# Financial Literacy & Investor Education: Issues to Wealth Management

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***Abstract:*** People spend days together in taking recommendation and studying various models making before purchasing a vehicle. This practice is however never replicated when it comes to making a financial investments entailing far reaching consequences.

Since the last two decades, Indian economy has witnessed a number of structural and fundamental changes in financial markets. While Indian economy is on a strong growth trajectory and is ever more consolidated with the Global markets, there is a widespread realization that for such growth and momentum to be sustainable, a parallel deepening of financial sector must precede. And such deepening is possible only when individuals and households are financially literate, and the concept of investor education is more than a norm.

Financial literacy & investor awareness is a precursor in the effectiveness of Digital revolution.

The research paper aims at identifying the various variables available through secondary data and subsequently establishing a relationship between Financial Literacy and implementation of financial reforms. Financial literacy can also help increase the velocity of money circulation through symmetric information and consequently increase the rate of utility for the consumers.

It is an established fact that the financial reforms will usher in an era of higher growth and more customer satisfaction. This paper aims at validating the hypothesis that indeed higher Financial Literacy & investor education leads to higher growth and can be a catalyst in reaping fruits of demographic dividend.

***Keywords***: Investor education, financial literacy, digital reforms, deepening, money velocity, utility, economic growth.

## INTRODUCTION

Since the last two decades, Indian economy has witnessed a number of structural and fundamental changes in the financial markets. While Indian economy is on a strong growth trajectory and is ever more consolidated with the Global markets and the threats/ opportunities facing it, there is a widespread realization that for

such growth and momentum to be sustainable, a parallel deepening of financial sector must precede. And such deepening is possible only when individuals and households are financially literate, and for the benefit of focussed discussion, financial literacy in terms of financial investments.

In current times, financial literacy has gained the attention of policymakers, regulators, governments and several other organizations. In this area, several efforts have been made and resources have been developed by financial education providers along with various agencies.

Various studies by accredited institutes like NCFE (National Centre for Financial Education) have concluded that the rate of financial literacy is as low as 20%. With the advent of the Digital reforms, to realize the dream of financial inclusion, it is imperative for the consumers to be financially literate. This constraint has led to the problem of Financial Exclusion and delay in reaping the dividends of endogenous growth through financial reforms. The implementation of the financial reforms and increasing the growth through sustained push to investment and saving cannot be done unless and until the general populace is financially literate.
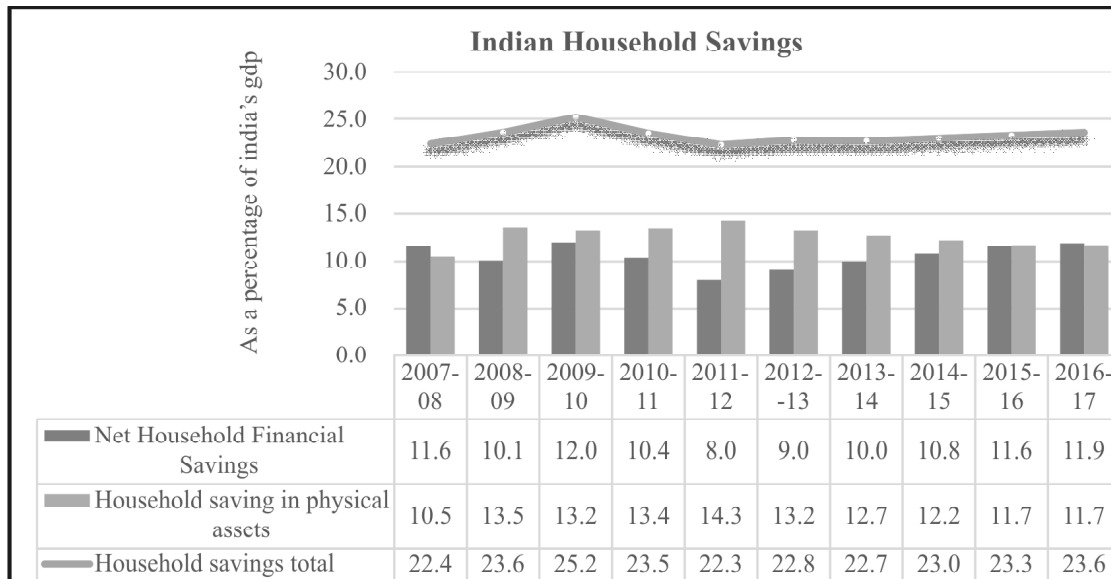
## THEORETICAL FRAMEWORK FOR FINANCIAL LITERACY

