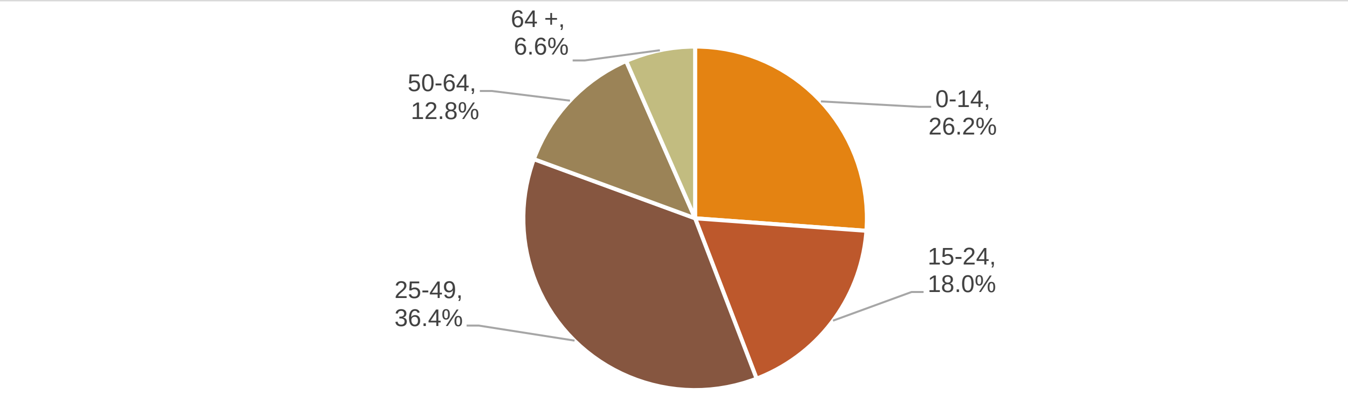
Note: Above data includes shareholders of 307 companies which accounts for 70% of the market cap of NIFTY 500 companies as of 31st March 2021; Source: BSE, NSE, CRISIL Research

Growth drivers

Demographics profile to aid folio growth in capital markets

India has one of the most favorable demography among the major economies in the world with a median age of 28 years as per the world population prospects 2019. 67.3% of the population is currently of the working age and therefore demography is not only expected to aid consumption for the economy but also foster capital market participation. The increasing participation of the young population in capital markets is expected to increase the breadth of the capital markets and thereby, support turnover and folio growth. Further with regards to long-term investment products, the increase in life expectancy and aspirations of the working population, for instance, the need to build a strong corpus before retirement, is also increasing, leading to more focus on equity investments in capital markets.

Favorable demography to aid growth for broader economy



Source: United Nations, CRISIL Research

Rise in financial savings and benign interest rate cycle will propel capital market growth

The financial savings in India grew at a CAGR of 11% CAGR during the last five years. The increase in financial savings is calculated on a gross flow basis. The increase in financial savings is expected to aid investment in financial products including equity segment. The rising folios in mutual fund industry at a CAGR of 15.7% from Fiscal 2016 onwards further re-emphasis the trend. Further, the benign interest rates in the economy is likely to have led many savers to re-calibrating their risk profiles in search of higher yield and look beyond traditional financial products such as FDs with banks.

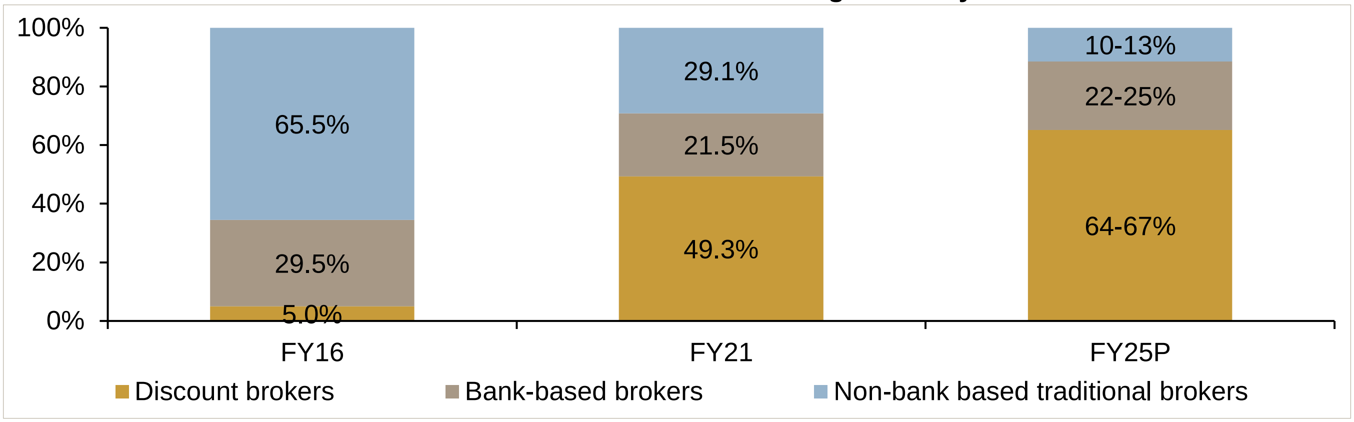
Increasing awareness about capital markets among the population to aid industry growth

The demat accounts in India have grown at a CAGR of approximately 20% in the last 4-5 years. This indicates the increasing awareness and willingness of the people to participate in capital markets for either trading or with long-term outlook. This has caused an increase in number of public shareholders/folios, which has spurred revenue for broking industry and players offering investor and issuer solutions. Going forward, the trend is expected to continue with rising awareness and increasing savings towards financial assets.

Share of discount brokers to grow to approximately 64-65% by Fiscal 2025 owing to retail participation

The discount brokers started gaining prominence from Fiscal 2017 onwards as rising internet and smartphone penetration acted as a tailwind for the segment. The mobile and internet-based trading has also witnessed a surge during the period and accordingly, many retail participants chose discount brokers over traditional brokers. This was because zero brokerage on equity delivery was a new offering in the industry started by the discount brokers. Therefore, rising financial literacy of India's young population coupled with their tech-savviness, zero brokerage feature and comfort of transacting through digital platforms is expected to appeal India's young population, which is expected to form a major portion of the incremental clients in the years to come.

Market share of discount brokers has increased almost 10x during last five years



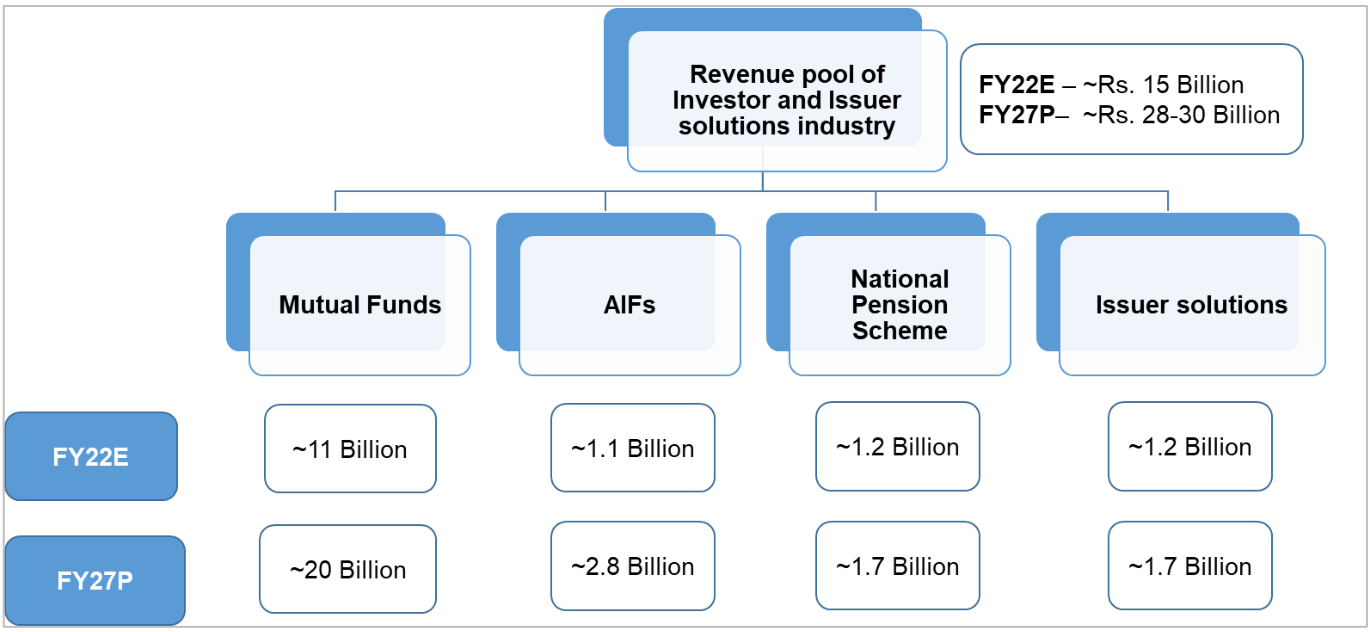
Note: Discount brokers classified basis company disclosures and CRISIL Research's analysis; Source: NSE, CRISIL Research

Regulatory support towards digital adoption

In recognition of the power of technology, SEBI identified a series of initiatives towards technology, such as: 'Innovation Sandbox', an initiative to promote innovation both in terms of new products and services as well as new ways of delivering existing products and services; and 'Regulatory Sandbox', an initiative where entities regulated by SEBI were granted certain facilities and flexibilities to experiment with fintech solutions in a live environment and on a limited set of customers for a limited time frame. Further, for ease of doing business and investor convenience, SEBI has introduced various systems and portals such as SEBI Intermediary Portal and SEBI Complaints Redressal System.

Investor and Issuer solutions in India

Addressable market for investor and issuer solutions in India



Note: E: Estimated. P: Projected, Overall revenue pool also includes revenue from various value-added service, Revenue Pool for Issuer solutions is estimated based on NSE 500 companies; Source: CRISIL Research Estimates

Investor solutions providers

In the current fast-paced investment environment, MFs, publicly traded companies and financial institutions have multiple investors, who undertake several transactions in a day such as buying, selling or switching of share units. An accurate and updated record of these transactions needs to be maintained. This is where investor solutions providers come into the picture. These are authorized institutions that deal with all matters concerned with purchase, allocation, transfer and redemption of units for investors and AMCs. They also offer other products and services to various AIFs, wealth management firms and NPS.

Over the years, investor solutions providers have gone beyond the traditionally understood role of record keeping and transfer agents. They perform several critical functions in the capital market ecosystem around whom the manufacturers, investors and distributors life cycle revolve, irrespective of the channel through which the investment in a particular asset class happens. Every other constituent such as asset managers, brokers, distributors and advisors depends on their systems to some extent to service their respective clients.

CRISIL Research estimates the investor solutions market in India to be approximately ₹13.5 billion in Fiscal 2022.

Mutual Funds

Investor solutions providers' offerings

MF investor solutions providers act as a single window for investors and provide a bouquet of products and services for all industry stakeholders including distributors and AMCs. Their main activities are:

- Verifying and maintaining records of unit holder accounts including KYC
- Helping in buying and selling of MF units
- Providing wide branch network to AMCs as customer service points
- Channel relationship management and support such as distributor empanelment, fee computation and distributor servicing
- Preparing and mailing account statements
- Maintaining customer service departments and tele-calling facilities to address investor enquiries
- Providing all details regarding new fund offers, net asset value ("NAV"), and maturity details
- Providing sales material and other required handouts
- Regulatory and internal compliance and reporting, including tax
- Data bureau services (market share data in various cuts)

In addition, due to their vast repository of information on investor behavior and preferences, they often help AMCs tailor products and services in accordance with the market need.

In India, there are two leading investor solutions providers, CAMS and KFintech and their concentration can be attributed to the following reasons:

- High technological intensity and compliance requirements
- Ability to offer competitive pricing owing to high operating leverage
- Knowledge base and reputation built through years of experience
- Need to have an extensive branch network

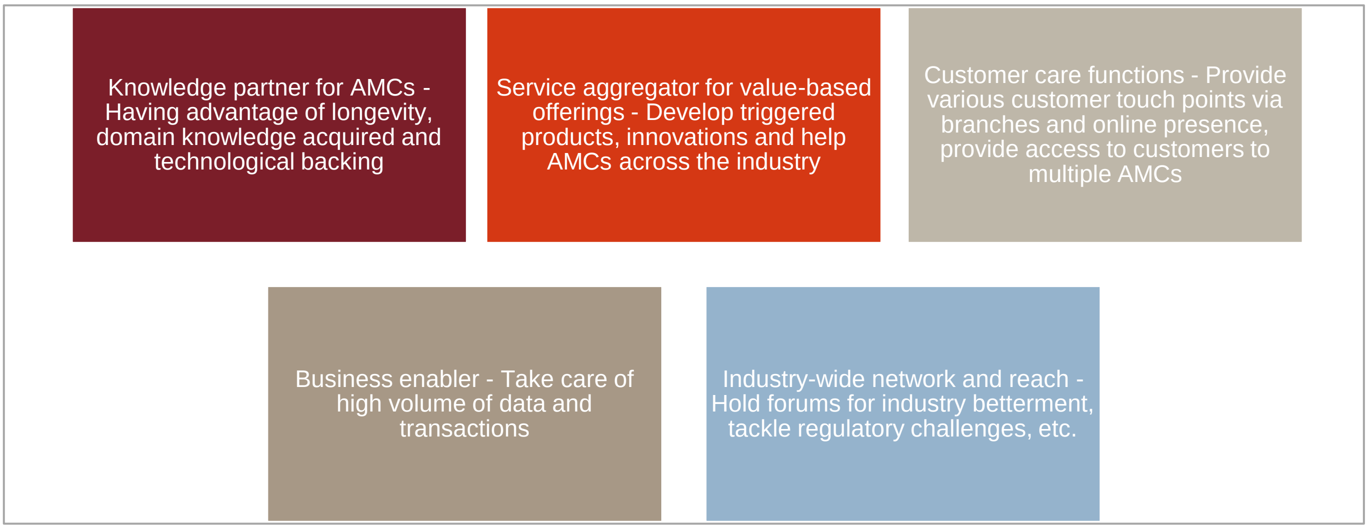
Deep integration with MF ecosystem makes the relationship with investor solutions providers sticky resulting in high entry barriers and switching costs

From a MF's perspective, earlier, investor solutions providers provided good access across the country and helped save costs. Initially, with offices across the country, they used to serve as branches for MFs and help increase sales. However, over the past few years, the industry has increased focus and shifted towards branchless or digital models to increase outreach and cater to the customers and hence, the significance of branch led model is diminishing.

