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Editorial

We are happy to present December 2017 issue of Apeejay Business Review (Vol. 16, No. 2) to the illustrious scholarly community of practitioners as well as faculty members and researchers. In this issue, we have included four papers drawn from Finance and HR. We sincerely hope that the readers will find these contributions valuable and thought provoking.

Vivek Tyagi and Manipadma Datta have explored various facets of Insolvency and Bankruptcy Code, 2016 in their review paper titled ‘Regulatory Framework of Corporate Insolvency in India: The Road Ahead’. They have examined the pros and cons of the Insolvency and Bankruptcy Code, 2016 and looked at issues in implementing the same in Indian context. The paper also points out the main transitional challenges to the new Insolvency and Bankruptcy Code, 2016.

Surbhi Gupta and Aakanksha Sethi have tried to measure the appeal of Exchange Traded Funds in their paper titled ‘Performance Appraisal of Exchange Traded Fund (ETF) vis-a-vis Index Funds in India’. They have compared the performance of ETFs with index funds. While the authors have found similar returns on both ETFs and index fund, the former has a slightly upper hand.

Priya Gupta in her article titled ‘Impact of FDI Inflows on Stock Market Performance in India’ has tried to explore causal relations between FDI inflows and performance of the stock markets in the country. Her study indicates that there is no short-run causality running from either FDI to Nifty or from Nifty to FDI in India.

D N Venkatesh has presented a comprehensive framework for leveraging human resources in the knowledge economy driven by Information and Communication Technologies in his paper titled ‘Capability-based People Strategy for Digital Economy’. He argues that the people strategy in digital era is radically different from the conventional format. The paper highlights the key capabilities required by leadership and the employees, to help the organization stay competitive in digital era. A detailed comparison across various facets of HR function have to carried out to identify the key differentiators between conventional vs. digital have been presented in the paper.

Readers are invited to share their comments on the published articles. Selected communication (1000-1500 words) may be published in the next issue of ABR. Conceptual and empirical papers as well as integrated literature reviews on any theme having a potential impact on management practices are welcome for the forthcoming issues of the journal.

–Editors
Regulatory Framework of Corporate Insolvency in India: The Road Ahead

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Abstract
India is ranked at 103rd position (improved from 136th position after Insolvency and Bankruptcy Code, 2016 was passed in parliament), far below its neighbours China, ranked 56 and Pakistan, ranked 82 vis-a-vis ease of resolving corporate insolvencies—an index given by World Bank. The current legal framework for resolving corporate insolvencies and bankruptcies in India does not support creditors. The process of restructuring in case of a default or recovering investment in case of liquidation is unproductive and time consuming, causing gratuitous strain on the Indian credit system. The ineffective implementation of insolvency procedures due to multiple and overlapping codes dealing with corporate sickness and insolvency of sick units leads to considerable delays in restructuring and a nearly impossible liquidation. Insalubrious government policies and debtor supportive weak insolvency and bankruptcy code are the reasons behind the current state of Indian credit market. A strong bankruptcy and insolvency code is required to help India improve its current distressed business environment. If new Insolvency and Bankruptcy Code, 2016, is backed by essential institutional infrastructure and strong implementing rules, it can be marked as a historical development in Indian economic reforms. This paper provides an incisive critique of Sick Industrial Companies Act (SICA) 1985 and the main problems in implementation of the insolvency processes in India. The paper also points out the main transitional challenges to the new Insolvency and Bankruptcy Code, 2016.

Keywords: Corporate distress, Bankruptcy, SICA, Insolvency and Bankruptcy Code, 2106

Introduction
Insolvency arise when an individual, firm, or an organization is not able to meet its monetary obligations and is incapable of paying its debts in due time. For a creditor, finding the insolvency of the organization is important. Prior to official proceedings and procedure, insolvent entity can meet the creditor to find an alternative option for the paying the dues. The current legal framework for resolving corporate insolvencies and bankruptcies in India does not support creditors. The process of restructuring in case of a default or recovering investment in case of liquidation is unproductive and time consuming, causing gratuitous strain on the Indian credit system. The crash in prices of commodity and a steep downturn in infrastructure projects lead to stressed corporate balance sheets and degraded their debt paying capacity, thus turning Indian bank struggle with bad debts.

Corporate Distress and India’s Policy Regime
Corporate distress can involve any of the three key stages: bad corporate performance, corporate bankruptcy, and industrial sickness. Firms can, and do, perform badly for various sets of reason that may be internal or external to organization. Bad corporate performance or management failure is the most commonly recognized factor in corporate bankruptcies. Detrimental government policies also lead to poor performance of industries. Some of the poor performing firms go into bankruptcy when they cannot pay some or all of their debt obligations. Liquidation or reorganization of a bankrupt firm is normally governed by bankruptcy code. In India the definition of Industrial sickness
goes beyond bankruptcy. It refers to firms which persistently make losses and survive even after accumulated losses have exceeded net worth many times over. Corporate sickness increased rapidly in India due to government policies that prevented firms from takeover-merger-reorganization or liquidation-exit-migration.

Gloomy government policies such as industrial licensing (IDRA 1951, restriction on new establishment), Public-sector and Product reservation (reservation of industries for public sector and products for small-scale sector), classification of monopolies (additional licensing for dominant undertaking), foreign-exchange regulation (new version of FERA, 1973), small is beautiful (loss making Mini-plants), indigenous availability and essentiality (restriction on import or delayed), tariffs and quotes (highest tariffs rates among industrializing nations), labour-market rigidity (overstaffed industrial units, strong union, and low productivity due to government restrictions), development financing (nationalization of banks in 1969, and financing and promoting more and more firms irrespective of entrepreneurial capability) lead to growth in corporate sickness in Indian industries. The vilest industries were textile, closely followed by engineering, production of iron and steel and electrical and non-electrical machinery. In 1990, Maharashtra, West Bengal and Gujarat accounted for 54% of unpaid bank credit (Goswami, 1996).

Why does a good insolvency regime matter?

Keeping viable businesses operating is among the most important goals of insolvency and bankruptcy regime. An ideal insolvency and bankruptcy regime should restrain premature liquidation of sustainable businesses and should be able to discourage lenders from issuing loans for a high-risk business without proper risk management strategies (Claessens, Stijn, & Klapper, 2003). There should provisions that can prevent board members, managers and other shareholders from taking irresponsible huge loans and taking reckless investment decisions. A firm suffering from an economic strain temporally due to bad choices made by the management may still be turned around so that creditors can recuperate their investment, loss of employment is lower, and the suppliers and customers network is preserved.

Studies show that effective reforms in insolvency and bankruptcy procedures are associated with increased access to credit at a lower cost, enhanced recovery for creditor and higher job security (Armour, Menezes, Uttamchandani, & Zweiten, 2015). An ideal bankruptcy proceeding insure a higher recovery for creditors investments, and increases the credit available for reinvesting in viable firms and hence, improving companies’ access to credit. Similarly, if an insolvency and bankruptcy code compliments the absolute priority rule for all claims, this allows secured investors to continue their investment and maintains good faith (Djankov, 2009).

Research based on specific economies has shown that insolvency and bankruptcy reforms that encourage restructuring of debt and reorganization of firm; significantly reduce both failure rates and liquidation of profitable businesses. Some of the examples can be: (1) In 1997, new bankruptcy law was introduced by Belgium that encouraged rehabilitation of an unhealthy firm rather than liquidation. Significant reduction was noticed in bankruptcies among SME’s and the bankruptcy rates fell by 8.4% (Dewaelheyns & Hulle, 2006). (2) The bankruptcy and insolvency reforms in Colombia reduced the cost of restructuring, providing an attractive alternative option. After the reforms were introduced, the number of firms underwent liquidation after filing for reorganization went down by about 14% (Giné & Love, 2006). Reforms in bankruptcy and insolvency regime can help an economy recover faster during a period of depression, as shown by studies in Chile (1980s) and in Colombia (1999) (Bergoeing, Raphael, Kehoe, Kehoe, & Soto, 2006).