The conventional approach to savings and consumption decisions postulates that a fully rational and well informed individual will consume less than his income in times of high earnings, and he will also support consumption when income falls. In this context, building on Modigilani and Brumberg (1954) and Friedman (1957), the consumer is posited to arrange his optimal saving and expenditure patterns in accordance with the play of marginal utility over his lifetime. Many studies show how such a lifecycle optimization process can be shaped by consumer preferences (risk appetite, discount rates), the economic environment (eg. risky returns on investments and liquidity constraints), and social security provisions, among other factors. Theoretical models incorporating such key aspects of consumer behaviour patterns and economic environment implicitly assume that people are able to formulate and rationally execute savings and expenditure plans with a precision, all of which require expertise in dealing with financial markets, knowledge of purchasing power, capacity to undertake complex economic calculations and an in depth idea of financial products. Acquiring such knowledge comes at a cost. Earlier due to the provision of retirement benefits (pension etc.) were managed by the governments, individuals were required to devote little attention to the plan details. Today, with the advent of much individualised pension environment as well as availability of complex financial products, it is much more imperative for financial literacy to be a norm than a choice. In the last few years however, a few authors have begun to explore the decision to acquire financial literacy and the links between financial knowledge, savings and investment behaviour including Delavande, Rohwedder, and Willis (2008), Jappelli and Padula (2011), and Lusardi, Michaud and Mitchell (2013) and have come up with a set of models to propound the economic benefits likely to accrue from the financial knowledge and hence act as motivation to acquire financial knowledge. In the advanced stages, these models also calibrate the fact that, in countries with Social Security benefits, there will be fewer incentives to save and accumulate and hence, less reason to invest in financial literacy.

## PRELUDE

Personal savings in India increased to 22,124.14 INR Billion in 2013 from 20,547.37 INR Billion in 2012. Personal savings in India 2,819.47 INR Billion from 1951 until 2013, reaching an all-time high of 22,124.14 INR Billion in 2013 and a record low of 6.34 INR Billion in 1952.

**Disposable Income (INR Million)**
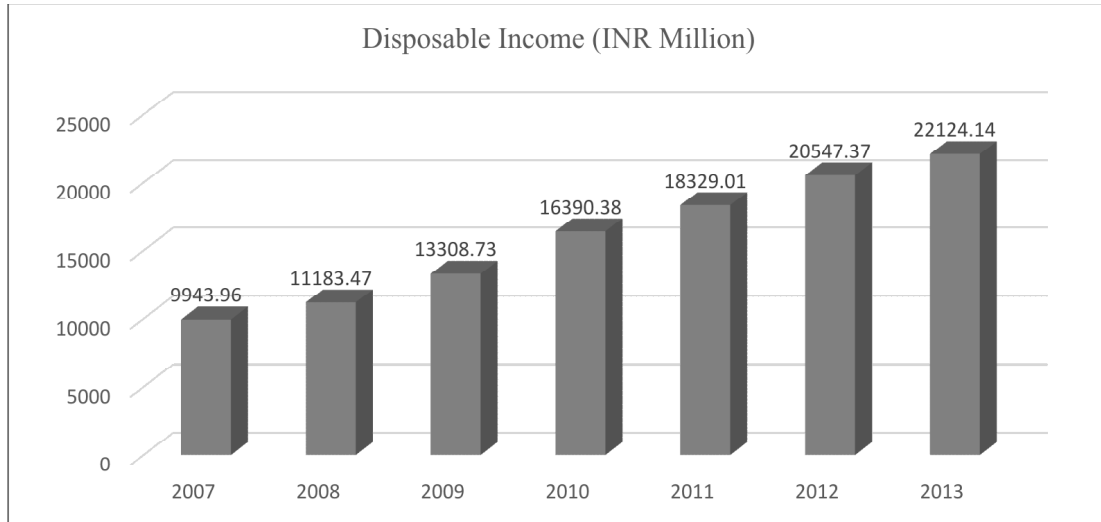


*Source: www.tradingeconomics.com (Ministry of Statistics and Programme Implementation)*



| | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 |
|---|---|---|---|---|---|---|---|---|---|---|
| Net Household Financial Savings | 11.6 | 10.1 | 12.0 | 10.4 | 8.0 | 9.0 | 10.0 | 10.8 | 11.6 | 11.9 |
| Household saving in physical assets | 10.5 | 13.5 | 13.2 | 13.4 | 14.3 | 13.2 | 12.7 | 12.2 | 11.7 | 11.7 |
| Household savings total | 22.4 | 23.6 | 25.2 | 23.5 | 22.3 | 22.8 | 22.7 | 23.0 | 23.3 | 23.6 |

## INDIAN HOUSEHOLDS SAVINGS AND INVESTMENT TRENDS

➢ From 1900 to 2000, a very high proportion of Indian households' savings were invested in financial assets when compared to Physical assets.

➢ From 2000 to 2007, more household savings were routed to Physical assets.

➢ Interestingly in 2007/08, more investments were made in financial assets. This shows that retail investors participated in stock markets when their valuations were at peak. The markets eventually crashed in 2008.

➢ From 2008 to 2014, physical assets were preferred to financial assets.

## FINANCIAL ASSETS OF THE HOUSEHOLDS (AS ON MARCH 2015)

Below table gives details about various investment avenues under which household savings have been invested in last few years:

**Financial Assets of the Household Sector (2012-2015) (in Rs Billion)**

| Year | Currency | Bank Deposits | Non-Banking Deposits | Life Insurance Funds | Provident & Pension Funds | Shares & Debentures | Total Financial Assets |
|------|----------|---------------|----------------------|----------------------|---------------------------|---------------------|------------------------|
| 2012-13 | 1,116 | 5,750 | 172 | 1,820 | 1,240 | 438 | 10,244 |
| 2013-14 | 1,018 | 7,741 | 305 | 2,052 | 1,632 | 323 | 12,792 |
| 2014-15 | 1,317 | 5,792 | 274 | 2,347 | 2,008 | 570 | 12,356 |

*Life Insurance Funds includes Central or State Government employees' insurance funds & postal insurance funds

*Shares & Debentures include investments in shares and debentures of credit/ non-credit societies, public sector bonds and mutual funds (other than specified undertaking of the UTI)

As is evident from the table above, investments in Shares and Debentures were around Rs 570 billion which is better than 2013-14 figures, it is still a minuscule part when compared to investment in bank deposits. The fact stated can be substantiated even more with the table below which shows investment in Shares and Debentures accounting for only 4.6% of the total financial assets.

**Financial Assets as a % of Total Financial Assets**

| Year | Currency | Bank Deposits | Non-Banking Deposits | Life Insurance Funds | Provident & Pension Funds | Shares & Debentures |
|------|----------|---------------|----------------------|----------------------|---------------------------|---------------------|
| **2012-13** | 11 | 56.1 | 1.7 | 17.8 | 12.1 | 4.3 |
| **2013-14** | 8 | 60.5 | 2.4 | 16.0 | 10.6 | 2.5 |
| **2014-15** | 10.7 | 46.9 | 2.2 | 19.0 | 16.3 | 4.6 |

It is very clear from the data above that most of the household savings are routed to bank deposits (on an average near about 50% of all the years combined), while investments in shares, mutual funds and debentures were abysmally low.

The confidence of household investors in Mutual Funds though seems to be gaining momentum as is evident from the table below with the increase in the Total Assets Under Management of various Mutual Funds.