In the current scenario, technology integration, understanding of AMC, distributor and investor requirements, capability to tweak service model as per respective client needs at optimum cost, faster turnaround time ("**TAT**") with better efficiency are the real reasons for client stickiness besides regulatory hassles and business disruption. Thus, long-term relationship with the client and a strong delivery track record creates limited incentive for the AMCs to migrate to another player. The amount of time to be invested in migration, a high risk of business disruption, data loss, as well as customer and regulatory issues make it a bigger task for the MFs to switch service providers. As a result of these, newer entrants find it difficult to get traction and as on date, it is largely a two-player industry. This is similar as in the case of MIIs and Key Intermediaries where there are a handful of scaled-up players in exchanges, depositories, clearing corporations, KRA and CRAs. The mutual fund investor solutions market has seen consolidation over the last three years, wherein KFintech took over the RTA operations of Sundaram BNP Fund Services (that served two AMCs, namely, Sundaram and BNP), while CAMS took over the in-house RTA operations of Franklin Templeton.

SEBI has set a cut-off time for investment to be eligible for that day's NAV. Investors can avail services to make multiple investments, instead of running to numerous fund houses. Thus, with a single agent servicing numerous fund houses provides a hassle-free experience to the investors.

High data security requirements and deeper integration into processes make MF relationship sticky



Source: Industry interactions, CRISIL Research

Competitive Scenario

At end of January 2022, total AUM of mutual funds serviced by CAMS and KFintech stood at 69% and 31% respectively. However, in terms of number of AMCs serviced, KFintech is the largest investor solutions provider to mutual fund industry, providing services to 25 out of the 42 AMCs operating at end of January 2022, thereby accounting to 60% of the market in terms of clientele.

In addition, KFintech is mandated by two AMCs, namely, Bajaj Finserv and Frontline Capital Services (both are yet to resume operations) for their RTA services. As on January 31, 2022, KFintech also on-boarded 15 of the last 20 mutual funds launched in India.

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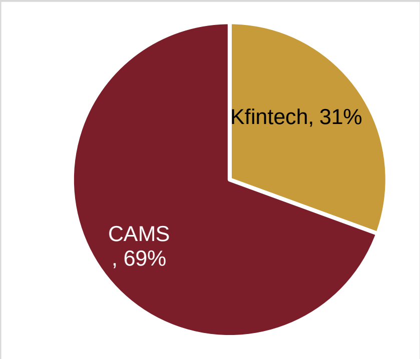
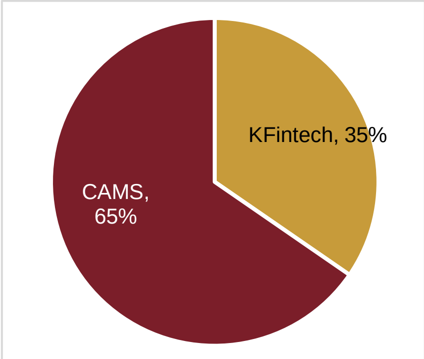
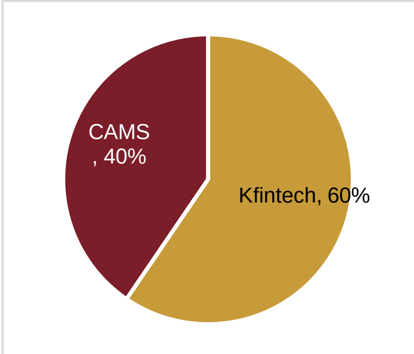
KFintech has 31% share in total MF AUM (Jan 2022)



KFintech has a 35% share in terms of Equity AUM (Jan 2022)



KFintech has a 60% share in terms of clients (Jan 2022)



Note: Equity AUM includes equity and hybrid funds, KFintech's AUM historically includes AUM of two AMCs, namely, Sundaram and BNP Paribas as KFintech acquired them as clients through a business transfer agreement with Sundaram BNP Paribas Fund Services in Fiscal 2020. CAMS AUM includes Franklin Templeton AUM historically which they acquired in Fiscal 2022, Source: AMFI, CRISIL Research

Historical evolution of Overall AAUM and Equity AAUM managed by clients of CAMS and KFintech and serviced by CAMS and KFintech, respectively

₹ trillion	CAMS AAUM		KFintech's AAUM		CAMS market share		KFintech's market share	
Month	Overall	Equity	Overall	Equity	Overall	Equity	Overall	Equity
FY20 AAUM*	19.6	7.8	6.7	3.2	75%	71%	25%	29%
April-20	17.4	6.3	6.1	2.8	74%	69%	26%	31%
May-20	17.9	6.5	6.4	2.9	74%	69%	26%	31%
June-20	19.2	7.0	6.9	3.2	73%	69%	27%	31%
July-20	20.0	7.3	7.3	3.4	73%	68%	27%	32%
Aug-20	20.2	7.5	7.6	3.5	73%	68%	27%	32%
Sept-20	20.1	7.4	7.6	3.6	72%	68%	28%	32%
Oct-20	20.5	7.5	7.8	3.7	72%	67%	28%	33%
Nov-20	21.6	7.9	8.3	3.9	72%	67%	28%	33%
Dec-20	22.4	8.3	8.6	4.1	72%	67%	28%	33%

₹ trillion	CAMS AAUM		KFintech's AAUM		CAMS market share		KFintech's market share	
Jan-21	22.9	8.5	8.9	4.3	72%	66%	28%	34%
Feb-21	23.1	8.9	9.2	4.5	72%	66%	28%	34%
Mar-21	22.9	9.0	9.2	4.6	71%	66%	29%	34%
April-21	23.1	9.0	9.3	4.6	71%	66%	29%	34%
May-21	23.4	9.3	9.6	4.9	71%	66%	29%	34%
June-21	24.0	9.9	10.1	5.2	70%	66%	30%	34%
July-21	24.7	10.3	10.5	5.4	70%	66%	30%	34%
Aug-21	25.3	10.7	10.8	5.7	70%	65%	30%	35%
Sept-21	26.1	11.4	11.4	6.1	70%	65%	30%	35%
Oct-21	26.5	11.8	11.7	6.3	69%	65%	31%	35%
Nov-21	26.6	11.8	11.8	6.4	69%	65%	31%	35%
Dec-21	26.2	11.7	11.7	6.3	69%	65%	31%	35%
Jan-22	26.8	12.1	12.1	6.6	69%	65%	31%	35%

Note: *Represents the year average AAUM for fiscal 2020, Monthly data represents average AUM for the month, Equity AAUM includes AUM under Equity and Hybrid funds, KFintech's AUM historically includes AUM of two AMCs, namely, Sundaram and BNP Paribas as KFintech acquired them as clients through a business transfer agreement with Sundaram BNP Paribas Fund Services in Fiscal 2020. CAMS AUM includes Franklin Templeton AUM historically which they acquired in Fiscal 2022, AAUM – Average AUM, Source: AMFI, CRISIL Research

Evolution of market share of CAMS and KFintech by number of clients

Number of Clients	*CAMS*	*Market Share*	*KFintech*	*Market Share*	*Others*	*Market Share*	*Total*
Mar-19	16	40%	21	53%	3	8%	40
Mar-20	16	39%	24	59%	1	2%	41
Dec-20	16	39%	24	59%	1	2%	41
Mar-21	16	39%	24	59%	1	2%	41
Dec-21	17	40%	25	60%	0	0%	42

Note: Others include Sundaram and Franklin Templeton, Source: AMFI, CRISIL Research

Total AUM of MFs serviced by KFintech have been growing faster than MFs serviced by CAMS

At end of December 2021, total AUM of mutual funds serviced by KFintech witnessed a faster CAGR of 22% as compared to 16% for mutual fund serviced by CAMS between March 2019 and December 2021. This has led to an increase in KFintech's market share from 28% in March 2019 to 31% in December 2021.

Overall AUM (in ₹ Billion)	Mar-19	Mar-20	Mar-21	Dec-21	CAGR (Mar-19 to Dec-21)
CAMS	17,630.4	19,811.4	22,999.3	26,457.2	16%
KFintech	6,853.5	7,224.9	9,106.9	11,751.3	22%

Source: AMFI, CRISIL Research; Note: Above data includes QAAUM

Market share in Overall MF AUM	Mar-19	Mar-20	Mar-21	Dec-21
CAMS	72%	73%	72%	69%
KFintech	28%	27%	28%	31%

Source: AMFI, CRISIL Research

Equity AUM (including equity and hybrid funds) of MFs serviced by KFintech have been growing faster than MFs serviced by CAMS

At end of December 2021, total equity (including equity and hybrid funds) AUM of mutual funds serviced by KFintech has witnessed a faster CAGR of 37% as compared to 19% for mutual fund serviced by CAMS between March 2019 and December 2021. This has led to an increase in KFintech's market share from 27% in March 2019 to 35% in December 2021.

Equity AUM (in ₹ Billion)	Mar-19	Mar-20	Mar-21	Dec-21	CAGR (Mar-19 to Dec-21)
CAMS	7,307	7,857.6	7,667.9	11,699.3	19%
KFintech	2,642.2	3,164.4	3,714.9	6,317.5	37%

Note: Equity AUM includes Equity and Hybrid funds, Above data includes AAUM for the full year at end of respective fiscals, Source: AMFI, CRISIL Research

Market share in equity AUM	Mar-19	Mar-20	Mar-21	Dec-21
CAMS	73%	71%	67%	65%
KFintech	27%	29%	33%	35%

Note: Equity AUM includes Equity and Hybrid funds, Source: AMFI, CRISIL Research

Proportion of equity AUM for KFintech is higher than that of CAMS

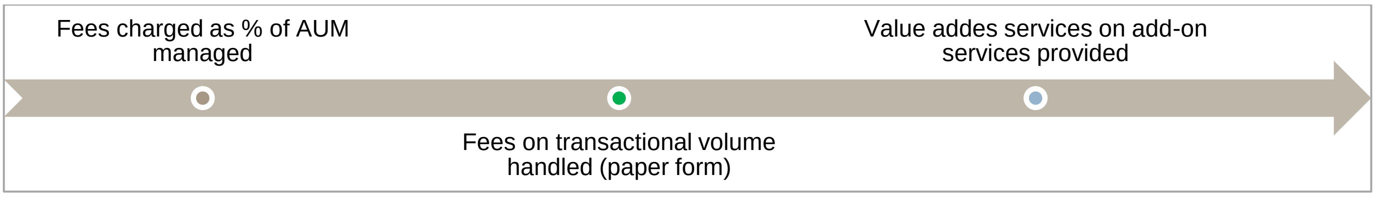
At end of December 2016, equity AUM as a proportion of overall AUM for industry stood at 27% and increased to 43% at end of December 2021. During the same time, share of equity AUM as a proportion of total AUM serviced by KFintech increased from 26% in December 2016 to 53% in December 2021. For CAMS, the share of equity AUM as a proportion of total AUM serviced remained at 38% at end of December 2021.

Share of Equity AUM in Overall AUM	Dec-16	Dec-21
KFintech	26%	53%
CAMS	28%	38%
Industry	27%	43%

Note: KFintech's and CAMs' share is calculated as Equity AUM of respective company / Total AUM serviced by respective company; Source: AMFI, CRISIL Research

Revenue model of MF investor solutions providers

The revenue model of MF investor solutions providers typically revolves around the AUMs handled, mix of AUM across categories such as equity, debt, liquid, hybrid and others, volume of both digital and paper-based transactions, and fees on value-added products and services offered. However, for AMCs with low AUM, a minimum threshold fee is charged by investor solutions providers. Further, the evolution of value-added services through usage of new and advanced technologies is expected to open new avenues for service providers to provide and charge various value-added products and services to the AMCs. These products and services are expected to allow AMCs to focus on their core function of portfolio allocation and management instead of managing the non-core functions of the business.



Source: Industry interactions, CRISIL Research

Major part of the revenue earned by MF investor solutions providers (approximately 80%) is by means of fees charged on the AUMs managed by the AMCs for which the service is provided. These fees are generally tiered in nature and tend to decrease as a proportion of total AUMs of the fund house once the AUMs surpass the tiers for which the fees are agreed on. The other major portion of revenue is the charge for handling of transactions which include both paper-based and digital transactions of AMCs, for which considerable effort is needed to enter the details into the system for effective record keeping and reporting. Although the proportion of these transactions may be going down with increasing usage of the online medium, they still form a good portion of MF investor solutions provider's revenue due to the higher dependence of institutional investors on paper-based systems.

In addition, some portion of the revenue is realized through valued added products and services provided by them to various stakeholders that revolve around their major primary activities involving AMCs. Some of the value-added services include analytics, customer relationship management, branch support and technology support services. This revenue, though small, is part of the larger function that makes investor solutions providers an integral part of the AMC business and is projected to grow faster as technology adoption continues to increase in the industry and customers demand better investing experience.