The procedures and the implementations of insolvency and bankruptcy laws differ from economy to economy based on the structure of the implementing authorities. In the absence of a strong
implementing authority or due to inefficiencies and incompetence of such authority in a case of financial default, stakeholders are more likely to go for outside law settlements. A strong judiciary system plays a decisive role in financial behavior of a borrower, in deficiency of strong and effective judicial systems, debtors more often demonstrate a risky behavior and take adverse financial decisions leading to a higher credit default rates and financial distress. Conversely, a stronger legal framework along with stronger enforcement protocols force borrowers to avoid risks and practice more practical financial decisions making (Claessens, Djankov, & Klapper, 2003).

**Sick Industrial Companies Act (SICA), 1985**

In India, Sick Industrial Companies Act (SICA) 1985 lays down the overall legal framework for reorganization or liquidation of a financially sick unit. The SICA had been in operation since January, 1986. SICA was legislated as a key economic reform to deal with the concern of widespread financial sickness in Indian industries. The Sick Industrial Companies Act (Special Provisions) was enacted to identify sick industrial units, accelerate the turnaround procedure for financially viable units and wind-up the unviable units and to release the locked up investment in them.

Financial sickness spread across industries has been a persistent problem for the growing Indian economy. A number of reasons responsible for this widespread epidemic were identified by SICA. These factors are classified under two sub-categories: internal factors and external factors. Within organization exits internal factors that may include incompetent management, being overambitious, wrong location, lack of strategic planning, unwarranted or overexpansion, personal profligacy, failure to change and poor HR management. External factors included inadequate credit facilities, infrastructure bottlenecks, raw materials shortage, competitive global market and fast technological changes. SICA was implemented to cure the adverse social and economic consequences resulting from widespread sickness among Indian industries.

The definition of sick unit given by SICA states that the unit should have been in existence for at least a period of five years and must have incurred a total of accumulated losses equivalent to or greater than its total net worth. The definition of sickness given by SICA makes it extremely difficult if not impossible to design and implement a viable rehabilitation scheme. An important provision in SICA was to establish two quasi-judicial bodies, Board for Industrial and Financial Reconstruction commonly known as BIFR, and Appellate Authority for Industrial and Financial Reconstruction commonly known as AAIFR.

BIFR was put in place as a governing board for handling the sickness issue across industries, including rehabilitating or reorganization and reviving viable but sick industrial units and process the liquidation of the non-viable units. AAIFR was put in place to for appealing against orders issued by BIFR. Although, SICA gives BIFR enormous power to frame virtually any restructuring package, but its terms of application identifies the sick firm when they are beyond cure. The BIFR partiality towards infeasible rehabilitation has had three serious consequences: lengthened the bankruptcy process, prevented from credibly using threat of liquidation and have given promoters, bankers, and financial institution a tremendous opportunity to delay matters. In 2004, Sick Industrial Companies (Special Provisions) Repeal Act of 2003 replaced SICA and diluted some of its provisions but also plugged certain loopholes. The most important amendment in the new act was that apart from combating industrial sickness, it eyed to keep a check on false sickness declaration by an industrial unit to obtain financial concessions and to bypass legal obligations under the framework.

Chapter 11 (US Bankruptcy procedure) and BIFR procedures have remarkable similarities as both promote overinvestment and serious violation to APR (Absolute Priority Rule) and both are debtor-in-possession bankruptcy procedures that create perverse incentives leading to inordinate delays. Debtor-in-possession bankruptcy procedures often results in overinvestment problem, where over-
leverage, distressed firm attempts to restructure through risky investments that have negative NPV. Three elements that greatly enrich the analysis of corporate decision making are the relationship between debt and equity, the composition and dispersion of corporate debt, and the structure of shareholding (Goswami, 1996).

The virtual impossibility of liquidating unviable firms poses the greatest problem in India’s bankruptcy procedure. Multiple barriers exist in law, procedure and implementation. Even after the recommendation by BIFR, delay occurs for various reasons. Some of them include: Stay (may delay the order for about a year), procurement of financial, transactional and assets records of the company (this process takes two years on an average), scrutinizing of accounts (takes two years at least), debtor refusal to pay (getting decree takes 3-4 years), delayed sale and distribution (major delay and disputes). At a 12 per cent rate of discount, a ten year delay means that the NPV of today’s liquidation of Rs 100 reduces to Rs 32. One of the biggest barriers to restricting in India is that BIFR cannot sanction restructuring schemes based on selling land, even when firm possesses highly valued vacant land. An ideal insolvency and bankruptcy procedures should include maximize the ex-post value of the industrial unit and preserving the bonding responsibility of debt by chastising the responsible management adequately in the state of bankruptcy.

Insolvency and Bankruptcy Code, 2016
The Parliament of India has recently passed Insolvency and Bankruptcy Code, 2016 (Legislative Department, 2016), that comes with a promises of a painless procedure for winding up a failing business and efficient recovery of debts. Although, The Companies Act, 2013 also included section dealing with sick companies (253 to 269), but these were never notified or made operative. The Insolvency and Bankruptcy Code, 2016 is a welcome overhaul for the current legal framework and is expected to offers a homogeneous and comprehensive insolvency and bankruptcy legislation encircling all the companies, LLP’s (Limited liability partnerships) and individuals. A separate legal framework is also under consideration to cover financial sector including banks, NBFI (Non-Banking Financial Institutions) and other financial institutions. The new law introduces the much needed creditor driven resolution and provides painless and timely insolvency solutions. While the legislation of the Insolvency and Bankruptcy Code is a historical development for economic reforms in the country, its effect will be seen in due course when the institutional infrastructure, and implementing authorities and protocols are formed.

The new bankruptcy code is expected to consolidate the current framework with a novel institutional structure. The new code will construct an institutional framework, consisting of a IBBI (Insolvency & Bankruptcy Board of India) as the regulating authority, insolvency professionals (to act as intermediary and help sick units and financial institutions including banks with a smooth takeover or liquidation process), information utilities (credit information storing units for all corporate) and adjudicatory mechanisms, to facilitate a time bound insolvency resolution procedure and liquidation if necessary. The new code gives the right and allows the creditors to go for own assessment on the debtor viability to make a business decision and mutually agree upon a revival plan or liquidation. The new Insolvency and Bankruptcy Code appoints two different authorities to make the procedure for insolvency smoother. The NCLT (National Company Law Tribunal) to deal with cases related to companies and LLP’s and the DRT (Debt Recovery Tribunal) will adjudicate cases when it comes to partnership firms and individual.

The Insolvency and Bankruptcy Code, 2016 provides for following:

- Repeal of the SICA without affecting the any order sanctioning scheme under the SICA.
- Dissolution of:
  - BIFR
  - AAIFR
Action on all pending inquiries, references, appeals and all other proceedings immediately.
No fees would be charged on abated appeals or references referred to the NCLT within the given time.
Provides power to the government to make new set of rules and implement the Act.

Insolvency Procedure for Corporate Borrowers
The minimum default value to instigate an insolvency and bankruptcy process for corporate borrowers is INR 100,000 (likely to be increased).

A two stage independent procedure is proposed under new code:
- IRP: Insolvency Resolution Process, during this process a financial creditors will assess the viability of the debtor's business and the alternative options for its rescue, restructuring and revival; and
- Liquidation: if IRP fails and creditors take a decision to liquidate the available assets of the borrower to recover their investments.

The Insolvency Resolution Process (IRP)
Under Insolvency Resolution Process the new code gives the right and allows the creditors to go for own assessment on the debtor viability to make a business decision and mutually agree upon a revival plan or liquidation. This is a momentous departure the earlier framework under which was a debtor-in-possession bankruptcy procedure with an automatic stay on all claims.