As is evident there is a significant increase in Mutual Funds AUM in the last 4 to 5 years, one of the reason for this increase is the inclination amongst investors to participate in the gains accruing out of stock market while not directly investing in stocks due to lack of sufficient information as well as expertise on the part of investors.

The Indian rate of savings has been fairly consistent along the years (starting early 2000s till date) with on an average above 25% of the GDP as is evident from the table below. When compared to the emerging nations (BRICS nations), India ranks 2nd in terms of domestic savings after China. Despite this high rate of savings, unfortunately, a major portion of these savings gets invested in unproductive and illiquid assets
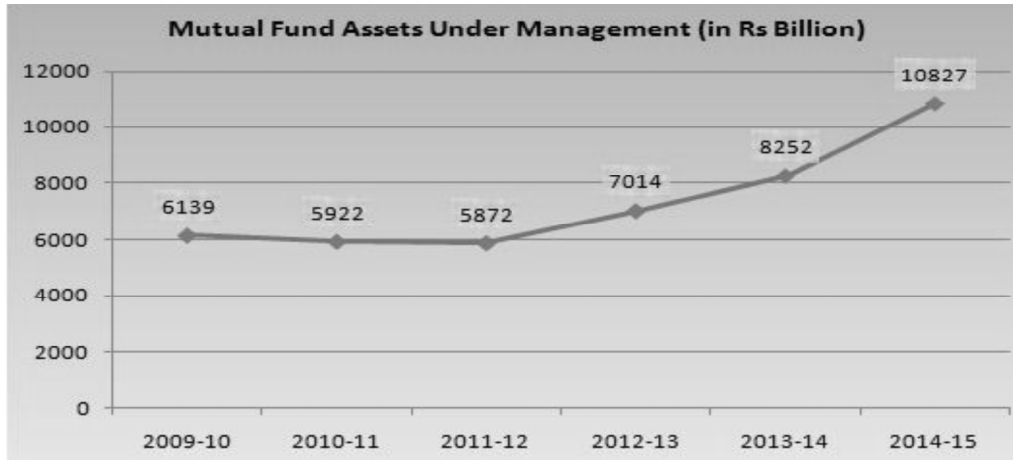
like Gold, Real estate or low yielding bank deposits (post inflation returns being much lower than those available from investments in stock markets).
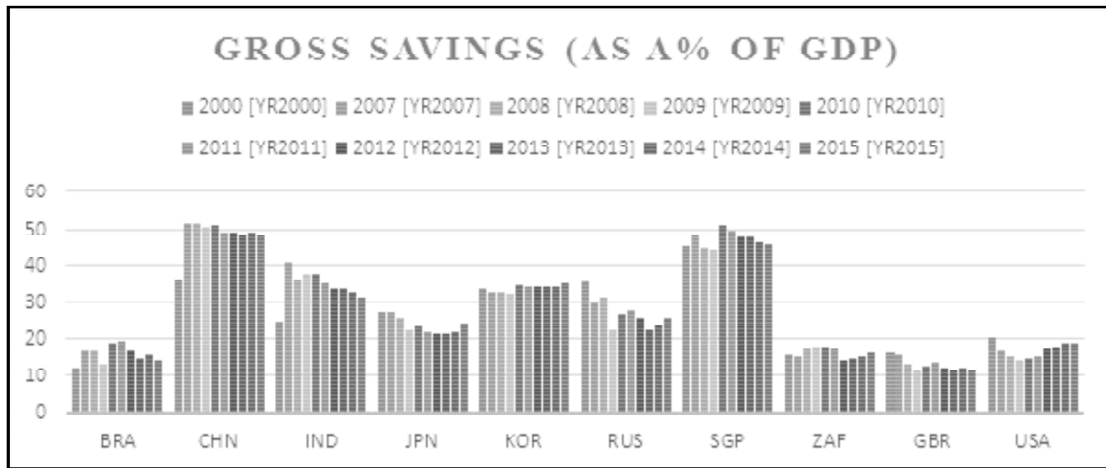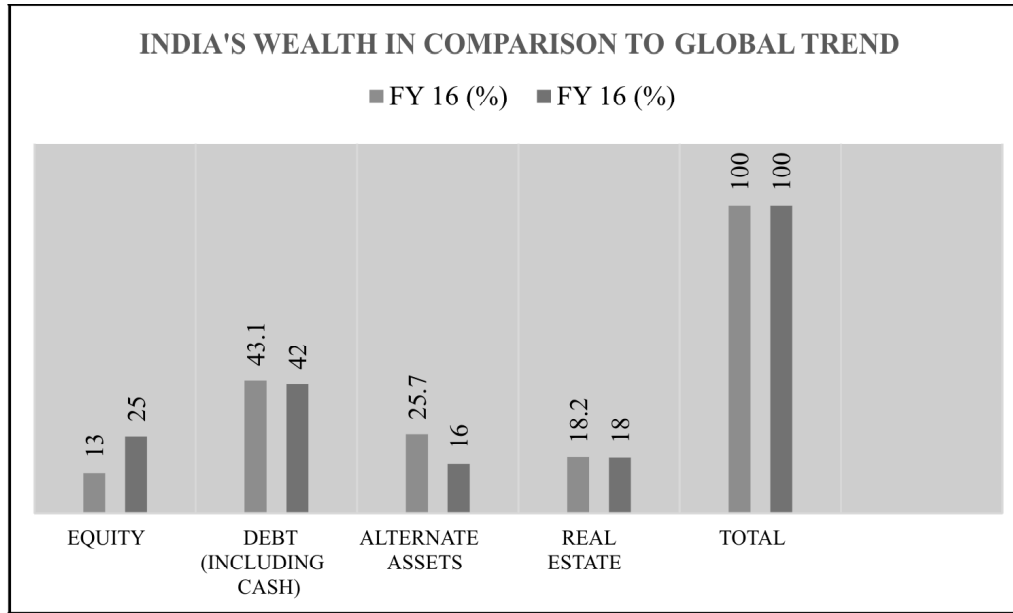