Fees charged by investor solutions providers is the highest for equity AUMs, which augurs well for them with rising investments in equity funds

As can be observed from the table below, MF investor solutions providers earn the highest fee from equity and balanced funds (including passive funds as index funds) and the least fee from passively managed ETFs (major part of 'Others' funds). With the increase in AUM managed, the fees charged as a proportion of AUM has been trending lower. Average pricing of approximately 0.067% of AUM in Fiscal 2017 declined to approximately 0.055% of AUM in Fiscal 2021 for equity funds. However, total expense ratio ("TER") never had a huge implication on the RTA fees.

The fee is a very small marginal portion of the overall expense ratio, given that the service provider handles critical part of the AMC operations. The overall blended pricing earned by service providers reduces owing to AMCs moving up in the tiered structure of AUM, as they achieve scale.

CRISIL Research estimates the revenue pool for mutual fund services to be approximately ₹11 billion at end of Fiscal 2022. Going forward as well, CRISIL Research expects a moderate reduction in fees charged as a proportion of AUM as the size of industry AUM increases. However, investor solutions providers are expected to benefit from an expected increase in the share of equity and hybrid funds in industry AUM leading to an increase in revenue pool to ₹ 20-21 billion by end of Fiscal 2027.

Trend in average fees charged by investor solutions providers as a percentage of AUM

	FY17	FY18	FY19	FY20	FY21
Equity funds	0.065% - 0.070%	0.063% - 0.067%	0.060% - 0.065%	0.057% - 0.061%	0.053% - 0.057%
Hybrid	0.059% - 0.063%	0.059% - 0.063%	0.058% - 0.061%	0.055% - 0.059%	0.050% - 0.055%
Debt	0.023% - 0.027%	0.023% - 0.027%	0.022% - 0.026%	0.022% - 0.026%	0.022% - 0.025%
Liquid	0.018% - 0.022%	0.018% - 0.022%	0.018% - 0.022%	0.017% - 0.022%	0.016% - 0.020%
Others	0.022% - 0.026%	0.018% - 0.022%	0.014% - 0.019%	0.012% - 0.017%	0.010% - 0.015%

Note: Others include ETFs, Data includes market median fees at end of respective Fiscals; Source: Industry interactions, CRISIL Research estimates

Growth Drivers for Mutual Funds investor solutions providers

Mutual Fund investor solutions provider benefit from multiple growth drivers. Apart from underlying growth drivers for the mutual fund industry such as macroeconomic growth, increase in corporate earnings, increase in household financial savings, increase in mutual fund penetration and awareness, continuous improvement in ease of investing and promotional campaigns by the mutual fund industry, as discussed earlier, these players are also expected to benefit from the following factors

Enhanced monitoring of QRTAs a positive for the industry

Since QRTAs hold sensitive financial data of a large number of investors, they are required to comply with enhanced monitoring requirements. This is prescribed to take care of concerns arising out of protection of sensitive data, data availability and transparency in the functioning of QRTAs. Certain compliance requirements are prescribed for QRTAs with respect to data security and systems audits. The QRTAs have to formulate and implement a comprehensive policy framework approved by the board of directors of QRTAs.

Having the enhanced reporting requirement framework in place, the compliance report duly reviewed by board of directors of QRTAs has to be submitted to SEBI within 60 days of each calendar quarter. The main purpose of having to comply with enhanced reporting requirement by QRTAs is to protect the interests of investors in securities and to promote the development and regulation of the securities market. CRISIL Research believes that the enhanced regulation for QRTAs is a positive step for the industry as it is expected to enhance the comfort level of investors interfacing with QRTAs and promote the orderly development of the industry.

Enhanced digitization across industry, beneficial for investor solutions providers

Technology is expected to play a pivotal role in taking the financial sector to the next level by helping overcome the challenges stemming from India's vast geography. India's demographic structure, with the median age at 28 years, is also favorable for technological advancement in the sector. Increasing smartphone penetration and improved data speed are expected to support digitization of the sector, which, in turn, is expected to help AMCs lower their cost and improve overall efficiency. Service providers with better mobile and digital platforms are expected to be better positioned to acquire new customers entering the industry. The growth in AUM through the direct route may be partially attributed to the ease of transactions facilitated by online portals, including mobile applications. While the direct route is mainly used by institutional investors, CRISIL has seen a gradual increase in the share of individual investors through this route. Introduction of Aadhaar-based is expected to allow investors residing in India to access any AMC website to complete their e-KYC process. This is expected to reduce time and cost associated with paper on-boarding processes and the inconvenience threshold, which keeps a section of investors from entering the market.

Further, investor solutions providers have been offering value added services and applications that help investors better access their investments across fund houses. By making use of mobile applications, investors can access all their investments on-the-go from only one application.

All technology-led enhancements have resulted in reduced paper-based transactions, helping save costs and increase operational efficiency

Over the years, data standards and reports have been harmonized to a large degree. Having a technology platform and real-time connectivity of service centers to the central data center ensures high service standards, irrespective of investor location and mode. With digitization, there is no difference in service turnarounds for transactions submitted through paper from a remote location which, in turn, increases investor trust and confidence, both vital for growth. Manual processes are expensive, time consuming and increase the risk of operational errors, and digitization of the industry has helped improve operational efficiency of investor solutions providers. Greater automation is the key to providing clients with more cost-effective, accurate and low risk solutions. This is also expected to lead to a lower headcount, lowering turnover rates, reducing training and re-training expenses and ensuring a greater focus on technological solutions that can be replicated by the service provider across clients in a scalable and cost-effective manner.

Alternative Investment funds

Wide array of products and services are provided by investor solutions providers to AIFs as well as the investors

Moving away from just being keepers of records and transaction processors, the investor solutions providers have evolved their offerings to AIFs by providing an entire solution of services. They support AIFs in the entire gamut of their operations by providing numerous services that, if performed independently by the AIF, would result in higher investment and operational hassle. Partnering with these firms who are operationally more equipped and focused on these aspects helps the AIFs eliminate this pain.

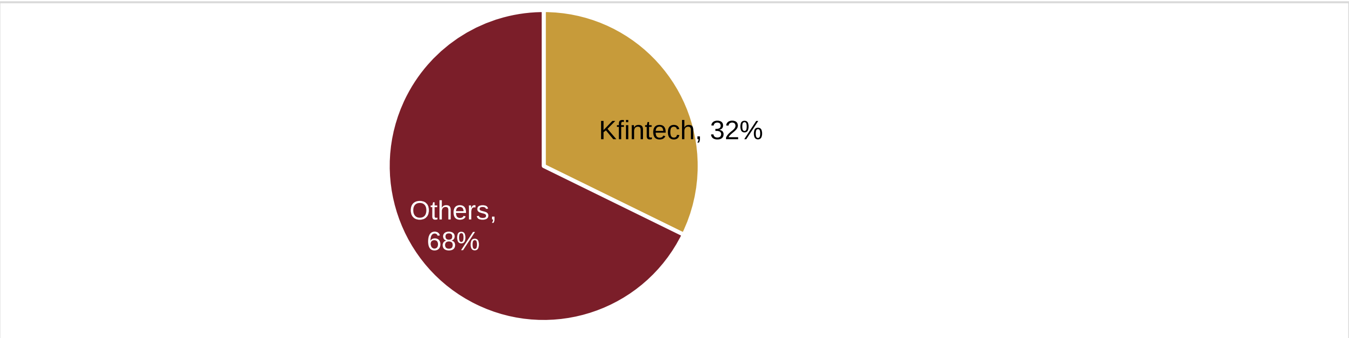
Various services that an investor solutions provider offer to an AIF includes but is not limited to:

- Data Processing
- Reporting and management information system ("MIS")
- Reconciliation
- Whole bouquet of fund accounting services
- Operations and administration
- Investor service management
- Corporate actions/tax related support
- Investor servicing and record creation
- Drawdown and collection management
- Intermediaries' revenue management

Competitive Scenario

Out of the 837 SEBI registered alternative investment funds, KFintech currently services 270 funds of 157 asset managers in India as of January 31, 2022, thereby accounting to 32% of the total market share whereas remaining 68% is serviced by other players operating in the same segment. Another key player in this segment is CAMS.

KFintech has a 32% market share in terms of number of registered funds



Note: Market share is computed based on the number of registered AIFs; Source: SEBI, Company Reports, CRISIL Research

Revenue Model: Serving AIFs is comparatively a low complexity offering for investor solutions providers

AIFs usually require a similar bouquet of services as that by MF AMCs to carry out their operations. However, AIF requirements are less complex, and the changes are less frequent. Accordingly, fees charged by MF investor solutions players for AIF is usually in the range of 0.025% to 0.035% of AUM (as of Fiscal 2022). Further, there are minimum guaranteed revenue for these service providers based on AUM scale in order to provide economic sustainability. The services of existing MF services well suit their need, and the investor solutions provider can leverage their technological and infrastructural investment to better service this industry. These economies of scale can help them better apply their accumulated knowledge for enhancing offerings to stake holders at minimal extra costs.

Regulatory requirements for AIFs are lower in comparison with MFs. The AIFs cater only to HNIs and thus do not require extensive touch points or customer reach. This leads to lesser risk and controls with lower investment needs, making the costs for servicing these clients relatively low for investor solutions providers. Furthermore, owing to pre-existing capabilities, the MF investor solutions providers are better equipped to offer solutions to the industry participants.

The investor solutions industry currently serving the AIFs for various activities is estimated to be ₹ 1.1 billion at end of Fiscal 2022. Going forward, the market size of the investor solutions offerings is expected to increase with a rise in overall AUMs and incremental service offerings leading to expansion in revenue pool to approximately ₹2.8 billion by end of Fiscal 2027. This is expected to include a minimum basic fee for standard fund sizes over which additional fees to be charged for incremental AUMs in a tiered manner just like in the case of MF AUMs.

Switching investor solutions providers is not preferred by AIFs

For AIFs, as the life cycle of the fund is close to seven years, switching midway is not a preferred option. Further, for different funds, having different set of investor solutions providers is not preferred as the customer set is usually similar and, apart from certain exception cases, customers prefer similar services. In addition, having the same investor solutions provider provides the AIFs with better bargaining power as compared to having multiple providers for different funds from the same fund house.

Setup cost and operational partnership are the prime factors influencing selection of an investor solutions provider

For AIFs that are relatively newer, setup cost is a large upfront expense to be paid. It is often the prime factor of consideration for selection of an investor solutions provider. Moreover, investor solutions providers providing customized options that better suit the needs of the fund at costs that are affordable by the funds are preferred. Funds also prefer those investor solutions providers who are flexible with structuring the payments because funds prefer paying them as and when the drawdowns are received.

Investor solutions providers based out of specific locations, owing to associated regulatory charges such as stamp duty, and having remote capabilities are also given preference. A long-term relationship is most desirable for the funds and thus, the terms and specific conditions are settled upon at the initial stages of the agreement itself.

Funds with a smaller number of folio accounts negotiate lower fees with investor solutions providers owing to lower operational requirements. In lieu of this, further added services are generally demanded by these AIFs. Over the past decade, the investment management industry has seen a growing trend of firms choosing to outsource key operations such as fund accounting and administration to these service providers.

Growth Drivers for Service Providers to AIFs

Increasing inflow of funds into AIFs to augur well for the investor solutions providers

The phenomenal rise of many AIFs and rising inflow of funds into this category, and the expected growth in AIF industry, is expected to help the allied investor solutions industry expand by serving the rising demand. The investor solutions providers have been able to increase their share of revenues from the AIFs by providing a plethora of operational services mentioned above.

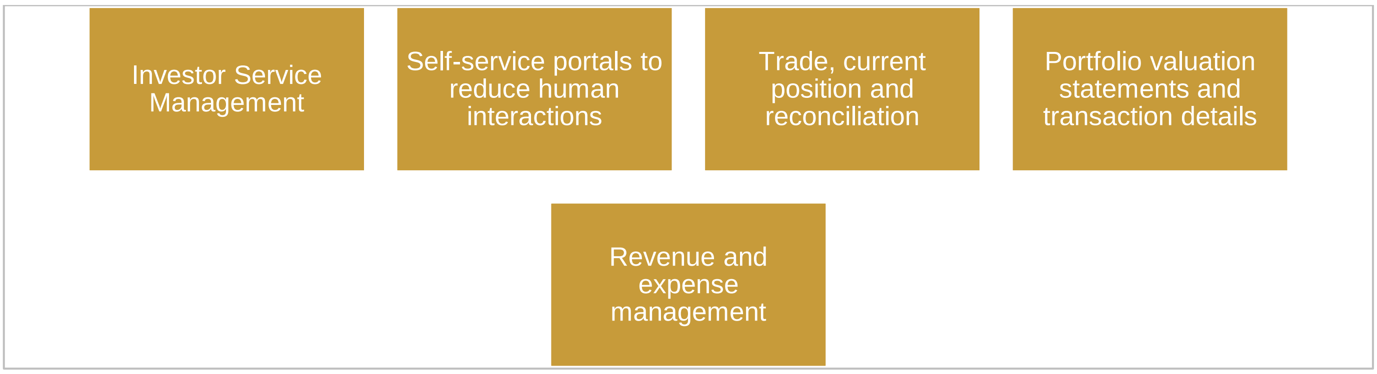
The investor solutions industry currently serving the AIFs for various activities is estimated to be approximately ₹ 1.1 billion at end of Fiscal 2022. Going forward, it is expected that the investor solutions providers will continue to effectively enhance their offerings to the AIFs. However, with rising AUMs, the fees are expected to be tiered in nature and, as a result, will fall as a proportion of total AUMs. Nonetheless, the market size of the investor service offerings is expected to increase with a rise in overall AUMs and incremental product and service offerings leading to expansion in revenue pool to approximately ₹2.8 billion by end of Fiscal 2027. This is expected to include a minimum basic fee for standard fund sizes over which additional fees to be charged for incremental AUMs in a tiered manner just like in the case of MF AUMs.