Liquidation
Liquidation comes into play one IPR fails. Liquidation can be imposed over a corporate borrower if:
1. Creditor's committee votes to liquidate the assets of corporate borrower with a 75 percent majority anytime during IPR procedure;
2. No resolution plan is submitted by the committee (creditor's committee) within 180 days (can be extended further for 90 days);
3. The plan submitted by the committee is not viable and is rejected by NCLT on technical grounds; or
4. The debtor and any other affected person make an application (addressed to the NCLT) to liquidate.

Once the order for liquidation from NCLT is issued, all the legal proceedings face a suspension and all the debtors assets vest in the state of liquidation.

Priority of Claims
There are significant changes in the priority for distribution of liquidation proceeds. After the financial costs involved in insolvency resolution, secured debts along with workmen over-dues are ranked highest in the list. As per new code, government dues (both central and state) are placed below the secured creditors claims, workmen dues, any dues of employee and any other dues of unsecured creditors, contrast to earlier bankruptcy regime, where government dues were on the second position in priority list.
Figure 1: Insolvency Resolution Process under Insolvency and Bankruptcy Code, 2016:

**IRP Commencement**
- Creditor or defaulting corporate debtor, shareholders or employees, can initiate insolvency proceedings at the National Company Law Tribunal (NCLT).

**Moratorium**
- The NCLT orders a moratorium for the period of the IRP.
- This operates as a ‘calm period’ during which no judicial can take place against the debtor.

**Insolvency Professional Appointment**
- The Resolution Professional's primary function is to operate the business as a going concern under the broad directions of a committee of creditors.

**Creditors Committee & Revival Plan**
- Decisions of the creditors committee are binding on the corporate debtor and all its creditors.
- Creditors committee requires a 75% majority vote.

**Proposal Consideration**
- The creditors committee considers proposals for the revival of the debtor and must decide whether to proceed with a revival plan or liquidation.
- Timeline for revival plan is 180 days (subject to a one-time extension by 90 days).
IRP for Unlimited Partnerships and Individuals
For unlimited partnerships and individuals, any default for a minimum amount of INR 1000 can apply. Two distinct procedures are proposed under the new code:
- Automatic fresh start: Under this the eligible borrower can apply for emancipation from a certain amount of debts to start afresh. (DRT is the regulating authority)
- Insolvency resolution: The IRP consists of a new repayment plan to be prepared by the borrower and to be approved of creditors. Creditor may file an application for issuing a bankruptcy order if the repayment plan fails.

Challenges in the Transition to the New Code
The NCLT is one of the implementing authorities that is likely to face the challenge of process transition from the old code to new code and taking up the existing cases under the new Insolvency and Bankruptcy Code, 2016. Currently, cases of corporate insolvency and bankruptcy are under manifold codes and implementing forums (BIFR and AAIFR) and as per initial reports almost all the pending cases under BIFR and AAIFR will qualify to initiate a fresh case under the new code at NCLT. However, the numerous pending cases rushing to file a fresh petition will create a substantial burden on the emerging institutional infrastructure that is being rushed to implement the Insolvency and Bankruptcy Code, 2016. Rapid resolution to maximize the recovery is the core objective of the new code with a 180 days’ timeline. If the core design intent is compromised lacking the required infrastructure or due to constrain related to capacity, the efficiency and effectiveness of the Insolvency and Bankruptcy Code will get diluted (Sengupta & Sharma, 2016).

At present, it takes around two years to file a liquidation petitions under SICA. The situation is little better when it comes to DRTs. In absence of information utilities (crucial requirement as per new code), the IBBI is required to specify the evidence of default that can be used to trigger the case. This can cause inordinate delays especially if the NCLT gets involved in evaluating whether a default has indeed taken place. It is therefore likely that in absence of information utilities, initiating a case as well as forming the creditors’ committee will take far longer than envisaged in the design.

Insolvency professionals (IP’s) will form the backbone of the Insolvency and Bankruptcy Code, 2016, their role requires a fine balancing act, given that they are in charge of managing the debtor company and are accountable to the committee of creditors and the adjudicating authority for their actions. To ensure that the Insolvency professionals perform their role without any misfeasance, well-defined entry barriers to the profession must be designed and the insolvency professionals must be closely regulated by the Insolvency and Bankruptcy Board of India (Sengupta & Sharma, 2016).

Comparative Perspective: SICA vs. Insolvency and Bankruptcy Code 2016
The table below brings out the major differences between Sick Industrial Companies Act, 1985 to Insolvency and Bankruptcy Code, 2016.

<table>
<thead>
<tr>
<th>Entities</th>
<th>Sick Industrial Companies Act, 1985</th>
<th>Insolvency and Bankruptcy Code, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorities Responsible for Implementation</td>
<td>BIFR and AAIFR (Multiple Authorities)</td>
<td>IBBI (Single Authority)</td>
</tr>
<tr>
<td>Timeline to resolve an Insolvency</td>
<td>Not described (currently it takes an average of 4 years)</td>
<td>Timeline for revival plan is 180 days (subject to a one-time extension by 90 days).</td>
</tr>
<tr>
<td>Absolute Priority Rule</td>
<td>Violates Absolute Priority Rule</td>
<td>Follows Absolute Priority Rule</td>
</tr>
</tbody>
</table>
Expected Recovery | 26% average recovery | Higher expected rate for recovery
--- | --- | ---
Infrastructure Support | Based on 2 Pillars: 1. BIFR and AAIFR 2. Adjudicatory mechanisms (NCLT & DRT) | Based on 4 pillars: 1. IBBI 2. IP’s - insolvency professionals 3. IU’s - information utilities 4. Adjudicatory mechanisms (NCLT & DRT)
Bankruptcy Procedure | Debtor-in-possession bankruptcy procedures | Creditors based resolution process
Similarity with other bankruptcy codes | Similar to US chapter 11 bankruptcy procedure | Similar to UK bankruptcy procedure

Conclusion
One of the identified weaknesses of SICA, 1985, is the definition of sick units given under the code that identifies the unit very late, making it very difficult if not impossible for implementing a revival plan. The virtual impossibility of liquidating unviable firm’s had the greatest problem in SICA. Other major issues with SICA were the violation to APR (Absolute Priority Rule) and debtor-in-possession bankruptcy procedures that create perverse incentives leading to inordinate delays. Debtor-in-possession bankruptcy procedures often results in overinvestment problem, where over-leveraged, distressed firm attempts to restructure through risky investments that have negative NPV.

The new insolvency and bankruptcy code is not a magic wand; it sees the benefits curving in after 4-5 years from now. Currently, the insolvency procedure in India takes over 4 years to provide a resolution and comes with a very low recovery rate for creditor when compared with other developing economies. India is also ranked at 103 position (136th position before IBC was passed in parliament (The World Bank, 2016)), which is much below China, and Pakistan (56 and 82 respectively) in the World Bank ranking for ease of resolving insolvency (The World Bank, 2017). The new code introduces a 180 day timeline on the insolvency resolution process; this reform will help India to gain a better position in World Bank’s ranking index. The new code also takes into consideration the Absolute Priority Rule and most importantly supports a creditors based resolution process conversely to SICA which supported the debtor-in-possession bankruptcy procedure.

The main challenges in implementing the new code includes: infrastructure and capacity building at National Company Law Tribunal (NCLT) and creating a hefty pool of qualified and competent insolvency professionals (IP’s) who will serve as the backbone for a faster implementation of the new code. The new legislation will also need to sketch the procedural protocols for insolvency professionals (IP’s) and for information utilities (IU’s) among others.