Data from database: World Development Indicators, World Bank Group

Recent data does portend a shift, albeit small, may be underway. Gold imports have been trending downwards. Additionally, with increasing participation is Equity markets through indirect route (Mutual Fund investments) by retail investors over the past few years, it does raise a question as to whether these trends are transitory or whether they are indicative of a shift in savings patterns of households.

**Individual Wealth – India Vs World**

| Key Assets | FY 16 (%) | | FY 15 (%) | |
|---|---|---|---|---|
| | India | Global | India | Global |
| Equity | 13 | 25 | 16 | 26 |
| Debt (including cash) | 43.1 | 42 | 41 | 42.6 |
| Alternate Assets | 25.7 | 16 | 24 | 13 |
| Real Estate | 18.2 | 18 | 19 | 17.6 |
| Total | 100 | 100 | 100 | 100 |

**INDIA'S WEALTH IN COMPARISON TO GLOBAL TREND**

■ FY 16 (%) ■ FY 16 (%)

| | EQUITY | DEBT (INCLUDING CASH) | ALTERNATE ASSETS | REAL ESTATE | TOTAL |
|---|---|---|---|---|---|
| FY 16 (%) | 13 | 43.1 | 25.7 | 18.2 | 100 |
| FY 16 (%) | 25 | 42 | 16 | 18 | 100 |

*Source:* India Wealth Report, Karvy Private Wealth 2016

The table above shows how the Indian individual's investment pie is split up, vis-à-vis their global counterparts. Similar to the trends around the world, fixed income securities (Debt) continues to be dominant in terms of investor's preferred asset class. Globally, investments in equities ranks just next to the investments in debt, Indians however rank equities at the bottom with just a 13% contribution. Unlike trend across the world, investment in alternate assets (primarily in Gold) constitutes about 25% of the entire individual wealth basket and more than 50% in Physical assets segment. The reasons for a low dependence on Equities as the preferred asset class and over dependence on Physical assets (primarily Gold and Real estate) will be further deliberated on in the next few sections of the paper.