Wealth Management

Investor solutions providers' offerings for wealth management companies

Investor solutions providers act as a one stop solution for investors and provide a bouquet of services for all industry stakeholders including distributors and AMCs. Due to their vast repository of information on investor behavior and preferences, they often help wealth managers tailor products and services in accordance with the market need. Since these investor solutions providers are part of the life cycle of the fund, switching midway is not a preferred option. It doesn't make sense operationally as well as economically to have different service providers for different offerings.

Various services offered includes:



Source: CRISIL Research

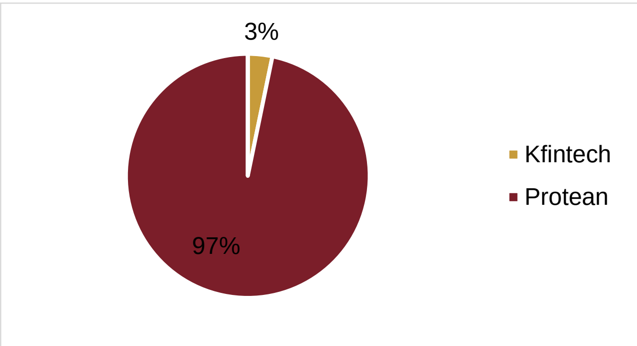
National Pension System (NPS)

NPS is a retirement benefit scheme introduced by the Government of India to facilitate income post retirement to all the subscribers and is governed by PFRDA. The regulator has appointed KFintech and Protean eGov Technologies Limited (erstwhile NSDL e-Governance Infrastructure Limited) to maintain data and record of NPS subscribers. CAMS has also received a CRA license, and have commenced operations from March 2022.

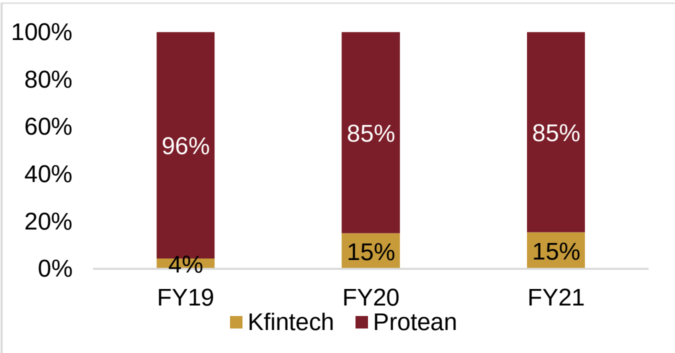
Competitive Scenario

The CRA market for NPS has two players which were operational as of January 31, 2022, namely, with KFintech and Protean eGov Technologies Limited (erstwhile NSDL e-Governance Infrastructure Limited). These players have been appointed by the regulator to maintain data and record of NPS subscribers. Amongst these two players, Protean has approximately 97% market share in terms of NPS subscribers at end of January 2022 as Protean (erstwhile NSDL e-Governance Infrastructure Limited) had significant first-mover advantage when it entered the market in calendar year 2008, whereas KFintech entered this market in calendar year 2018. However, KFintech's share has been increasing in terms of new client addition over the years from 4% in Fiscal 2019 to 15% in Fiscal 2021. As on January 31, 2022, KFintech has 1,336 clients using the pension services with over 503,590 subscribers. CAMS has also received a CRA license and have commenced operations from March 2022.

Protean commands 97% share in terms of subscriber



KFintech's share on the rise in new client additions

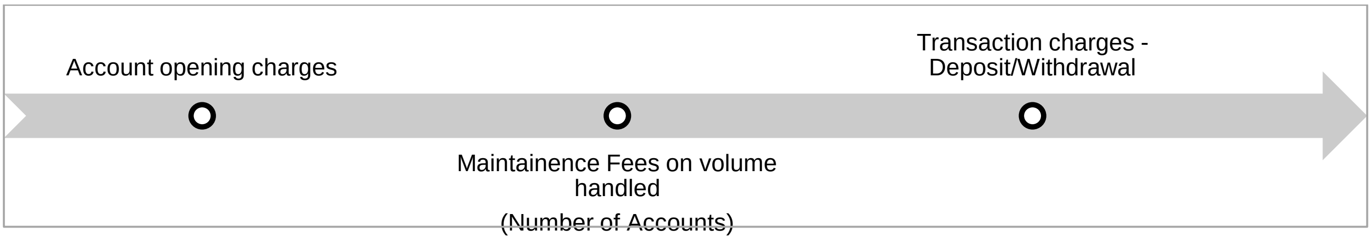


Source: NPS Trust, Company Reports, CRISIL Research

Revenue model

The revenue model of CRAs typically revolves around the number of accounts opened through them, account maintenance charges and fees on number of transactions by the subscriber. The revenue pool for CRAs currently opening and maintaining NPS account is estimated to be approximately ₹ 1.2 billion at end of Fiscal 2022. Going forward, CRISIL Research believes that increase in number of subscribers' accounts owing to tax benefits offered by NPS and rising middle income and affluent India population is expected to boost the revenues for CRAs to approximately ₹ 1.7 billion by end of Fiscal 2027. CRAs also earn fee income from account opening charges, maintenance fees and transactional charges. Further, fees are relatively higher for private/government as compared to NPS Lite, a type of account / Atal Pension Yojana.

Majority of the revenue earned by CRAs is from account maintenance charges



Source: CRISIL Research

Fees structure for CRAs

Below is the cost charged to the subscriber by the two CRAs of NPS:

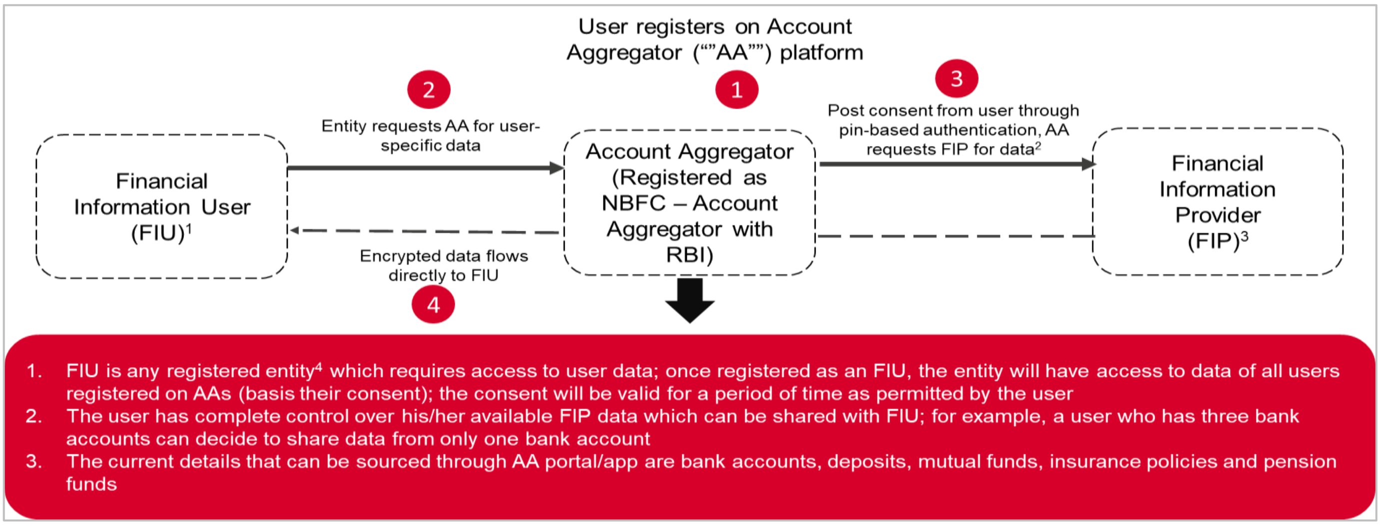
Service	Private/Government	NPS Lite/Atal Pension Yojana
Permanent Retirement Account (PRA) opening charges	• Protean: ₹ 40.00 • KFintech: ₹ 39.36	• Protean: ₹ 15.00 • KFintech: ₹ 15.00
Annual PRA Maintenance cost per account	• Protean: ₹ 95.00** • KFintech: ₹57.36	• Protean: ₹ 25.00 • KFintech: ₹ 14.40
Charge per transaction	• Protean: ₹ 3.75 • KFintech: ₹3.36	• NIL
Instant Bank A/C Verification*	• Protean: ₹ 2.40+ tax • KFintech: ₹1.90+ tax	• NIL

*Note: 1) In case of Indian government employees, CRA charges are paid by respective government, 2) *Charges include Re.1 credited in the savings bank account of the beneficiary, 3) **Charges effective April 1, 2021; Source: NPS Trust, NPS Annual Report 2021, CRISIL Research*

Account aggregators

The RBI launched the account aggregator ("**AA**") system on September 2, 2021. This has the potential to transform the financial landscape once there is widespread adoption amongst the stakeholders. AAs are essentially non-banking financial companies, licensed by RBI, that act as an intermediary to collect and consolidate data from all financial information providers ("**FIPs**"), such as banks, that hold users' personal financial data and share that with financial information users ("**FIUs**"), such as lending agencies or wealth management companies that provide financial services. These AAs would provide granular insights to lenders into customers' financial assets and their borrowing history centrally, based on customer consent. Inclusion of additional data such as electricity bill payments and mobile recharges/bill payment data under the purview of AAs could further enhance its utility. Availability of this data is expected to support faster onboarding of customers and could allow wealth advisors to utilize asset side data and advice switching between asset classes to yield better overall returns as per the risk appetite of the individual. Currently, there are five AAs which include OneMoney, FinVu, CAMSFinServ, NESL Asset Data Limited ("**NADL**") and Anumati, whereas other five entities, namely, Protean eGov Technologies Limited (erstwhile NSDL e-Governance Infrastructure Limited), Phone Pe, Yodlee Finsoft, CRIF Connect and Tally Account, have received an in-principal license for setting up account aggregators platform. As of February 18, 2022, 109 financial institutions have adopted the AA system and are at various phases of implementation. For the AA platform providers, it is believed that entities having a first mover advantage, strong technological capability and deep engagement with FIUs and FIPs are slated to gain most out of the evolving landscape.

Account Aggregator ecosystem



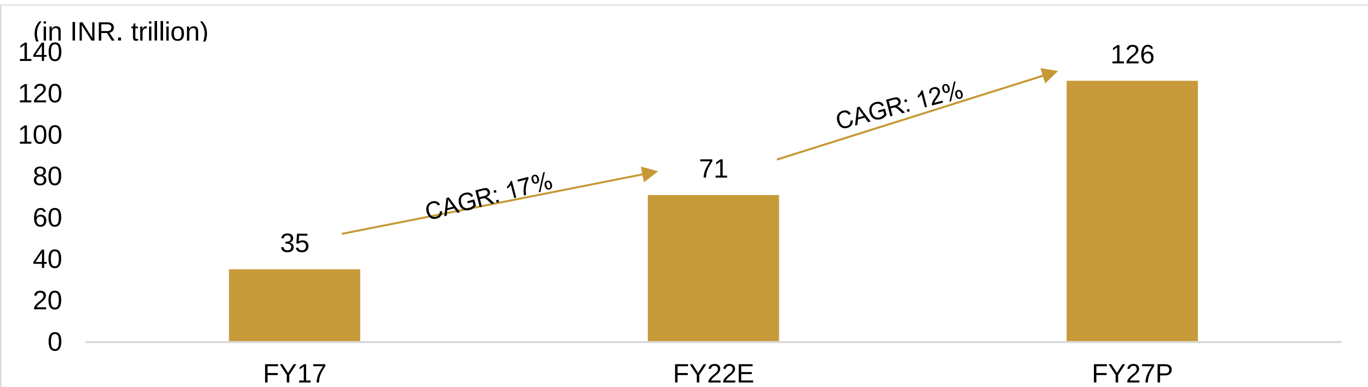
Note: [4] Registered with any one of the regulators – SEBI, RBI, IRDAI, PFRDA

Source: CRISIL Research.

Growth in retail loans to be predominantly driven by volume

Over the last five years, the retail loans market, excluding agriculture credit, is estimated to have witnessed a CAGR of 15% between Fiscals 2017 and 2022 to reach ₹ 71 trillion. CRISIL Research has projected the overall retail loans market to grow at a CAGR of 12% between Fiscals 2022 and 2027 to reach ₹ 126 trillion, on account of growing private consumption, increasing nuclearization and change in consumer attitude towards credit. Further, CRISIL Research believes that, with ticket sizes expected to remain relatively stable, growth in retail loans would be predominantly volume driven on account of increasing credit penetration and usage of newer data to progressively reduce the risk involved in lending.

Retails loans to reach ₹.126 trillion by Fiscal 2027



*Note: E: Estimated, P: Projected, Data includes housing loan, passenger and commercial vehicle loan, used - passenger and commercial vehicle loan, gold loan, education loan, personal loan, consumer loan, credit card, loan against property (“**LAP**”) (less than 50 million) and retail MSME loans, Source: CRISIL Research*

Direct Equity Investment/ Issuer Solutions

Role of investor and issuer solutions providers

A registrar (investor and issuer solutions provider) is an independent financial institution registered with stock exchanges and appointed by a company mainly to keep record of the issue and ownership of company shares. Responsibility at the time of an initial public offering ("IPO") involves, processing of IPO applications, allocation of shares to applicants based on SEBI guidelines, processing refunds and transferring allocated shares to the demat accounts of investors. In India, the retail investor and issuer solution provider market is majorly concentrated among players such as KFintech, Link Intime Private Limited and Bigshare Services Private Limited.