References


Performance Appraisal of Exchange Traded Fund vis-a-vis Index Funds in India

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Abstract
Exchange Traded Funds (ETFs) are one of the more recent developments in the global financial scenario. ETFs represent a more passive form of investment. Lower expense ratios and management fees and high post tax returns are believed to give ETFs an edge over Mutual Funds which are more actively managed. This paper has tried to analyse the growth trends of ETFs in India. Although both the Assets under management of ETFs and the number of ETFs in India have grown over the years, they are still very low as compared to the total AUM of mutual funds industry and the number of ETFs traded in its western counterpart like USA and Europe indicating that ETFs have a long way to go in India. However appropriate regulatory and market reforms as well as conducting investors’ awareness programmes can ensure success of ETFs in India. This paper has also studied empirically the performance of exchange traded funds and index funds for a period of three years from 1st April 2014 to 31st March 2017 using various financial tools like standard deviation, beta, sharpe ratio, etc. On the basis of the Index ETFs and funds selected for our analysis and comparing them across the indices, it was observed that the answer to the Index Funds vs. ETF conundrum is mixed but the ETFs do seem to have a slightly upper hand.

Keywords: ETFs, Index Funds, AUM, Nifty 50, BSE Sensex

Introduction
Exchange Traded Funds (ETFs) are a relatively recent innovation in the financial markets around the world which are steadily gaining much favour from investors all over. They were first introduced in USA in 1993 and started growing in significance in the Indian financial market only in 2006. Traditionally, ETFs represent a more passive form of investment wherein the purpose of the fund is to mimic the market indices rather than to beat the market. However some newer and more actively managed ETFs have also come into existence. They may track market indices, sectoral indices or even commodities such as Gold. ETFs are generally targeted towards retail investors.

The rationale of the present paper is to gain some insight into the concept of ETFs and to assess the performance of ETFs specifically in the Indian context. We have analysed the growth trends of ETFs in India and tried to make a comparative study of ETFs vis-à-vis Index funds on the basis of returns, risk, expense ratios and taxation among other things. ETFs are an ideal form of investment for those investors who wish to hold a diversified portfolio of stocks with a small amount of investment. The management fees and expense ratios for ETFs are also found to be lower than Mutual Funds (MFs) which are more actively managed. Another major advantage that ETFs hold over MFs is that they can be traded throughout the day; while open ended mutual funds are accessible only at the end of the trading day.

Unlike MFs which disclose their portfolios on a monthly basis, ETF portfolios are made available to the public on daily intervals, this accounts for greater transparency in ETFs. ETFs are sometimes also described to be more tax efficient than traditional equity mutual funds; this is due to a ‘redemption-
in-kind’ system under which the investor instead of being paid in cash is ‘paid’ the underlying holdings of the ETF itself, since there is no sale involved, hence there would be no capital gains. On the other hand mutual funds are required to pass realized capital gains to their shareholders. Apart from several benefits offered by ETFs, there are certain concerns surrounding the ETFs like systematic risk and excess volatility, securities lending and counterparty exposure, use of ETFs to manipulate market prices etc. Also brokerage fees (around 0.5%) paid by investors is usually considered high for a short term investor. Although the deviations between an ETF’s NAV and its trading price (termed as tracking error) are largely small, yet during some ‘flash crashes’ which took place very recently like the Flash Crash of August 24, 2015, ETF prices plunged to values which were more than 20% lower than their fair prices. This has led many researchers and market participants to believe that ETFs are vulnerable in a stressed market and may even worsen the market volatility. Preventive measures are required to contain this vulnerability.

ETFs have completed a decade of their presence in the Indian capital markets although their popularity has grown very recently. According to the AMFI latest data, as of December 2016, Assets Under Management of the Indian ETFs comprise only 2.08% of the Indian Mutual Fund Industry and the no. of ETFs traded in India are only 63 which is far below as compared to the US and other countries. However appropriate regulatory and market reforms can ensure continued success of ETFs around the world and in India. On the basis of the Index ETFs and funds selected for our analysis and comparing them across the indices(Nifty 50 and S&P BSE Sensex) it was concluded that on an average the Nifty 50 ETFs and mutual funds provide superior risk adjusted performance. Also the most efficient funds in both the indices were ETFs but the worst performer in the Nifty 50 category of funds was also an ETF, thus the answer to the Index Funds vs ETF conundrum is mixed but the ETFs do seem to have a slight upper hand.

Research Methodology
Paper is exploratory and analytical in nature. It aims to gain familiarity and acquire new insights on the concept of ETFs and their growth in India. Data for the study has been derived from various secondary sources such as journals, newspapers, NSE and BSE websites, internet and publications of various research bodies like AMFI, ICRA etc. This paper also includes an empirical study of the performance of exchange traded funds and index funds using various financial tools like standard deviation, beta, sharpe ratio, treynor ratio etc.

Objectives of the Study
Following are the objectives of the study:
1) To gain some insight into the concept of ETFs.
2) To analyze the growth trends of ETFs in India
3) To assess the performance of Index ETFs in India vis-à-vis Index funds on the basis of returns, risk, expense ratios and taxation among other things.

Concept of ETFs
ETFs are investment companies that issue securities that are continuously traded on public stock exchanges. An ETF combines the features of both an open ended mutual fund and a stock. Like a mutual fund, ETF allows the creation and redemption of shares in the fund at the end of each trading day for its Net Asset Value (NAV) and like a stock, ETF is traded throughout the trading day on a stock exchange generally at a price which is a close approximation to the market value of the underlying securities that it holds in its portfolio. An ETF owns the underlying assets (which can be stocks, bonds, oil futures, gold bars, foreign currency, etc.) and divides ownership of those assets into shares. Shareholders do not directly own or have any direct claim to the underlying investments in the fund; rather they indirectly own these assets. ETF shareholders are entitled to a proportion of
the profits, such as earned interest or dividends paid, and they may get a residual value in case the fund is liquidated.

ETFs represent a more passive form of investment. The AMFI website describes ETFs as instruments which try to ‘be the market’ rather than ‘beat the market.’ High daily liquidity and lower expense ratios and management fees, cost efficiency and higher post tax returns are believed to give ETFs an edge over Mutual Funds which are more actively managed. The most common kind of ETFs are those which try to replicate the performance of an index, like the SPDR replicates the S&P 500. There are newer variations of ETFs which try to mimic the performance of a particular sector (say banking ETFs) or particular commodity (Gold ETFs). Essentially, ETFs offer the convenience of a stock along with the diversification of a mutual fund. ETFs are excellent vehicles for those investors who want a much focussed exposure to a specific industry, region, currency, or asset class at a reasonable cost, without having to worry about researching specific securities. ETFs have grown tremendously during the last decade and have become a significant part of stock market activity around the world and have opened up new investment avenues for investors (Franzoni, David and Moussani, 2016).

ETF Working Mechanism
An ETF originates with a sponsor (the company or financial institution which creates and administers an exchange-traded fund) that chooses the investment objective of an ETF. Example: in case of an index based ETF, the sponsor chooses both the index and the method of tracking it. Retail investors cannot directly buy or sell shares of an Exchange-traded Fund. Instead, each ETF sponsor issues large blocks of shares often of 25,000 or more that are known as creation units. These units are then bought by an "authorized participant" -- typically a large financial institution which obtains shares of the underlying securities. The ETF shares are delivered to the AP when the specified creation basket (underlying securities/assets) is transferred to the ETF.

The ETF may permit an AP to substitute cash for some or all of the assets in the creation basket. Authorized participants usually acting as market makers on the open market, sell all or part of the shares to the stock brokers or to other investors on a stock exchange. So retail investors, such as individuals using a retail broker, trade ETF shares on the secondary market. The redemption process is simply the reverse. A creation unit is redeemed when an AP acquires (through purchases or exchanges, principal or private transactions) the number of shares specified in the ETF’s creation unit and returns the creation unit to the ETF. In return, the AP receives the basket consisting of the underlying portfolio of securities, cash, or other assets. Only APs can create or redeem units of an ETF.