## METHODOLOGY

The research paper aims at identifying the various parameters such as awareness about Banking Instruments, ability to use ATMs, Mobile Banking and Digital Instruments, access to various Financial Products including bank accounts through the use of secondary data available from the public sources (CRISIL, The World Bank, IMF and S&P Financial Inclusion Index) and subsequently establishing a relationship between the Financial Literacy and implementation of financial reforms. Financial literacy can also help to increase the velocity of circulation of money in the economy through symmetric information and hence help in increasing the rate of satisfaction and utility for the consumers. This paper aims at establishing a relationship between Financial Literacy and increased level of satisfaction and utility for the customers through informed choices and optimum utilization of financial resources. This paper aims at using the Econometric Model to establish this relationship.

It is an established fact that the financial reforms will usher in an era of higher growth and more customer satisfaction. This paper aims at validating the hypothesis that indeed higher Financial Literacy leads to higher growth.

## Economic Theory Applicable

## Fisher Theory (Quantity Theory of Money)

As per the Modern Quantity Theory of Money, was based on the concept of the **circular flow of the income,** which states that the nominal spending is equal to nominal income. This theory shows the relationship among money, output and prices.

$$MV = PY$$

Where M = Money Supply in the economy i.e. constant; P = Price Index, Y = GDP and; V = Velocity of money (Number of times the money changes hands in the economy). Where M stands for the total stock of money in the economy, V = Velocity of circulation of Money,

P = Price index or General Price Index and T = total volume of goods transacted.

**This is the data for the year ending March, 2016**

| Year | Nominal GDP | Money Supply M0 | Demand Deposits (Banks) | M1 | M 3 (M2 + Institutional Funds + RP Liabilities) |
|------|-------------|-----------------|-------------------------|-----|-------------------------------------------------|
| 2016 | USD 2250.97 Billion | USD 240.99 Billion | USD 149.33 Billion | USD 390.32 Billion | USD 1752.68 Billion |

If we look at the velocity of the Money, the rate at which money changed hands

- Taking M1 as money supply in the economy, V = PY / M1 = 2250.987 / 390.32 = 5.77 times

- Taking M3, V = PY / M3 = 2250.987 / 1752.68 = 1.28

- With M0, V = PY / M = 2250.987 / 240.99 = 9.34 times

In this paper, the Velocity of money emphasizes the rate at which the money is changing hands. As new channels of banking are being adopted, the velocity of money is set go high. In India, M3 is 9 times of M0. That means that Velocity is the Money is 9 times the cash in circulation.

## Problem Statement

The size of the black or parallel economy in India is approximately 25% of the GDP, i.e. 562.75 Bn USD. The parallel economy, is definitely churning the money at the faster rate in the economy, leading to higher *contagion effect*. If we assume the velocity of money in parallel economy to be 9.34, then amount of Parallel Economy or Black Bucks in circulation comes to 2.68 times.

## Case for Financial Literacy

Various studies have proved that Financial Literacy helps in elimination of the Parallel Economy. Before, the advent of Digital channel, the ATMs help to increase the velocity of the money in circulation.

## Significance of the Velocity of Money and Impact of Digitization and Investor Awareness

The Quantity Theory of Money continues to be a relevant benchmark to define the causal relationship between the money aggregates and output and prices on another side. The Theory relationship MV = PY, implies that if Velocity (Denoted by V) is taken to be constant, increase in the Money Supply leads to increase in the Price Level denoted by P. If V is time variant, then increase in the Money Velocity leads to increase in the GDP. This makes the case for the adoption of the newer channels like Digital Banking and Mobile Banking.

## Fisher Analysis of the Financial Transactions

In the year 1911, Fisher emphasized the difference between transactions related to income and those related to financial transactions. This implies:

$$MV = P_y Y + P_f F$$

Where, $P_y$ and $P_f$ are prices of goods and services (covered in GDP) and financial transactions, respectively. The Financial Transactions are not only significant for adding to the real output, but in fact be larger than the GDP and adds significantly to the Velocity of Money and Money Supply in the Economy.