Further, these players are responsible for keeping records of all bondholders and shareholders after a company offers securities to the public. These players ensure that the shares outstanding don't outpace the authorized shares. In addition, when an issuer needs to make an interest payment on a bond or a dividend payment to its shareholders, these services providers determine and ensure that the bondholder/shareholders are made the requisite payout. Apart from these services, over the years, with the help of technology, service providers have increased their offerings to vast range of other value added services such as -

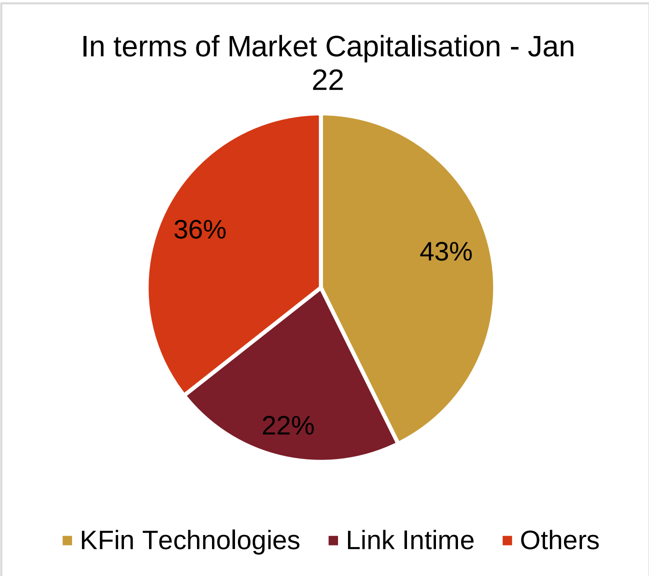
- **Managing online application for rights issue** - The rights issue can be applied online through applications supported by blocked amount ("**ASBA**") facility using net banking or through registrars web-based application platform ("**RWAP**") using unified payments interface ("UPI") or net banking
- **E-Voting -** electronic infrastructure, an alternative to the paper-based ballot process to facilitate shareholders to cast votes in electronic form. The system would process, record votes automatically and facilitate the declaration of voting results quickly
- **E-vault** - Soft data of physical documents, dividend and related transactions of the issuers as they need to maintain the quarterly data. Service providers maintain, upload and preserve the data in e-vault thus enabling issuers to efficiently manage data
- **Digital signature -** helps in obtaining and identifying sender in online transactions through hassle free digital signature
- **Investor support center** - Facilitate investor awareness about rights of investors, various activities with timelines, do's and don'ts for investors and grievance redressal mechanism

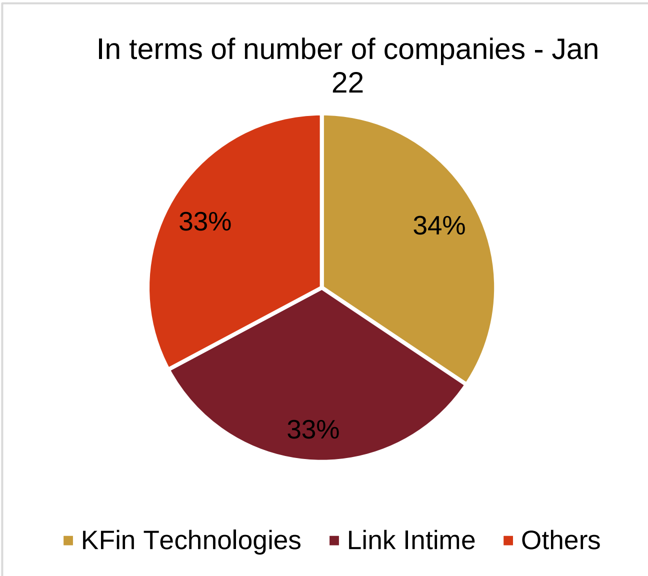
Competitive Scenario

As of January 31, 2022, out of the NSE 500 companies, KFintech currently services 172 companies, thereby accounting to 34% market share. In terms of market capitalization, KFintech accounts for 43% market share as of January 31, 2022, followed by Link Intime at 22% market share and remaining 36% is serviced by other players operating in the same segment or done in-house by a few companies themselves. Accordingly, KFintech is the largest issuer solutions provider in India as of January 31, 2022, based on number of clients serviced, and is one of only two players of scale in India's issuer solutions space. Player of scale corresponds to entities with minimum 25% market share (in terms of serviced clients) within NSE 500 companies in the Indian issuer solutions space.

As on January 31, 2022, KFintech holds a 43% market share (within NSE 500 companies) based on issue size in India's issuer solutions space where KFintech serves more than 4,000 listed and unlisted corporates with 99.6 million issuer solutions folios out of a total of 156.4 million folios.

KFintech accounts for 43% and 34% market share in terms of market capitalization and number of companies within NSE 500 companies

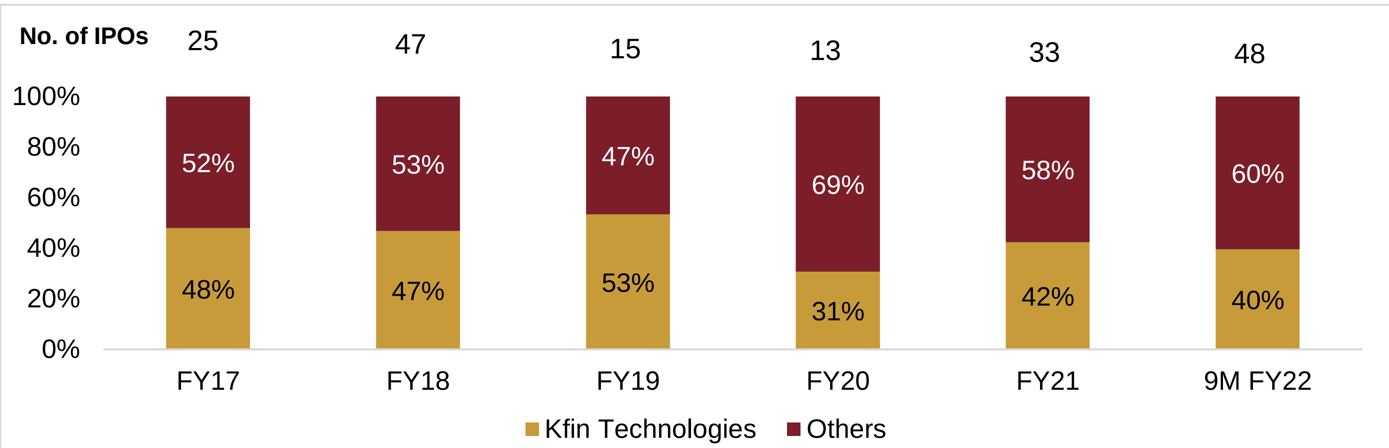




Source: NSE, NSDL, CRISIL Research

In terms of number of mainboard IPOs, over the last five years, KFintech accounted for 44% market share on average. Further, for the nine months ended December 31, 2021, KFintech accounted for a 40% market share.

KFintech accounted for approximately 40% market share in terms of number of mainboard IPOs



Note: Data includes data for Mainboard IPOs only and not ReITs and InvITs, Boxes above the chart represents number of IPOs in the respective Fiscals; Source: SEBI, CRISIL Research

Revenue model

The revenue model of issuer solutions providers typically revolves around the number of folios managed by the service provider. In addition to folio maintenance, the service providers get a fixed amount for facilitating various corporate actions. Further, these players generate revenues from value added products and services. Going forward, increase in number of folios owing to increased retail participation into direct equity as well as increase in usage of value-added products and services is expected to boost the revenues for the investor and issuer solutions provider.

Impact of digitization on investors and issuer solution providers

The financial services sector has undergone digital transformation that has had widespread implications on how companies in the sector run their businesses. New technologies have enabled AMCs, insurers and other established financial services companies to overhaul their operations and identify different ways of serving their clients. Furthermore, financial services companies operate in a highly regulated environment, which requires them to manage digital transformation while simultaneously meeting demands of stakeholders for greater transparency and trust.

This has led to a strong demand for investor and issuer solutions providers, who with their expertise in technology platform, are enabling financial services industry to shift from legacy systems and implement an efficient way of working across business functions. Companies are looking to restructure operating models so that they can focus more their primary business and, with the help of these service providers, become more agile and make efficiency gains to save on costs.

Way forward

Immense market opportunity: Investor and issuer solutions providers in India have just tapped the tip of the iceberg. Their existing technological infrastructure for various asset managers across mutual funds, alternatives, wealth management and pension as well as issuers can help them offer curated solutions to clients across different domains. Further, as most of the value-added products and services are customized based on the sector in which the clients operate, providing curated solutions can help them expand the addressable market.

Hybrid approach: Digitization is allowing service providers to collaborate and eliminate human intervention, reduce TAT and eliminate possibility of errors with their entire gamut of services online. CRISIL Research foresees the market gravitating towards a hybrid approach – a combination of automated process and on-demand support.

Data analytics opportunities

Investor and issuer solutions providers currently offer various services pertaining to day-to-day operations of AMCs, insurance companies and banks enabling these financial institutions to optimize cost and improve efficiency. However, with increasing quantum of data that these service providers operate on, CRISIL believes that this enables new market opportunity for these service providers with the help of data analytics. With the help of data analytics, investor and issuer solutions providers can offer deep insights in key areas like risk management, customer behavior, operational efficiency and regulatory compliance.

Key areas of focus

Source: CRISIL Research

Risk management: Financial institutions are exposed to risks such as financial crime, cybersecurity risk, credit risk and market risk. Service providers offer comprehensive risk and compliance protection services and solutions pertaining to people, process and technology, to leading companies. They enable clients to manage diverse risks by adopting proactive measures for risk detection and mitigation.

Customer analytics: Customer analytics helps in customer acquisition, servicing, growth, and retention. Investor and issuer solutions providers have a huge amount of investor behavioral data which plays a significant role in terms of providing several insights to financial institutions for better investor offering and servicing. With the help of data analytics service providers, financial institutions can select the right fit and align the service providers' solutions to their own organizational needs.

Operational analytics: Service providers enable financial institutions to reduce the need of manual decision-making and automate information management service offerings. This enables companies to achieve more operational efficiency as well as provide a smooth and convenient experience to investors/ customers.

Regulatory compliance: Service providers offer faster and more accurate responses to regulatory requests. These enable financial institutions to more efficiently verify data, maintain data consistency, accelerate compliance, merge statements, generate reports based on set parameters and review documents. This has led to increase in criticality of service providers in the financial ecosystem.

Indian players entering global markets

Over the years, traditional business model of AMCs, banks and other financial institutions has evolved as companies now prefer third party service providers over their captive management of operations in order to achieve efficiency. Indian players who are currently offering such services in India have built strong domain expertise and technological infrastructure over the years. Therefore, these service providers are now also focusing on global markets and increasing their offerings to global fund services. Investor solutions providers can leverage deep experience in platform-based services and capability of seamless transition of services for various asset classes including EPF, ETF, Private Retirement Schemes (PRS) and cash products in India and offer similar services for global asset managers. For example, KFintech is present in the global markets like Malaysia, Philippines and Hong Kong.

Fund Accounting

The priority of a fund manager is to generate returns for the investors. However, day to day fund administration, accounting, reconciliation, and compliance can easily become a hindrance to the real work and add to the pressure of a fund manager. Thus, fund accounting services provider addresses this challenge and helps the fund manager to comply with regulatory, financial and tax reporting requirements around accounting and NAV computation requirements. It refers to the maintenance of the financial records of an investment fund which involves recognizing income earned and expenses incurred by the fund. In addition, fund accounting services provider also maintain accounting record for investor activities such as regular and frequent cash inflow and outflow from and to investors, and portfolio activities including net asset valuation on a daily, weekly, or monthly basis.

Service Offerings:

- Recording daily profits and losses
- Timely NAV calculations with accuracy
- Trade, position, and cash reconciliation
- Fund level and beneficiary level accounting
- Compliance services, with monitoring and reporting for regulatory and investment guidelines

Revenue model

Players operating in the segment operates via different business models:

- Pure license agreement which involves entering into an agreement to fully outsource their operations
- Annual maintenance-based model, where the system lies with the AMC and the software provider is only

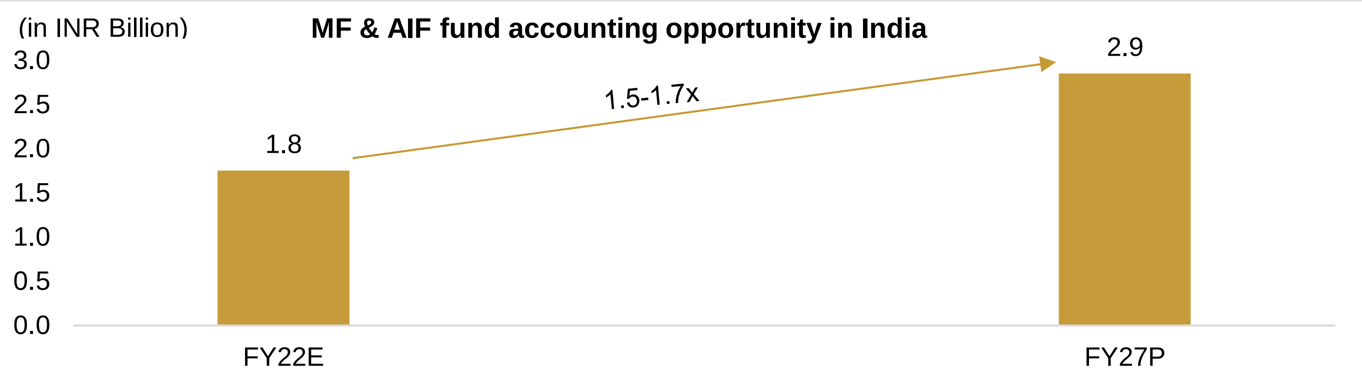
responsible for maintaining and upgrading the system

- A newer model that is emerging is a software as a service (“SaaS”) / platform as a service (“**PaaS**”) based model where the AMC leverages technology of the platform provider, and pays a fixed fee or pay per use (based on AUM size of AMC) based on the terms of agreement

The revenue model of fund accounting service providers typically revolves around the AUMs handled and mix of AUM across categories (equity, debt, liquid, hybrid, and others). Generally, the AMCs spend 0.30 – 0.45 bps as a proportion of average AUM on fund accounting. For AIFs, the fees charged is slightly higher in the range of 1.0 – 1.5 bps.