ETF Arbitrage through Creations and Redemptions
Since both the ETF and the basket of underlying assets are tradable throughout the day, traders take advantage of momentary arbitrage opportunities, which keeps the ETF price close it its net asset value. When there are discrepancies between an ETF’s share price and the value of its underlying securities or NAV, APs may create or redeem creation units in an effort to capture a profit. For example, when an ETF is trading at a premium, APs may find it profitable to sell short the ETF during the day while simultaneously buying the underlying securities. APs then deliver the creation basket of securities and/or cash to the ETF in exchange for ETF shares that they use to cover their short sales. When an ETF is trading at a discount, APs may find it profitable to buy the ETF shares and sell short the underlying securities. APs then return the ETF shares to the fund in exchange for the redemption basket of securities and/or cash, which they use to cover their short positions. These actions by APs are described as primary market arbitrage opportunities that help to keep the market-determined price of an ETF’s shares close to its underlying value.
Figure 1: Structure of ETF

In India, the first ETF was Nifty BeES launched by the Benchmark Asset Management Company on 28th December 2001. It tracks the S&P CNX Nifty Index. On 8 July 2003, Liquid Benchmark Exchange Traded Scheme (Liquid BeES), now known as Relaince ETF Liquid BeES became the first Liquid ETF in India and in the world. It is a unique liquid fund that is listed and traded on the National Stock Exchange. It invests in a portfolio of treasury bills, Government Securities, Call Money and other Money Market Instruments. On 17 March 2007, Benchmark Asset Management Company listed India’s first gold exchange traded fund (GEFT) - Gold BeES - on the National Stock Exchange.

Although ETFs were introduced more than a decade ago but they started growing in significance in the Indian financial market only in 2006 and have started gaining popularity very recently. The most common kind of ETFs are those which try to replicate the performance of an index. However over the years many newer variations of ETFs have been developed which try to mimic the performance of a particular sector (say banking ETFs) or particular commodity (Gold ETFs). Following are the types of ETFs:

**Index ETFs**
An index ETF is a fund that seeks to replicate the performance of a specific index which may be based on stocks, bonds, commodities, or currencies by holding in its portfolio either the underlying securities of the index (known as replication) or a representative sample of the securities in the index. Examples: SPDR traded on U.S. Stock Exchange replicates the S&P 500, Reliance Nifty BeES traded on NSE replicates Nifty 50 index.

**Stock ETFs**
Stock ETF is a fund that attempts to track a particular set of equities similar to an index. This type of ETF can cover an index of equities as well. Stock ETFs can have different styles, such as large-cap, small-cap, growth etc. For example: MOSit Shares M100 traded on NSE tracks Nifty Midcap 100.
Bond ETFs
A Bond ETF is a fund that exclusively invests in bonds. Bond ETFs hold a portfolio of bonds and can differ widely in strategies, ranging from government treasury bonds to high yields bonds issued by companies, from long-term to short-term. Examples: LIC MF G-Sec Long-term ETF invests in government securities. It is traded on NSE & BSE.

Commodity ETFs
Commodity ETF is a fund that invests in commodities, such as precious metals, agricultural products, oil etc. Among commodity ETFs, Gold ETFs are the most popular. These ETFs invest in a representative sample of gold stocks, or they hold claims on actual gold bullion, held in trust by a custodian.

Sector/Industry ETFs
Sector/Industry ETF is a fund that owns a portfolio of stocks representing a particular sector or industry such as energy and oil, technology, banking, health care and so on. Examples: Healthcare Select Sector SPDR Fund(XLV) is sector specific ETF traded in USA. GS Bank BeES (BANKBEES) is a sector specific ETF traded on NSE that tracks Nifty Bank Index.

Currency ETFs
Currency ETF is a fund that invests in a single currency or basket of currencies. Currency ETFs aim to replicate movements in currency in the foreign exchange market. Market-Vectors-Indian Rupee/USD ETN (INR) is a rupee denominated currency fund traded in USA.

Leveraged ETFs
It is a fund that uses financial derivatives and borrowed funds to magnify the returns of an underlying index. They also magnify risks as well. Leveraged ETFs are typically used by traders who wish to speculate on an index or to take an advantage of the index’s short-term momentum. Leveraged ETFs are very controversial fund and are more suited for the advanced ETF trading strategy (Pahiya, Sahi and Sehgal 2012). Example: Ultra S&P 500 ETF(SSO) is a leveraged equity ETF traded in USA.

Other ETFs
Apart from the above ETFs there are a variety of new ETFs such as ETFs Of ETFs that track the performance of other ETFs, which may have direct exposure to the underlying securities they track; derivative ETFs- funds are made up of derivative contracts like futures, forwards, and options; Inverse ETFs are constructed by using various derivatives for the purpose of profiting from a decline in the value of the underlying benchmark and Actively managed ETFs that are actively managed unlike an Index ETF. They are significant competitive threat to actively managed mutual funds. The first active ETF was Bear Stearns Current Yield ETF (Ticker: YYY).

Table 1: Examples of Widely Traded ETFs

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>NAME OF THE FUND</th>
<th>UNDERLYING ASSET</th>
<th>COUNTRY</th>
<th>STOCK EXCHANGE LISTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>SPDR S&amp;P 500 ETF</td>
<td>S&amp;P 500</td>
<td>USA</td>
<td>NYSE</td>
</tr>
<tr>
<td>QQQ</td>
<td>PowerShares QQQ(Cubes)</td>
<td>NASDAQ-100</td>
<td>USA</td>
<td>NASDAQ</td>
</tr>
<tr>
<td>GLD</td>
<td>SPDR Gold Shares ETF</td>
<td>Gold</td>
<td>USA</td>
<td>NYSE</td>
</tr>
</tbody>
</table>
Trends of ETFs in India

*Increase in Assets under Management (AUM):* Assets under management (AUM) of ETFs in India have grown nearly 24 times from 31st March 2009 to 31st December 2016. The AUM for ETFs stood at INR 34353 crore on 31st December 2016. These figures are very low compared to the total AUM of mutual funds industry indicating that ETFs have a long way to go in India. Although the total assets managed by the mutual funds in India are significantly larger than those of ETFs but the ETFs share in the total MF assets has increased considerably. Percentage share of AUM of ETFs in the total AUM of the Indian Mutual Fund industry stood at 0.335% as on 31st March 2009. This figure has gradually increased to 1.955% on 31st March 2012 and further to 2.086% on 31st March 2016.

### Table 2: AUM of the Indian Mutual Fund Industry including ETFs

<table>
<thead>
<tr>
<th>DATE</th>
<th>AUM OF THE TOTAL MUTUAL FUND INDUSTRY (RS. CRORE)</th>
<th>AUM OF ETFs (RS. CRORE)</th>
<th>% SHARE OF ETFs IN THE AUM OF THE MUTUAL FUND INDUSTRY</th>
<th>YEAR TO YEAR GROWTH OF AUM OF ETFs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 MARCH 2009</td>
<td>418764.80</td>
<td>1403.05</td>
<td>0.335</td>
<td>---------</td>
</tr>
<tr>
<td>31 MARCH 2010</td>
<td>614545.98</td>
<td>2547.23</td>
<td>0.414</td>
<td>81.53</td>
</tr>
<tr>
<td>31 MARCH 2011</td>
<td>596976.79</td>
<td>6916.63</td>
<td>1.158</td>
<td>171.57</td>
</tr>
<tr>
<td>31 MARCH 2012</td>
<td>587658.69</td>
<td>11492.59</td>
<td>1.955</td>
<td>66.15</td>
</tr>
<tr>
<td>31 MARCH 2013</td>
<td>702493.85</td>
<td>13124.49</td>
<td>1.868</td>
<td>14.19</td>
</tr>
<tr>
<td>31 MARCH 2014</td>
<td>825242.6</td>
<td>13204.79</td>
<td>1.6</td>
<td>0.61</td>
</tr>
<tr>
<td>31 MARCH 2015</td>
<td>1082757.43</td>
<td>14714.8</td>
<td>1.359</td>
<td>11.43</td>
</tr>
<tr>
<td>31 MARCH 2016</td>
<td>1232823.51</td>
<td>22408.18</td>
<td>1.817</td>
<td>52.27</td>
</tr>
</tbody>
</table>

Source: AMFI
Growing Popularity of Foreign ETFs for Indian Equities: India has become one of the most attractive emerging markets for investment by the foreign ETFs. Indian equities appear to be among the prime beneficiaries because of their recent outperformance against the MSCI EM Index as well as investors’ expectations of better policy reforms from the Modi’s government. Foreign ETFs invested about $588 million in the Indian equities in February 2017 which was almost 1/3rd of the FPI that came into India during February 2017 (The Economic Times, 29th March 2017). The rising share of ETFs in the total FPI inflow helped increase India’s share in the global emerging market (GEM) ETF to increase 30 basis points to 9.8% in February 2017.