The newer channels such as ATM, Digital Banking and Mobile Banking add to the circulation of the Money in the Economy. This leads to High Powered Multiplier impact on the GDP growth in the economy.

## Channels of Money and Velocity of Money

The different channels of money in the economy, impacts the circulation of money in the economy. With the coming up of the ATMs and Digital channel of Banking, the velocity of money increases manifold. This further adds momentum to GDP (Gross Domestic Product) in the economy. The Quantity Theory of Money emphasises that the Money Supply in the economy is fixed and it is the Velocity of money that impacts the GDP. The Velocity of Money works as the Multiplier for the GDP (Gross Domestic Product). The Digital channel of Banking helps to add momentum to the money in the economy.

In current scenario of Banking, where banks are operating in an oligopolistic environment, it is a fact that there is *asymmetric information* among the consumers. The consumers and banks are unaware about all the legal regulations and policy changes.

Disintermediation and Democratization of the Indian Banking through the introduction of Digital Banking has helped to create a competitive market and reduction in prices for banking products. It has helped to increase the symmetric information and break into the business cartels and increase the *velocity of money* in circulation. This move has definitely helped to increase GDP (Gross Domestic Product) of the nation.

## ANALYSIS & RESULTS

## Correlation between Financial Behaviour across the World and India

The data collected by Standard & Poor's clearly depicts a correlation between the Financial Literacy world over and Financial Literacy in India. Except for the knowledge about the Risk of Diversification, on all

other parameters there is a deep correlation between Financial Literacy levels in India and Financial Literacy world over.

| Parameters of Financial Literacy | (X) India | (Y) World |
|---|---|---|
| Risk Diversification | 14 | 35 |
| Inflation | 56 | 50 |
| Interest | 48 | 49 |
| Compound Interest | 44 | 45 |
| Mean | 40.5 | 44.75 |

*Source:* The S&P Ratings Services 2014 Global Financial Literacy (FINLIT) Survey

The analysis of the data collected above shows the correlation of 0.99. This figure of 0.99 defines a significant correlation between the Financial Literacy in India and world over. Owing to various policy and programmes being implemented by organizations like World Bank, UNESCO & IMF, the financial literacy in India is more or less correlated with financial literacy in various parts of the world.

### Correlation between Financial Inclusion and Investment in Mutual Funds

From the data collected by CRISIL Inclusix on Financial Inclusion Score on India for the year 2009-10 to 2012-13 and figures on Investment in Mutual Funds for the year 2009-10 to 2012 – 13, a correlation analysis was conducted to measure the level of relationship between Financial Inclusion and investment in Mutual Funds

| Year | Financial Inclusion Score (X) | Investment in Financial Assets (Y) (Billion INR) |
|---|---|---|
| 2009 | 35.4 | 6139 |
| 2010 | 37.6 | 5922 |
| 2011 | 40.1 | 5872 |
| 2012 | 42.8 | 7014 |

*Source:* Financial Inclusion Score of India: CRISIL Inclusix, (2013)

As a result of the analysis a correlation of 0.66 was established between the Financial Inclusion Score by CRISIL and investment in Mutual Funds. This establishes the fact that there is a significant correlation between Financial Inclusion and Investment in various financial assets.

### Regression Analysis – Part A

| Year | Financial Inclusion Score (X) | Investment in Financial Assets (Y) (Billion INR) | XY | X^2 | Y^2 |
|---|---|---|---|---|---|
| 2009 | 35.4 | 6139 | 217321 | 1253.16 | 37687321 |
| 2010 | 37.6 | 5922 | 222667 | 1413.76 | 35070084 |
| 2011 | 40.1 | 5872 | 235467 | 1608.01 | 34480384 |
| 2012 | 42.8 | 7014 | 300199 | 1831.84 | 49196196 |

*Source:* CRISIL Inclusix 2014, India's first comprehensive financial inclusion index

X (Mean) = 38.975; Y (Mean) = 6236.75; byx = 109.43;

Regression Line: (Y-Mean of Y) = byx (X-Mean of X) => (Y -6236.75) = 109.43(X-38.98)

$\Rightarrow$ **Y - 109.43X = 1971.72 + Standard error**

To find out the expected level of expenditure in the Financial Assets, simply the figure related to Inclusion Score need to be plugged in the equation and the expected level of investment in Mutual Funds can be estimated. And similarly by plugging the desired level of Mutual Funds, the desired level of Financial Inclusion Score can be calculated.