Mutual fund and AIF fund accounting opportunity in India

The fund accounting business of mutual fund and AIFs in India is estimated to be approximately ₹ 1.5-2.0 billion at end of Fiscal 2022 and is projected to nearly grow at 10-11% CAGR in the next five years to reach approximately ₹ 2.5-3.0 billion in Fiscal 2027. This growth is expected on account of increasing focus of fund managers towards their core business, cost benefits in terms of people and technology and scalability of the business.



Note: E: Estimated, P: Projected
Source: CRISIL Research Estimates

Global mortgage servicing

Mortgage credit is the main component of household credit which includes consumer credit. In many countries, it even exceeds the level of business credit. It represents a large market specifically in developed markets. For instance, Switzerland has the biggest mortgage book relative to its GDP of 145.3% as compared to the next two countries – U.K. (64%) and U.S. (60%). In South East Asia, mortgage to GDP ratio for Indonesia (3%), Thailand (23.9%), Malaysia (35.4%) and Philippines (3.9%) is lower as compared to other developed markets. Further, mortgage to GDP ratio India (9.4%) is also lower than developed markets. According to CRISIL’s assessment of various markets, the global mortgage loans outstanding is estimated to be approximately USD 40 trillion as of December 2020, which provides a huge opportunity for mortgage servicers to capture the market.

Mortgage servicers are entities who sits between the borrower, namely, the homeowner and the lender. The mortgage servicers are responsible for servicing the mortgage loan and includes services from payment processing to escrow administration and default management. These entities collect homeowners' mortgage payments and pass on those payments to lenders/investors through escrow accounts. If the homeowners fall behind on their payments, the mortgage servicers also ensure that they work with homeowners to get them back on track. If that is not possible, the servicer pursues a loan modification or explores other option to foreclosure. Globally, lenders are working with process outsourcing companies that help mortgage loan providers better control costs, reduce capital expenditures, and improve service levels and operational efficiency in various processes of mortgage finance.

Different mortgage service provider offerings to financial institutions

Core servicing processes	• Core servicing processes includes from customer on-boarding, loan processing, underwriting, account management to foreclosure of loans
Collection and loss mitigation	• Collection and notices, Banruptcy/Default management and reporting • Loss mitigation by deploying predictive analytics to determine valuable insights and information about at-risk borrowers
Customer Support Function	• Customer enquiries and research • New loans setup
Real Estate Owned (REO) services	• Propert management and preservation • Assistance for faster liquidation of assets for recovery

Source: CRISIL Research

Apart from offering operational efficiency and better cost controls to financiers, mortgage service providers also transform overall customer experience. With the help of assessing customer journey, self-service portals to reduce human interactions and using analytics to better manage defaults and collections mortgage servicers reduce the possibility of customer disengagement and enhance overall customer experience. In addition, the Mortgage Business Process Outsourcing (BPO) services has evolved over the years and has helped lenders unlock growth and achieve desired results by moving services to mortgage back office.

Revenue model

The revenue model of mortgage service providers typically revolves around the cost to service a loan account. Loan servicers are compensated by retaining a relatively small percentage of each periodic loan payment, known as the servicing fee or servicing strip. Further, this servicing fee is usually higher for a non-performing loan as compared to a performing loan. When such service providers outsource these activities to 3rd party outsourcing partners, they typically pay based on number of trained employees managing these processing activities on outsourced basis.

Opportunities for financial third-party software & platform providers to grow

In recent years, FIs have witnessed challenges with margins shrinking due to competition, customers having heightened expectations from service providers, and uncertainty in the macro-economic environment. This has propelled them to shift from their legacy systems to cater to new client needs, stricter regulations and evolving economic climate. It involves patching platforms, adding custom-built user systems and bringing digital transformation to the organization.

Below are some of the key focus areas for financial institutions:

- Increased operational efficiency through automation of processes that are manual and particularly repetitive
- Faster and cheaper settlement processing using distributed ledger technologies ("**DLT**")
- Improving data scope, quality and controls to enable robust risk management, regulatory compliance and advanced performance and risk reporting

CRISIL Research believes that unlike earlier, the financial institutions are becoming more comfortable and open towards outsourcing to derive the potential benefits specified below:

- Obtaining necessary expertise at lower cost than what might be possible by hiring internal staff thereby allowing financial entities to focus on their core area of business
- Automate and speed up tasks, reducing the need for manual intervention and assisting in minimizing operational risks arising out of transaction processing, data management and compliance
- Provide flexibility to the business models of regulated entities, by enabling them to rapidly adjust both the scope and scale of their activities to meet client and market needs.

With increasing focus of financial institutions on outsourcing non-core business operations and using pay-per use model, product and service providers over the years have also evolved their offerings in terms of SaaS / PaaS and custom software. SaaS/ PaaS software generally handles standard processes for specific types of institutions as compared to custom software which are specially designed to meet distinct needs of a company. While SaaS/ PaaS software is cost effective given the operational leverage, ease of deployment (via connectivity through application programming interface ("**APIs**")) and scalability, custom software offers more control to the company over their process and data. Globally, platform providers such as nCino and Blackline have witnessed huge traction among financial institutions owing to their cloud-based offering that has led to increased efficiency, transparency, profitability and regulatory compliance for the financial institutions. The usage of PaaS /SaaS based players have also led to better data management and reduction in data duplication. This has caused FIs to outsource various functions such as front office and client onboarding (involving account setup and compliance checks), middle-office services (involving cloud services, robotic process automation and data management) and channel management (brokerage computation and pay-outs), Regulatory and compliance services such as process improvement, framework and procedure development, risk monitoring) and reconciliation services to various third-party PaaS and SaaS to make use of the new technologies for staying ahead of the competition and surfing on current market trends. CRISIL Research believes, the pace of digital transformation and need for automating the value chain will unlock and provide a huge opportunity for third party software and platform providers to provide their technical expertise and infrastructure to more clients over the next few years.

Performance of global third-party software and platform providers to Financial Institutions

In this section, CRISIL Research has analyzed the operational performance and key financial indicators of global players such as nCino, SimCorp, SS&C Technologies Holdings, which provides third party software and platform services (PaaS/SaaS) to various financial institutions.

Business Overview of various third party and platform providers to financial institutions

Company Name	Company Overview
nCino	nCino provides SaaS based solutions for client onboarding, analytics, loan origination and deposit account opening applications that span lines of business and across channels, streamlining employee, client and third-party interactions to drive efficiency, transparency, and compliance across a financial institution. **Target segment:** Banks and credit unions
Company Name	**Company Overview**
Clearwater Analytics	Clearwater Analytics is a software-as-a-service fintech company that provides automated investment accounting, performance, compliance, and risk reporting. **Target Segments:** Insurance companies, asset managers, corporations, banks, governments
Company Name	**Company Overview**
MeridianLink	MeridianLink provides SaaS cloud-based products and services that span the entire digital lending journey. Its offerings and solutions also revolve around deposit account opening, collections and analytics which together performs and support digital transformation of financial institutions. **Target Segment:** Credit unions, banks and mortgage lenders
Company Name	**Company Overview**
Blend Labs Inc.	The company provides software platform for banking products and provides digital-first consumer journeys from application to closure for mortgages and lending products. The customer journey includes modular components that includes data collection, verification checks, product selection, pricing, pre-approvals, disclosures, addressing stipulations, and signing closing documents. **Target segment:** Banks, credit unions, fintechs, and non-bank lenders
Company Name	**Company Overview**
SS&C Technologies Holdings Inc.	The company provides software products and rapidly deployable software-enabled services to various clients to automate and integrate front-office functions such as trading and modeling, middle-office functions such as portfolio management and reporting, and back-office functions such as accounting, transfer agency, compliance, regulatory services, performance measurement, reconciliation, reporting, processing and clearing. **Target segment:** Institutional asset and wealth management, alternative investment management, healthcare, brokerage, retirement, financial advisory firms

Company Name	Company Overview
SimCorp	The company provides fully integrated front to back, multi asset, investment management solutions to Institutional investment management companies to support investment decision making. In addition, it also provides other solutions in the value chain such as data management, trading, risk management, operations accounting, communication and reporting. **Target Segment:** Asset management, wealth management, banks, sovereign wealth funds, pension funds and insurance
Company Name	**Company Overview**
Duck Creek Technologies Inc.	Duck Creek Technologies is a low code SaaS provider of core systems for the property and casualty insurance industry. The Duck Creek platform is aimed to improve the operational efficiency of the insurers core process such as policy administration, claims management and billing, while reducing their cost of technology ownership. **Target segment:** Insurance
Company Name	**Company Overview**
Enfusion Inc	Enfusion is SaaS provider, which aims to simplify investment and operational workflow by unifying systems and coalescing data into a single dataset allowing their customers to interact more effectively across the investment management lifecycle. **Target segment:** Investment management, AIFS

Source: Company Reports, Company Website, CRISIL Research

Financial performance of global third-party software and platform providers

Company Name	Year of Incorporation and Country	Financial (year ending Jan)	Revenue (USD Mn)	Revenue growth (y-o-y)	EBITDA (USD Mn)	PAT (USD Mn)	Gross Margin	EBITDA Margin	PAT Margin	R&D Exp.	S&M Exp.
nCino	2011, USA	2021	204	48%	-43	-41	56.9%	-21%	-20%	29%	29%
		2020	138	51%	-28	-28	53.6%	-20%	-20%	26%	32%
		2019	92	57%	-23	-22	49.3%	-25%	-24%	24%	34%
Company Name	**Year of Incorporation and Country**	**Financial (year ending Dec)**	**Revenue (USD Mn)**	**Revenue growth (y-o-y)**	**EBITDA (USD Mn)**	**PAT (USD Mn)**	**Gross Margin**	**EBITDA Margin**	**PAT Margin**	**R&D Exp.**	**S&M Exp.**
Clearwater Analytics	2004, USA	2021	252	24%	28	-8	73.1%	11%	-3%	29%	15%
		2020	203	21%	-20	-44	73.8%	-10%	-22%	27%	11%
		2019	168	NA	26	8	71.9%	15%	5%	23%	11%
Company Name	**Year of Incorporation and Country**	**Financial (year ending Dec)**	**Revenue (USD Mn)**	**Revenue growth (y-o-y)**	**EBITDA (USD Mn)**	**PAT (USD Mn)**	**Gross Margin**	**EBITDA Margin**	**PAT Margin**	**R&D Exp.**	**S&M Exp.**
Meridian Link*	2000, USA	2020	199	31%	46	-44	70.7%	23%	-22%	9%	5%
		2019	153	NA	20	-13	69.0%	13%	-8%	10%	6%
Company Name	**Year of Incorporation and Country**	**Financial (year ending Dec)**	**Revenue (USD Mn)**	**Revenue growth (y-o-y)**	**EBITDA (USD Mn)**	**PAT (USD Mn)**	**Gross Margin**	**EBITDA Margin**	**PAT Margin**	**R&D Exp.**	**S&M Exp.**
Blend Labs Inc.*	2012, USA	2020	96	90%	-75	-75	64.3%	-78%	-78%	58%	54%
		2019	51	NA	-81	-81	61.4%	-161%	-161%	96%	74%

Company Name	Year of Incorporation and Country	Financial (year ending Dec)	Revenue (USD Mn)	Revenue growth (y-o-y)	EBITDA (USD Mn)	PAT (USD Mn)	Gross Margin	EBITDA Margin	PAT Margin	R&D Exp.	S&M Exp.
SS&C Technologies Holdings Inc.	1986, USA	2021	5,051	8%	1,242	801	47.7%	25%	16%	8%	8%
		2020	4,668	1%	986	625	44.9%	21%	13%	9%	8%
		2019	4,633	2%	914	439	43.6%	20%	9%	8%	8%
Company Name	Year of Incorporation and Country	Financial (year ending Dec)	Revenue (USD Mn)	Revenue growth (y-o-y)	EBITDA (USD Mn)	PAT (USD Mn)	Gross Margin	EBITDA Margin	PAT Margin	R&D Exp.	S&M Exp.
SimCorp	1971, Denmark	2021	596	8.8%	158	132	60.3%	27%	22%	18%	10%
		2020	547	0.3%	148	106	63.3%	27%	19%	20%	11%
		2019	545	19%	153	116	63.2%	28%	21%	18%	11%
Company Name	Year of Incorporation and Country	Financial (year ending August)	Revenue (USD Mn)	Revenue growth (y-o-y)	EBITDA (USD Mn)	PAT (USD Mn)	Gross Margin	EBITDA Margin	PAT Margin	R&D Exp.	S&M Exp.
Duck Creek Technologies Inc	2000, USA	2021	260	23.0%	-15	-17	57.7%	-6%	-7%	19%	21%
		2020	212	24%	-29	-30	54.1%	-14%	-14%	21%	24%
		2019	171	8%	-14	-17	57.9%	-8%	-10%	21%	23%
Company Name	Year of Incorporation and Country	Financial (year ending Dec)	Revenue (USD Mn)	Revenue growth (y-o-y)	EBITDA (USD Mn)	PAT (USD Mn)	Gross Margin	EBITDA Margin	PAT Margin	R&D Exp.	S&M Exp.
Enfusion Inc	2006, USA	2020	80	34.8%	6	4	73.2%	8%	5%	8%	12%
		2019	59	n.a.	14	13	71.3%	24%	21%	7%	13%

Note: Research and Development Expenses (R&D Exp.) is computed as a % of Total Revenue. Sales and Marketing Expense (S&M Exp.) is computed as a % of Total Revenue, NA – Not Available; Source: Company Reports, CRISIL Research

Operational performance of global third-party software and platform providers (CY 2021)

Company Name	Net Revenue Retention Rate	Customers	Employees
nCino	155%	1,260	1,115
Clearwater Analytics	109%#	N.A.	1,259*
Meridian Link#	120%	1,925	472
Blend Labs Inc.#	162%	291	581
SS&C Technologies Holdings Inc.#	96%	18,000	24,600
SimCorp	N.A.	300+	1,998
Duck Creek Technologies Inc.	120%	150	188
Enfusion Inc.	120%$	635*	639*

*Note: Net Revenue Retention Rate is the percentage of recurring revenue retained from existing customers over a given period (12 months), # Data for Fiscal 2020, *Data as of June 2021, $ Data for December 2020, NA- Not available; Source: Company Reports, CRISIL Research*

Peer Benchmarking

Indian Peers

In this section, CRISIL Research has analyzed the operational performance and key financial indicators of players providing investor and issuer solutions and wealth management services, on a consolidated basis, like CAMS, KFintech, Link Intime, Bigshare Services, Miles Software Solutions Private Limited and Applied Software Private Limited.