Table 3: ETF Flow into Indian Equities (On Weekly Basis)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOTAL EM</th>
<th>INDIA($ MILLION)</th>
<th>INDIA SHARE(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 MARCH 2017</td>
<td>2485</td>
<td>281</td>
<td>11.31</td>
</tr>
<tr>
<td>17 MARCH 2017</td>
<td>580</td>
<td>200</td>
<td>34.48</td>
</tr>
<tr>
<td>10 MARCH 2017</td>
<td>242</td>
<td>66</td>
<td>27.27</td>
</tr>
<tr>
<td>3 MARCH 2017</td>
<td>-204</td>
<td>70</td>
<td>------</td>
</tr>
<tr>
<td>24 FEBRUARY 2017</td>
<td>585</td>
<td>36.8</td>
<td>6.29</td>
</tr>
<tr>
<td>167FEBRUARY 2017</td>
<td>1518</td>
<td>135.4</td>
<td>8.92</td>
</tr>
<tr>
<td>10 FEBRUARY 2017</td>
<td>997</td>
<td>85.7</td>
<td>8.6</td>
</tr>
<tr>
<td>3 FEBRUARY 2017</td>
<td>664</td>
<td>82.7</td>
<td>12.45</td>
</tr>
<tr>
<td>27 JANUARY 2017</td>
<td>1307</td>
<td>163</td>
<td>12.47</td>
</tr>
<tr>
<td>20 JANUARY 2017</td>
<td>88</td>
<td>43.9</td>
<td>49.89</td>
</tr>
<tr>
<td>13 JANUARY 2017</td>
<td>1274</td>
<td>129</td>
<td>10.13</td>
</tr>
<tr>
<td>6 JANUARY 2017</td>
<td>335</td>
<td>-48.1</td>
<td>------</td>
</tr>
<tr>
<td>TOTAL IN 2017 SO FAR</td>
<td>9871</td>
<td>1245.4</td>
<td>18.18</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Compiled by ETIG
Increase in Number of ETFs: In India only three classifications of ETFs exist namely Index ETFs tracking both international and Indian indices, Commodity ETFs particularly Gold ETFs and Debt/Money Market ETFs. Presently there are 12 Gold ETFs, 4 Debt ETFs, 2 Index ETFs tracking international indices and 45 Index ETFs tracking Indian indices. From 31st March 2008 to 31st March 2017 number of ETFs have increased gradually from 13 to 63. The latest ETF launched in India is CPSE ETF-Series 2. It was launched by the government of India on 11th January 2017. It tracks the performance of top 10 listed state-run firms. Although the no. of ETFs in India have grown around 5times since 2008, however this number very minute as compared to the total number of ETFs traded in the developed countries like USA, Europe etc. In USA from year-end 2003 to June 2014, total net assets have increased twelvefold, from $151 billion to $1.8 trillion, and the number of ETFs have increased from 119 to 1,364 (Antoniewicz and Heinrichs, 2014). One of the reasons for such less no. of ETFs in India is the cautious attitude of the Indian regulators in introducing complex versions of ETFs and lack of knowledge and popularity of ETF trading among the retail investors in India. However appropriate regulatory and market reforms as well as conducting investors’ awareness programmes can ensure success of ETFs in India.

Table 4: No. of ETFs in India

<table>
<thead>
<tr>
<th>DATE</th>
<th>NUMBER OF ETFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 March 2008</td>
<td>13</td>
</tr>
<tr>
<td>31 March 2009</td>
<td>17</td>
</tr>
<tr>
<td>31 March 2010</td>
<td>21</td>
</tr>
<tr>
<td>31 March 2011</td>
<td>28</td>
</tr>
<tr>
<td>31 March 2012</td>
<td>35</td>
</tr>
<tr>
<td>31 March 2013</td>
<td>37</td>
</tr>
<tr>
<td>31 March 2014</td>
<td>40</td>
</tr>
<tr>
<td>31 March 2015</td>
<td>48</td>
</tr>
<tr>
<td>31 March 2016</td>
<td>58</td>
</tr>
<tr>
<td>31 March 2017</td>
<td>63</td>
</tr>
</tbody>
</table>

Figure 3: Category-wise classification of ETFs
Performance Analysis of ETFs and Index Funds

A total of five Index funds and four ETFs were considered for the purpose of this study. The funds chosen were those which were in operation during our study period i.e. 1\textsuperscript{st} April 2014-31\textsuperscript{st} March 2017 and for which the data was available. The Index funds and ETFs studied here can be divided into two broad categories- those that track the S&P BSE Sensex and those that track NSE’s Nifty 50. The tables below show details of the various Index funds and ETFs which have been studied.

Table 5: Index Funds

<table>
<thead>
<tr>
<th>SCHEME NAME</th>
<th>BENCHMARK INDEX</th>
<th>AUM as on 31\textsuperscript{st} March 2017 (Rs. CRORE)</th>
<th>EXPENSE RATIO (%) as on 31\textsuperscript{st} March 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTI Nifty Index Fund</td>
<td>Nifty 50</td>
<td>527</td>
<td>0.2</td>
</tr>
<tr>
<td>Franklin India Index Fund-NSE Plan</td>
<td>Nifty 50</td>
<td>241</td>
<td>1.6</td>
</tr>
<tr>
<td>SBI Nifty Index Fund</td>
<td>Nifty 50</td>
<td>259</td>
<td>0.7</td>
</tr>
<tr>
<td>LIC MF Index-Sensex Plan</td>
<td>S&amp;P BSE Sensex</td>
<td>16</td>
<td>1.44</td>
</tr>
<tr>
<td>HDFC Index Fund-Sensex</td>
<td>S&amp;P BSE Sensex</td>
<td>105</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Source: Moneycontrol

Table 6: Exchange Traded Funds

<table>
<thead>
<tr>
<th>SCHEME NAME</th>
<th>SYMBOL/CODE</th>
<th>BENCHMARK INDEX</th>
<th>AUM as on 31\textsuperscript{st} March 2017 (Rs CRORE)</th>
<th>EXPENSE RATIO (%) as on 31\textsuperscript{st} March 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kotak Nifty ETF Fund</td>
<td>KOTAKNIFTY</td>
<td>Nifty 50</td>
<td>685</td>
<td>0.10</td>
</tr>
<tr>
<td>Invesco India Nifty ETF</td>
<td>RELGRNIFTY</td>
<td>Nifty 50</td>
<td>2</td>
<td>0.10</td>
</tr>
<tr>
<td>SBI ETF Sensex</td>
<td>BSE 535276</td>
<td>CODE: S&amp;P BSE Sensex</td>
<td>5223</td>
<td>0.07</td>
</tr>
<tr>
<td>Kotak Sensex ETF</td>
<td>BSE 532985</td>
<td>CODE: S&amp;P BSE Sensex</td>
<td>12</td>
<td>0.251</td>
</tr>
</tbody>
</table>

Source: Moneycontrol

One important characteristic that distinguishes ETFs from Index Funds is the low expense ratio. Almost all ETFs have expense ratios which are lower than that of their Index Fund counterparts. The only exception to the rule is the Kotak Sensex ETF whose expense ratio is just slightly higher than the fund which has the lowest expense ratio among all Index Funds: the UTI Nifty. This observation is hardly surprising as ETFs are often considered more efficient than Index Funds due to their lower expense ratios and management fees. The data on ETFs and Index funds was collected from the respective AMC’s website. Daily NAV history for the period under study was obtained which was then used to compute daily returns, annual returns and 3 year annualized returns for each fund. For the purpose of analysing that how closely the ETFs and Index funds track their respective benchmarks, Active Returns have been computed.
The Active Returns are defined as the Return on the Index fund/ETF subtracted by the return on the benchmark index which in this case is either the S&P BSE Sensex or NSE’s Nifty 50. Active returns can be either negative or positive; a positive active return value would indicate that the investment outperformed the benchmark while a negative value indicates underperformance. A smaller Active Return value would indicate that the investment closely tracks its benchmark.