### Regression Analysis – Part B

### Relationship between Financial Inclusion Index & M3 (Non Banking Deposits, LIC Insurance, Pension Funds & Equity

| Year | Financial Inclusion Score (X) | Non-Banking Deposits, Insurance & PF as percentage of Total Money SS (Y) | XY | X^2 | Y^2 |
|---|---|---|---|---|---|
| 2012 | 45 | 33 | 1485 | 2025 | 1089 |
| 2013 | 52 | 31.5 | 1638 | 2704 | 992.25 |
| 2014 | 61 | 42.4 | 2586.4 | 3721 | 1797.76 |
| | 158 | 106.9 | 5709.4 | 24964 | 11427.61 |

*Source:* EIU 2015 Global Microscope: The Enabling Environment for Financial Inclusion

Mean for X = 52.7; Mean for Y = 35.63; byx = 0.00476;

Regression Line is (Y-Mean of Y) = byx (X – Mean of X) => (Y -35.63) =0.00476(X-52.7)

$\Rightarrow$ **Y = 0.00476X + 35.38 + Standard Error**

Correlation coefficient between Non-Bank Deposits, Provident Fund, Insurance Funds as percentage of total Money Supply and Financial Inclusion Score **is 0.837.** This establishes that relationship is significant.

## CONCLUSION

The state of Financial Literacy and Investor education continues to be dismal as against the world parameters for an economy progressing towards the stage of being developed nation. Having said that, India is a fundamentally strong nation. Despite the uncertain global economic scenario, India remains a largely positive ground registering a GDP growth rate of 7.2% in 2014-15 that rose to 7.6% in 2015-16. India remains one of the fastest growing major economies in the world and has been declared a bright spot in the global economic development by both, the World Bank and the IMF. The recent demonetization exercise is expected to impact GDP growth in the short term, with the number averaging 6-6.5%. Despite occasional volatility, the rupee is amongst the best-performing currencies in FY16 posting a return of 1.04% aided by the government's reforms push, RBI's support and lower crude oil prices. With a record high Foreign Exchange reserves of $ 360 billion a declining Current Account Deficit (CAD) and trade deficit, India's growth prospects look sharp, with some short pain which is due on account of global events such as the Brexit, surprise US presidential elections result and more lately the government's surprise demonetisation.

However, in the coming years, the Indian economy is expected to outperform its global peers and clock an average growth of 7% over the next 5 years. It is expected that by FY 21, individual total wealth

will reach [1] 558 lakh crore, at a CAGR of 12.90%, financial assets are expected to grow much faster with a trend reversal in terms of proportion wise pie held by financial assets vis a vis physical assets.

To make this vision a reality, it is imperative that majority of Household saving should find its way to the financial markets. A substantial shift in the individual attitude(s) towards digital payments and greater reliance on financial investments cannot be achieved without majority of transactions shifting to digital platform as also effective investor education on a mass scale.

## ABBREVIATIONS

1. NCFE – National Centre For Financial Education
2. S&P – Standard & Poor's Financial Services LLC
3. BRICS – Brazil, Russia, India, China and South Africa
4. GDP – Gross Domestic Product
5. ATM – Automatic Teller Machine
6. USD – US Dollar
7. UNESCO – The United Nations Educational, Scientific and Cultural Organization
8. IMF – International Monetary Fund
9. CRISIL – Credit Rating Information Services of India Limited, an S&P Company
10. RBI – The Reserve Bank of India
11. CAGR – Compounded Average Growth Rate
12. CAD – Current Account Deficit

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