KFintech is the only investor and issuer solutions provider to mutual funds, offering services beyond India. As on January 31, 2022, KFintech is the only investor and issuer solutions provider in India that offers services to both asset managers such as mutual funds, AIF, wealth managers, pension and corporate issuers in India besides servicing overseas clients in South East Asia and Hong Kong. KFintech services more than 151.2 million folios as at December 31, 2021 as compared to 49.2 million as at December 31, 2021 for CAMS.

Revenue from operations for players (in millions) (FY2021)

Segment	Peers	FY19	FY20	FY21	9M FY22
Investor solutions	CAMS	6,936	6,996	7,055	6,665
Diversified	KFintech	4,413	4,499	4,811	4,587
Issuer Solutions	Link Intime India Private Limited $	484	970	-	-
	Bigshare Services Private Limited *	89	102	102	-
Wealth Management	Miles Software Solutions Private Limited *	731	897	-	-
	Applied Software Private Limited (Wealth Spectrum)	159	196	-	-

*Note: FY2021 means year ending March 2021, $Financial year is ending June 2019 and June 2020, * Data is on a Standalone basis; Source: Company Reports, CRISIL Research*

KFintech has a diverse set of revenue mix as compared to CAMS

KFintech is highly diversified with respect to its offerings and revenue mix as compared to CAMS. Currently, mutual fund business account for 90.3% of overall CAMS revenue whereas it is 66% for KFintech. KFintech's non-domestic mutual fund business includes global fund services (International investor solutions for international markets), CRA for National Pension System, issuer solutions and global business services (outsourced transaction processing).

Revenue mix for CAMS and KFintech (FY21)

	CAMS	KFintech
Mutual fund Business	90.3%	66.0%
Non-Mutual Fund Business*	9.7%	34.0%

*Note: FY2021 means year ending March 2021, *Non mutual fund business for CAMS includes insurance repository, payments services, recoverable and other miscellaneous services, non-mutual fund business for KFintech includes Investor solutions for AIF, Global Fund Services, National Pension System, Issuer services, Offshore transaction processing and other miscellaneous services; Source: Company Reports, CRISIL Research*

Financial performance for peers (FY2021)

Bigshare Services has the highest PAT margin amongst the peer set

Bigshare Services has the highest PAT margin of 29.9% at end of Fiscal 2021. KFintech has the lowest PAT margin of 1% and -13.3% owing to goodwill amortization, finance costs and deferred tax expense on the same in Fiscal 2020 and 2021. However, KFintech's PAT margin, after adjusting for goodwill amortisation, is 15.7% and 23.5% at end of Fiscal 2020 and 2021 respectively.

Segment	Peers	PAT margin				
		FY19	FY20	FY21	9M FY22	Average
Investor solutions	CAMS	19.0%	23.8%	27.9%	31.4%	25.4%
Diversified	KFintech *	12.6%	1%	-13.3%	21.1%	5.4%
Issuer Solutions	Link Intime India Private Limited $	13.8%	4.2%	-	-	9.0%
	Bigshare Services Private Limited#	20.9%	26.4%	29.9%	-	25.7%
Wealth Management	Miles Software Solutions Private Limited#	6.9%	37.4%	-	-	22.1%
	Applied Software Private Limited (Wealth Spectrum)	40.8%	39.9%	-	-	40.3%

*Note: FY2021 means year ending March 2021, * KFintech's reported PAT is ₹ 645 million for FY2021 and ₹45 million for FY2020, Reported PAT margin is -13.3% and 1.0% for Fiscal 2021 and Fiscal 2020 respectively, Proforma financials for FY19 is used for KFintech, # Data is on a Standalone basis, $Financial year is ending June 2019 and 2020; Source: Company Reports, CRISIL Research*

Segment	Peers	Adjusted PAT margin				
		FY19	FY20	FY21	9M FY22	Average
Investor solutions	CAMS	19.0%	23.8%	27.9%	31.4%	25.4%
Diversified	KFintech *	17.0%	15.7%	23.5%	21.1%	19.3%
Issuer Solutions	Link Intime India Private Limited $	13.8%	4.2%	-	-	9.0%
	Bigshare Services Private Limited#	20.9%	26.4%	29.9%	-	25.7%
Wealth Management	Miles Software Solutions Private Limited#	6.9%	37.4%	-	-	22.1%
	Applied Software Private Limited (Wealth Spectrum)	40.8%	39.9%	-	-	40.3%

*Note: Adjusted PAT is a non-GAAP measure, FY2021 means year ending March 2021, * KFintech's reported PAT is ₹645 million for FY2021 and ₹ 45 million for FY2020, Reported PAT margin is -13.3% and 1.0% for Fiscal 2021 and Fiscal 2020 respectively, In Fiscal 2021 - adjustment of ₹ 1,812 million is made (₹ 669 million for Goodwill amortisation and ₹ 1,143 million as one-time expense), In Fiscal 2020 -adjustment of ₹671 million is made (Goodwill amortisation), Proforma financials for FY19, Profit after Tax is adjusted for goodwill amortisation in Fiscal 2019, 2020 and Fiscal 2021, For Fiscal 2021, One-time tax expense as the outcome on the difference between Goodwill as per the books of account and its updated tax base of Nil is adjusted, # Data is on a Standalone basis, $Financial year is ending June 2019 and 2020; For other companies, there is no adjustment for goodwill amortization and hence the PAT margin and Adjusted PAT margin is same, Source: Company Reports, CRISIL Research*

KFintech has the highest EBITDA margin in Fiscal 2021 amongst the peer set for whom data is available

KFintech had the best EBITDA margin of 44.7% in Fiscal 2021 amongst peers for whom data is available. It is followed by CAMS (44.3%) and Bigshare Services Private Limited (44.1%).

Segment	Peers	EBITDA margin FY19	FY20	FY21	9M FY22	Average
Investor solutions	CAMS	33.2%	42.7%	44.3%	47.8%	42.0%
Diversified	KFintech	34.2%	36.0%	44.7%	45.1%	40.0%
Issuer Solutions	Link Intime India Private Limited $	28.3%	28.8%	-	-	28.6%
	Bigshare Services Private Limited*	32.1%	38.7%	44.1%	-	38.3%
Wealth Management	Miles Software Solutions Private Limited*	26.0%	58.1%	-	-	42.0%
	Applied Software Private Limited (Wealth Spectrum)	52.7%	53.7%	-	-	53.2%

*Note: EBITDA Margin is a non-GAAP measure, EBITDA Margin is calculated as (Total Revenue - Employee Benefit Expenses – Operating Expenses – Other Expenses) / Total Revenue, FY2021 means year ending March 2021, * Data is on a Standalone basis, $Financial year is ending June 2019 and 2020; Source: Company Reports, CRISIL Research*

Operational Performance of players (FY2021)

Segment	Peers	Employee Cost as a % of Revenue	Opex (including other expense) as a % of Revenue
Investor solutions	CAMS	36%	20%
Diversified	KFintech	39%	16%
Issuer Solutions	Link Intime India Private Limited $	26%	45%
	Bigshare Services Private Limited *	29%	27%
Wealth Management	Miles Software Solutions Private Limited *	30%	12%
	Applied Software Private Limited (Wealth Spectrum)	41%	5%

*Note: FY2021 means year ending March 2021, $Financial year is ending June 2019 and June 2020, * Data is on a Standalone basis; Employee cost and Opex is calculated as a % of Total Revenue, Source: Company Reports, CRISIL Research*

Product mix of various investor and issuer solutions providers

The table below details the products and services being offered by various investor and issuer solutions provider in India. Among the peer set considered, KFintech has a wide variety of suite of products covering all segments. CAMS also has a suite of services covering multiple business segments such as mutual funds, AIFs and insurance repository. In addition, CAMS has received a CRA license for NPS, and have commenced operations from March 2022.

Product comparison

Products	Mutual Funds	Alternative Investment Funds	Wealth Management	National Pension System	Issuer Solutions
CAMS	✓	✓	✓	✓	✗
KFintech	✓	✓	✓	✓	✓
Link Intime India Private Limited	✗	✗	✗	✗	✓
Bigshare Services Private Limited	✗	✗	✗	✗	✓

Products	Mutual Funds	Alternative Investment Funds	Wealth Management	National Pension System	Issuer Solutions
Miles Software Solutions Private Limited	✗	✗	✓	✗	✗
Applied Software Private Limited (Wealth Spectrum)	✗	✓	✓	✗	✗

Note: A tick-mark represents availability of a product catering to the respective segment by the company, Source: Company Reports, Company Website, CRISIL Research

Below are some of the technology solutions and platforms provided by CAMS and KFintech:

Technology platforms and mobile applications provided by CAMS:

- myCAMS: B2C mobile application to facilitate retail mutual fund transactions
- CAMServ: Self-service chatbot for investors
- CAMSsmart: Business intelligence service for MFs to measure business performance and benchmarking.
- GoCORP: Corporate investment portal
- mf360: Proprietary investor service application for MFs to track transactions, investor enquiries and requests.
- mfCompass: Allows MFs to sight funds real time by linking transfer agent's back offices to MFs
- mfCRM: Mobile application for MF RMs/SMs to facilitate retail mutual fund transactions
- MFDEx: Sales and business intelligence tool for MFs to review own relative performance.
- edge360: Application and portal for MF distributors and advisors to track their brokerages
- digiSIP: Application to set up multiple SIPs at one time
- CAMS eNPS: End to end solution to start and manage Pension accounts

Technology platforms and mobile applications provided by KFintech:

- KFinkart (Distributor App): One-stop app for distributors / financial advisors to deliver client services and allow them to invest, track and manage across a host of mutual funds
- KFinkart (Investor App): Allows investors to track and manage investments
- K-Bolt Go: Front-end application for AMC sales team enabling asset managers for efficient investor management servicing
- Korp Connect: Platform for corporate investors to manage portfolio, track investments and generate reports
- Digix: Platform allowing generation, viewing, downloading and sharing of reports
- Karisma: Virtual registry to facilitate India Inc and investors to access information
- Fintrak: Product developed for managing and to comply with the SEBI-Insider Trading Regulations
- E-Voting: Online e-voting software
- RWAP: Digital platform for the investor to subscribe for rights issue
- KPRISM: Mobile based platform that allows shareholders to view their investments across equity and bonds
- eAGM: Platform for virtual annual general meeting and video conferencing
- eVault: Platform for Corporates to store data

- Kosmic: IPO platform that allows investors to check the IPO allotment status for equity and bonds
- E-NPS: Website for Direct investment in NPS by subscribers
- POP Online: E-NPS product for Corporates to adopt NPS within purview of their employer-employee relationship and provide NPS benefits to its employees
- AIF in a Box: Platform for end-to-end solutions for AIFs, including digital onboarding, KYC matching, NAV calculation, Fund Accounting and Transfer Agency services
- IFA NXT: Browser-based solution for IFA, PMS / PWM clients to service their Wealth Customers
- Pushpak: It is an IPO bidding platform. It is also facilitating to open the Demat account and, subscribe to IPO's and see the holding information of the respective PAN.
- Inpro: It is a Anti Money Laundering (AML) and Prevention of Money Laundering (PML) platform
- Investrack: Compliance product for Mutual Fund AMCs
- AIF Digital Onboarding (to be launched): It is a web- based toll for paperless on boarding of Investors of Alternative investments (AIF)

KFintech and CAMS have collaboratively developed MF Central, an investor services hub that allows investors to execute all financial and non-financial mutual fund transactions, track transaction status, portfolio and complaints on real-time basis.

Fund performance across categories

The table below shows the top five performing funds across different categories and the corresponding investor solution provider to the mutual funds as on December 31, 2021. Amongst the investor solution providers to mutual fund industry, KFintech has majority of the top 5 performing mutual fund in various categories as their clients, as compared to CAMS having IIFL, SBI and Kotak Mutual Fund as their clients.