**Active Returns** = Return on the Index Fund/ ETF – Return on the benchmark index.

The annualised returns on the benchmark indices during our study period were as follows: 10.64% for NSE’s Nifty 50 and for the S&P BSE Sensex it was 9.395%. The tables below depict a mixed picture; there are under-performing and over-performing funds in both the categories i.e. Index Funds and ETFs. However, two things are worth noticing; the funds tracking the S&P BSE Sensex do a better job of out-performing their benchmark as compared to their Nifty counterparts. Secondly ETFs perform marginally better than Index Funds; the highest active returns for both the indices are achieved by ETFs.

**Table 7: Active Returns of Funds tracking NSE’s Nifty 50**

<table>
<thead>
<tr>
<th>Scheme Name</th>
<th>Annualized Return (%)</th>
<th>Active Return (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UTI Nifty Index Fund</td>
<td>11.47</td>
<td>0.83</td>
</tr>
<tr>
<td>Franklin India Index Fund- NSE Nifty Plan</td>
<td>10.88</td>
<td>0.24</td>
</tr>
<tr>
<td>SBI Nifty Index Fund</td>
<td>10.62</td>
<td>-0.02</td>
</tr>
<tr>
<td>Exchange Traded Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invesco India Nifty ETF</td>
<td>11.7</td>
<td>1.06</td>
</tr>
<tr>
<td>Kotak Nifty ETF –Dividend</td>
<td>10.5</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

Source: AMC websites and authors’ own calculations

**Table 8- Active Returns of Funds tracking S&P BSE Sensex**

<table>
<thead>
<tr>
<th>Scheme Name</th>
<th>Annualized Return (%)</th>
<th>Active Return (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIC Index Fund Sensex</td>
<td>8.71</td>
<td>-0.685</td>
</tr>
<tr>
<td>HDFC Index Fund Sensex</td>
<td>10.57</td>
<td>1.175</td>
</tr>
<tr>
<td>Exchange Traded Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBI Sensex ETF</td>
<td>11.24</td>
<td>1.845</td>
</tr>
<tr>
<td>Kotak Sensex ETF-Dividend</td>
<td>10.24</td>
<td>0.845</td>
</tr>
</tbody>
</table>

Source: AMC websites and authors’ own calculations

**Risk Adjusted Performance Measures of ETF and Index Funds**

To analyse the risk adjusted performance of the funds, the Sharpe ratio and the Treynor ratio have been computed. The Sharpe Ratio expresses the average return of a security earned in excess of risk free return in terms of per unit of total risk (standard deviation) ; while the Treynor ratio is the average return earned in excess of the risk-free rate per unit of systematic risk which is expressed by its beta. The average yield on Government bonds of one year maturity was taken as the risk free rate.
Table 9: Risk adjusted returns of Funds tracking NSE’s Nifty 50

<table>
<thead>
<tr>
<th>Scheme Name</th>
<th>Standard Deviation (%)</th>
<th>Beta</th>
<th>Sharpe Ratio</th>
<th>Treynor Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UTI Nifty Index Fund</td>
<td>14.35</td>
<td>0.99</td>
<td>0.2769</td>
<td>4.01</td>
</tr>
<tr>
<td>Franklin India Index Fund- NSE Nifty Plan</td>
<td>14.33</td>
<td>1</td>
<td>0.2361</td>
<td>3.38</td>
</tr>
<tr>
<td>SBI Nifty Index Fund</td>
<td>14.43</td>
<td>1</td>
<td>0.2164</td>
<td>3.123</td>
</tr>
<tr>
<td><strong>Exchange Traded Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invesco India Nifty ETF</td>
<td>14.49</td>
<td>1</td>
<td>0.2901</td>
<td>4.20</td>
</tr>
<tr>
<td>Kotak Nifty ETF - Dividend</td>
<td>14.45</td>
<td>0.995</td>
<td>0.2078</td>
<td>3.02</td>
</tr>
</tbody>
</table>

Source: AMC websites and authors’ own calculations

Among the NSE’s Nifty 50 fund the Invesco India ETF provides the best risk adjusted performance with, its Sharpe Ratio as well as Treynor Ratio is the highest in the Nifty 50 category. Interestingly, the weakest performer here is also an ETF- the Kotak Nifty. The UTI Nifty emerges as the most efficient Index fund.

Table 10: Risk adjusted returns of Funds tracking S&P BSE Sensex

<table>
<thead>
<tr>
<th>Scheme Name</th>
<th>Standard Deviation (%)</th>
<th>Beta</th>
<th>Sharpe Ratio</th>
<th>Treynor Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIC Index Fund Sensex</td>
<td>14.32</td>
<td>0.98</td>
<td>0.0847</td>
<td>1.24</td>
</tr>
<tr>
<td>HDFC Index Fund Sensex</td>
<td>14.16</td>
<td>0.96</td>
<td>0.2170</td>
<td>3.20</td>
</tr>
<tr>
<td><strong>Exchange Traded Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBI Sensex ETF</td>
<td>14.36</td>
<td>0.97</td>
<td>0.2607</td>
<td>3.86</td>
</tr>
<tr>
<td>Kotak Sensex ETF- Dividend</td>
<td>14.37</td>
<td>0.97</td>
<td>0.1909</td>
<td>2.83</td>
</tr>
</tbody>
</table>

Source: AMC websites and authors’ own calculations

Among the S&P BSE Sensex, the SBI Sensex ETF provides the highest risk adjusted returns. Comparing the funds across the indices it is easy to see that on an average the Nifty 50 funds provide superior risk adjusted performance. Also the most efficient funds in both the indices were ETFs but the worst performer in the Nifty 50 category of funds was also an ETF, thus the answer to the Index Funds vs ETF conundrum is mixed but the ETFs do seem to have a slight upper hand.
Conclusion
This study examined the performance of ETFs and index funds that tracked their underlying index, either the S&P BSE SENSEX index or the Nifty 50 index for a period of three years from 1st April 2014 to 31st March 2017. From the analysis of expense ratio it was concluded that almost all ETFs have expense ratios which are lower than that of their Index Fund counterparts except the Kotak Sensex ETF. From the analysis of the active returns, it was found that results depict a mixed picture; there were under-performing and over-performing funds in both the categories i.e. Index Funds and ETFs. But ETFs perform marginally better than Index Funds; the highest active returns for both the indices are achieved by ETFs.

From the analysis of risk adjusted returns it was concluded that among the NSE’s Nifty 50 fund the Invesco India ETF provided the best risk adjusted performance with, its Sharpe Ratio as well as Treynor Ratio is the highest in the Nifty 50 category. The UTI Nifty emerged as the most efficient Index fund. Among the S&P BSE Sensex, the SBI Sensex ETF provided the highest risk adjusted returns. After comparing the funds across the indices it was analysed that on an average the Nifty 50 funds provide superior risk adjusted performance. Also the most efficient funds in both the indices were ETFs but the worst performer in the Nifty 50 category of funds was also an ETF, thus the answer to the Index Funds vs ETF conundrum is mixed but the ETFs do seem to have a slight upper hand.