Large Cap Schemes	Solution Provider
Axis Bluechip Fund	KFintech
Canara Robeco Bluechip Equity Fund	KFintech
Mirae Asset Large Cap Fund	KFintech
BNP Paribas Large Cap Fund	KFintech
Edelweiss Large Cap Fund	KFintech

Large and Midcap Schemes	Solution Provider
Mirae Asset Emerging Bluechip	KFintech
Canara Robeco Emerging Equities Fund	KFintech
Edelweiss Large and Mid-Cap Fund	KFintech
Sundaram Large and Mid-Cap Fund	KFintech
LIC MF Large and Mid-Cap Fund	KFintech

Midcap Schemes	Solution Provider
PGIM India Midcap Opportunities Fund	KFintech
Axis Midcap	KFintech
Quant Mid Cap Fund	KFintech
Edelweiss Mid Cap Fund	KFintech
Invesco India Mid Cap Fund	KFintech

Focused Schemes	Solution Provider
IIFL Focused Equity Fund	CAMS
SBI Focused Equity Fund	CAMS
Axis Focused 25	KFintech
Sundaram Focused Fund	KFintech
Quant Focused Fund	KFintech

Multicap Schemes	Solution Provider
Quant Active Fund	KFintech
Sundaram Multi Cap Fund	KFintech
Baroda Multi Cap Fund	KFintech
Invesco India Multicap Fund	KFintech
BNP Paribas Multi Cap Fund	KFintech

Small Cap Schemes	Solution Provider
SBI Small Cap Fund	CAMS
Nippon India Small Cap	KFintech
Axis Small Cap Fund	KFintech
Kotak Small Cap Fund	CAMS
L&T Emerging Businesses Fund	KFintech

Note: The funds are arranged in order of five year returns as on December 31, 2021; Source: AMFI, CRISIL Research

Key regulations in the Mutual Fund Industry

Over the years, the SEBI has introduced and amended several key regulations:

- Mutual funds may invest money collected under any of their schemes only in securities, money market instruments, privately placed debentures and securitized debt instruments that are asset-backed or mortgage-backed, gold or gold-related instruments, real estate assets, infrastructure debt instruments, and assets
- Fees and expenses are capped as follows:

– Scheme expenses, including investment and advisory fees for index fund schemes and ETFs, should not exceed 1% of daily net assets

– For other open-ended schemes, apart from fund-of-funds, index fund schemes or ETFs, the expenses are:

AUM slabs	TER limits for equity-oriented schemes	TER limits for other than equity-oriented schemes	RTA fees as a % of AUM*	RTA fees as a% of TER*
On the first ₹ 5,000 million of daily net assets	2.25%	2.00%	0.045-0.05%	2.0-2.5%
On the next ₹ 2,500 million of daily net assets	2.00%	1.75%	0.042-0.047%	2.1-2.6%
On the next ₹ 12,500 million of daily net assets	1.75%	1.50%	0.040-0.045%	2.2-2.7%
On the next ₹ 30,000 million of daily net assets	1.60%	1.35%	0.037-0.042%	2.3-2.8%
On the next ₹ 50,000 million of daily net assets	1.50%	1.25%	0.035-0.040%	2.3-2.8%
On the next ₹ 400,000 million of daily net assets	TER reduction of 0.05% for every increase of ₹ 50,000 million of daily net assets or part thereof		0.0325-0.035%	2.7-3.2%
On balance of assets	1.05%	0.80%	0.030-0.035%	3.0-3.5%

*Note: TER: Total expense ratio, * Calculated as per interactions with Market Participants*

Source: SEBI, Market Interactions, CRISIL Research estimates

- In 2012, the SEBI introduced new norms that allow cash transactions in mutual funds up to ₹ 20,000 (now ₹ 50,000) per mutual fund per financial year to enable small-scale investors without a Permanent Account Number (PAN) to invest, and allow AMCs to charge an incremental expense of 30 bps, depending on the extent of new fund flows from beyond top 15 or B15 cities (now B30 cities)
- To boost awareness among investors, SEBI has directed AMCs to annually set aside at least 2 bps of 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
- In 2017, the SEBI issued guidelines for categorization of open-ended mutual fund schemes in equity, debt and hybrid funds to clearly distinguish between the schemes by asset allocation and investment strategies
  - All schemes should be categorized into equity, debt, hybrid, solution-oriented, and others
  - For equity schemes, the top 100 companies by full market capitalization are termed 'large cap', the next 150 companies by full market capitalization as 'mid-cap', and all others as 'small cap'
  - These guidelines are aimed at reducing the number of identical schemes per category, and making it easier for investors to evaluate different options, as high clarity and comparability should help investors make more informed decisions when investing in mutual funds
- In 2018, the SEBI issued revised terms and definitions, changing 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
- In case of mutual fund schemes, including closed-end schemes, where exit load is not levied, AMCs will not be eligible to charge expenses to the scheme of up to 0.20% of the daily net assets. This additional expense, earlier allowed, was reviewed in 2018 on the basis of actual exit load credited back to the schemes, and was reduced to 5 bps

With these changes, the SEBI allowed fund houses to charge an additional 30 bps in expense ratios on retail AUM to compensate the fund houses on the additional cost required to attract and service clients in these locations. Within these, costs are much higher for retail investors compared with institutional investors. Thus, even the revised decision to eliminate corporate AUMs in the B30 locations with additional expense ratios, will have minimum impact on the industry's profitability.

The SEBI's decision to change to T30 and B30 locations is primarily to increase mutual fund penetration in these locations in a targeted manner. Within the classification, the additional TER of up to 30 bps is applicable if the net inflow from these B30 locations is at least 30% of gross new inflow in the scheme, or 15% of the average AUM year-to-date of the scheme.

Because of the stricter TER regulations, AMCs' fee income, which was growing well in the past, has witnessed some impact. The impact on the regular plans was passed on to the distributors as well.

Also, the main reason was that with a larger increase in AUMs, the expenses associated with a scheme decline. Thus, funds with lower AUMs in their schemes normally have higher expenses, and this tapers off as the size of AUMs increases. As a result, fund houses with larger AUMs in their schemes will be in for a larger contraction compared with AMCs with lower AUMs in certain frontline schemes. Thus, the profitability for AMCs, which is a function of volume and margin, will see AMCs with larger schemes more affected in the short term.

Also, the slabs are graded in a manner that the initial ₹ 5,000 million of AUM has 2.25% as TER, and the next ₹ 2,500 million has 2.00% as TER. This means that for the entire ₹ 7,500 million, a TER of 2.00% is not applied, but an effective TER of 2.17% can be applied. Thus, AMCs' effective TER will come down with schemes getting larger, but in principle, for the initial ₹ 5,000 million or ₹ 7,500 million of AUMs of any two schemes, the TER can be similar. So, fund houses such as UTI, which currently have schemes with lower AUM, would be able to charge a relatively higher fee and pass more commission to distributors and agents, allowing them to grow faster in terms of size and revenue. However, for all players, after achieving a certain size and share, fee income will decline due to TER regulations.

Given below is a comparison of how the new expense ratio regulations affect different schemes, based on their cumulative size, and what the effective TERs of such schemes would be:

Old effective TER rate

(₹ million)	TER	TER amount	Cumulative AUM	Cumulative TER	Effective TER (%)
1,000	2.50%	25	1,000	25	2.50%
3,000	2.25%	68	4,000	93	2.31%
1,000	2.00%	20	5,000	113	2.25%
2,000	2.00%	40	7,000	153	2.18%
500	1.75%	9	7,500	161	2.15%
12,500	1.75%	219	20,000	380	1.90%
30,000	1.75%	525	50,000	905	1.81%
50,000	1.75%	875	1,00,000	1,780	1.78%
50,000	1.75%	875	1,50,000	2,655	1.77%
50,000	1.75%	875	2,00,000	3,530	1.77%
50,000	1.75%	875	2,50,000	4,405	1.76%
50,000	1.75%	875	3,00,000	5,280	1.76%
50,000	1.75%	875	3,50,000	6,155	1.76%
50,000	1.75%	875	4,00,000	7,030	1.76%
50,000	1.75%	875	4,50,000	7,905	1.76%
50,000	1.75%	875	5,00,000	8,780	1.76%
50,000	1.75%	875	5,50,000	9,655	1.76%

Note: Illustrative for equity funds

Source: SEBI, CRISIL Research

New effective TER rate

(₹ million)	% TER	TER amount	Cumulative AUM	Cumulative TER	Effective TER	Reduction in %
5,000	2.25%	113	5,000	113	2.25%	0.00%
2,500	2.00%	50	7,500	163	2.17%	-0.02%
12,500	1.75%	219	20,000	381	1.91%	-0.01%
30,000	1.60%	480	50,000	861	1.72%	0.09%
50,000	1.50%	750	1,00,000	1,611	1.61%	0.17%
50,000	1.45%	725	1,50,000	2,336	1.56%	0.21%
50,000	1.40%	700	2,00,000	3,036	1.52%	0.25%
50,000	1.35%	675	2,50,000	3,711	1.48%	0.28%
50,000	1.30%	650	3,00,000	4,361	1.45%	0.31%
50,000	1.25%	625	3,50,000	4,986	1.42%	0.33%
50,000	1.20%	600	4,00,000	5,586	1.40%	0.36%
50,000	1.15%	575	4,50,000	6,161	1.37%	0.39%
50,000	1.10%	550	5,00,000	6,711	1.34%	0.41%
50,000	1.05%	525	5,50,000	7,236	1.32%	0.44%

Note: Illustrative for equity funds; Source: SEBI, CRISIL Research

Regulations for Indian AIF industry

AIFs in India are regulated by SEBI under Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012.The regulations for AIFs ensures a minimal intervention approach, given the fact that unlike mutual funds, AIFs mostly dealt with the non-retail investor segment, primarily comprising sophisticated investors, who are well informed and attuned to adopting higher risk-return strategies. Regulatory amendments are largely focused on ushering in increased transparency in the sector by standardizing contents of offer documents and requiring compulsory performance reporting by AIFs.

Disclosure Standards for Alternative Investment Funds

Disclosure standards cover three broad aspects of AIFs

1. **Benchmarking of AIFs:** To bring transparency in AIF performance reporting, SEBI deemed it appropriate to develop an industry benchmark to compare the performance of AIF industry against the relevant peer set. The Indian Private Equity and Venture Capital Association (IVCA) appointed CRISIL as the benchmarking agency for the purpose of the benchmarking. CRISIL AIF Benchmarks represent the performance of the respective AIF categories at an aggregate level. They are presently available at a category level, i.e., Category I, II and III. Sub-category level and sector-specific benchmarks are expected to be created going forward. As the industry matures, sub-category indices based on investment strategy and mandate are also expected to be developed.

2. **Private Placement Memorandum (PPM) Standardization:** SEBI, in Feb 2020, introduced a standard template for PPMs which is divided into two parts: (i) a minimum disclosure section which is mandatory, and (ii) a supplementary section for providing additional information as deemed necessary by the AIF, thereby providing much-needed flexibility to AIFs to provide the necessary information to investors, while meeting certain mandatory information standards.
3. **PPM Audit:** SEBI has mandated that each AIF carry out a PPM audit at the end of each financial year. Mandating an independent audit of compliance with the terms of PPM has given investors a cushion of comfort, as well as enforcing a deserving layer of transparency and governance on AIF managers.
4. **Permission to invest in commodity derivatives for Category III funds:** SEBI on June 21, 2017, issued a circular titled, 'Participation of Category III Alternative Investment Funds (AIFs) in the commodity derivatives market' allowing category III alternative investment funds (AIFs) to invest in the commodity derivative markets. This has given AIFs to invest in more value accretive avenues and it will also increase liquidity and depth in the commodities market.

International Financial Services Centres Authority (IFSCA)

In April 2020, the Indian government established the International Financial Services Centres Authority (IFSCA) as Gift City's regulator. As of 18th January 2022, there are 14 AIFs registered with IFSCA since the launch in April 2020.

Single Window Clearance

The regulatory powers of 4 regulators (RBI, SEBI, IRDA and PFRDAI) are vested in IFSCA which ensure single window approval thus smooth process for setting up in IFSC.

Leverage

SEBI's AIF regulations prohibit category I and Category II AIFs from borrowing or engaging in any leverage. The only excepting is to meet short-term funding requirements up to 30 days, on not more than 4 occasions in a year and up to 10% of investible funds. Leverage is permitted in Category II AIFs with the consent of the fund's investors, up to a maximum of two times the fund's Net Asset Value. These restrictions, however, do not apply to IFSC AIFs which are permitted to exercise leverage subject to certain disclosure, consent and risk management requirements.

Co-investments

AIFs are regulated in such a way that all investors' funds are pooled in the AIF, and all investors generally participate in deals based on their pro-rata share in the AIF with investors not permitted to independently increase their allocation to a particular deal. However, IFSC AIFs are permitted to co-invest in portfolio companies through the creation of a segregated portfolio subject to certain restrictions and disclosures, thereby simplifying deal structuring and enabling AIFs, investors to allocate additional capital to profitable opportunities.

Diversification Norms

Category I and II AIFs are not permitted to invest more than 25% of their investable funds in any one investee company, as per SEBI regulations. This is capped at 10% for Category III AIFs. These restrictions do not apply to IFSC AIFs, subject to appropriate disclosures and consistency with the investors' risk tolerance.

Deployment of Funds

IFSC AIFs have 5 investment avenues to deploy funds - securities in which a domestic AIF is permitted, securities listed in IFSC, securities issued by companies incorporated in IFSC/ India/ foreign jurisdiction and units of an AIF. FPI/FDI/VCI limits would apply to investments in India. However, the existing restrictions on AIFs investing outside India do not apply to IFSC AIFs, i.e., no SEBI approval is required for investments outside India.

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List of formulae

Parameters	Formula
Gross Margin	(Total Revenue- Cost of Revenue)/Total Revenue
EBITDA Margin	(Total Revenue - Employee Benefit Expenses – Operating Expenses – Other Expenses) / Total Revenue
PAT Margin	Profit after tax / Total Revenue
Adjusted PAT	(Profit after tax + Amortisation of goodwill + One-time tax expense due to goodwill amortisation^)
Adjusted PAT Margin	(Profit after tax + Amortisation of goodwill + One-time tax expense due to goodwill amortisation^) / Total Revenue
R&D Expense	Research and Development Expense (including Tech expenses) / Revenue (expressed in terms of %)
S&M Expense	Sales and Marketing Expense / Revenue (expressed in terms of %)

Note: ^ The Finance Act, 2021 has introduced an amendment to Section 32 of the Income Tax Act, 1961, whereby goodwill of a business will not be considered as a depreciable asset and depreciation on goodwill will not be allowed as deductible expenditure effective April 1, 2020

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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