From the analyses of growth trends of ETFs in India it can be concluded that although it has been more than a decade since the inception of the concept of ETFs in India but both the AUM and the number of ETFs they have not grown in significance as compared to its western counterparts like USA and Europe indicating that ETFs have a long way to go in India. Possible reasons for slow growth of ETFs are the cautious attitude of the Indian regulators in introducing complex versions of ETFs and lack of knowledge and popularity of ETF trading among the retail investors in India. However appropriate regulatory and market reforms as well as conducting investors’ awareness programmes can ensure success of ETFs in India. The growth and success of ETFs also require the investors to choose superior funds rationally and require the managers to deploy these funds efficiently to improve fund performance.

Limitations
The major limitation of this study is that due to non-availability of data only a small number of ETFs and Index funds could be studied. Also the macroeconomic factors such as interest rates, exchange rates, inflation and political risks during the study period have not been taken into consideration.

References


Impact of FDI Inflows on Stock Market Performance in India

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Abstract
The objective of this study is to determine the link between Foreign Direct Investment (FDI) inflows and stock market performance in India. For meeting this objective, S & P CNX Nifty (commonly known as Nifty) index is considered as the representative of Indian stock market performance. This study is based on monthly data for 9 years period starting from 1st April 2008 to 31st March 2017. Johansen Cointegration Technique followed by Vector Error Correction Model (VECM) is employed to test the long-run relationship between FDI and Nifty. Along with the long-run causality, the study also examines short-run relationship between these variables with the help of Wald Statistics. The study also conducts the residual diagnostic testing for diagnosing the problem of serial correlation, examining heteroskedasticity and verifying the normality of residuals so as to make it a model of best fit. The Johansen Cointegration result proves a single cointegrating vector between FDI and Nifty in India. After proving a cointegration, VECM output reveals that there is no long-run causality running from FDI to Nifty rather it is the up trending Nifty index which has led to increase in FDI inflows in India. The study also proves that there is no short-run causality running from either FDI to Nifty or from Nifty to FDI in India.

Keywords: Foreign Direct Investment, Nifty, Stock Market, Johansen Cointegration, Vector Error Correction Model, FDI, VECM

Introduction
Over a decade, India has emerged as one of the fastest developing economies of the world because of a continuously rising share in world’s Gross Domestic Product (GDP); world trade; foreign exchange reserves; and FDI inflows and outflows. This has become possible for India because it had introduced economic reforms, popularly known as LPG (Liberalization, Privatization and Globalization) in the beginning of 1990s. Since the 1990s, persistent economic activities along with a focused strategy of growth resulted in major infrastructural and other favorable economic and institutional changes in Indian economy. These changes transformed India into an attractive destination for capital inflows (especially in the form of FDI). It is also to be noted here that India is not just developing or newly industrialized economy, but it is also classified as one of the largest (in terms of surface area and population size) and fastest-growing economies. India also has a momentous influence on regional and global affairs discussed at the international platforms; it is also a part of the G-20 group.

In the year 2007-08, when the global economy was going through a phase of global financial crises, it can be observed that only those economies were able to sustain who had efficient and effective financial system in place. The financial system of any country acts like a nervous system, any lacunae in it can be reflected on the economic growth of that nation. The major components of financial system contributing to the overall development of the economy include its financial intermediaries like banks and other financial institutions. The performance of these service providers gives a clear reflection on the savings and investment pattern of the citizens of that country.
Another important indicator to assess the performance of the economy is the stock market index which clearly identifies the major sectors of the economy which have a strong growth potential and that is why a higher demand in terms of higher market price of those securities. The overall effect of a positive move in these stock market indicators leads to induce not just the domestic investors in the economy but also sends a positive signal to the foreign investors ready to allocate some part of their capital into different economies. The infusion of capital from the foreign investors, because of such effects, may take a form of either Foreign Institutional Investment (FII) or Foreign Direct Investment (FDI). As per the World Institute for Development Economic Research (WIDER),

“The developing countries should liberalize their financial market in order to attract foreign portfolio equity flow.”

In this context, Indian government has continuously made favourable policies for this regime and created a robust business environment so as to increase the foreign capital inflow in India. Recently also, the Indian government has relaxed FDI norms in various sectors like defense, public sector oil refineries, telecom, power exchanges and stock exchanges for inducing more foreign capital. Another very important move taken by the present Indian Government is the ‘Make in India’ campaign which is formulated to attract more investments from abroad to reinforce India’s industrial sector. This initiative is intended to adopt the most innovative technologies and know-how to enhance competency and at the same time preserve its intellectual property by shaping the world’s best manufacturing infrastructure in the country.

All such initiatives have boosted the foreign investors’ confidence in the investment environment of India and can be easily seen from the performance of the Indian stock market in recent years. This is what motivated this present study and thus, the objective of this study is to find out empirically that whether it is the performance of the stock market which has led to the increased FDI inflows into the Indian economy or is it vice versa.

To meet the above objective of the study, the rest of this study has the following structure: Section 2 provides a literature review on the relationship between FDI inflows and stock market performance in an economy. Section 3 summarizes the research methodology which highlights the need, objective, and hypotheses of the study. Next, Section 4 presents the methodological framework followed by Section 5 which discusses the empirical results and findings including the residual diagnostic testing. The last section provides the conclusions along with the policy implications of the study.

**Literature Review**

As discussed in the preceding section, it appears that the debate over whether FDI equity inflows are impacting the performance of stock market or is it vice-versa has been a topic of discussion for long. A wide range of research has already been conducted on this topic where some researchers have explored this relationship between FDI and Nifty or Sensex whereas there are a few researchers also who have explored this relationship taking both FDI and FII together on one side and Nifty and Sensex on the other side. To keep the scope of this study limited, it focuses only on exploring relationship between FDI and stock market (taking S&P CNX Nifty as the proxy). A summary of such studies conducted in the past is presented in this section below.

Baker et al. (2008) highlighted stock market performance as the indicator for having more FDI inflows. An opposite direction of causal relationship was proven in a recent study by Giri and Joshi (2017) where it was found that there is both long run and short run unidirectional causality running from FDI to stock market prices in India. Karthik and Kannan (2011) also concluded in their study that FDI plays a complimentary role in affecting the value of stock market performance in India. Their study highlighted some other macro-economic variables also which are equally important in
affecting the stock market performance like domestic savings, inflation and GNP per capita. Another study which emphasized the positive role of FDI in boosting the stock market was conducted by Malik and Amjad (2013) in the context of Pakistan.

On the similar lines, a study conducted by Ahmad et al. (2015) in the context of Nigeria revealed that there exists a bi-directional causality between FDI and stock market performance in both long run and short run. In the context of developed countries like Croatia, a study conducted by Arcabic et al. (2013) proved that movement in the stock market has an important impact on the FDI inflows. However, another study by Kapoor and Sachan (2015) concluded that it is not FDI that causes any movement in the stock prices in India; it is rather FII that has an impact on the stock market prices.

Joshi and Saxena (2011) studied the impact of FII on Indian stock market with special reference to BSE Sensex in which they concluded that there is direct correlation between FII and Sensex, i.e. a rise in the value of FII leads to an up-trending pattern in Sensex and vice versa. P. Mohanamani and T. Sivagnanasithi (2012) also concluded in their study that FII and movement of Sensex and Nifty are closely correlated in India. Their study concluded that if there is an upward trend in the FII due to greater buying, Sensex and Nifty also tend to rise. Similar results were found by Venkatraja (2016) in which he found that stock prices in India relate positively to FII and with the help of VECM, the study also confers that there is unidirectional causality running from FII to Sensex.

B.A. Joo and Z. A. Mir (2014) also analyzed the impact of FII investment on volatility of Indian stock market and concluded that FII has statistical influence on both Nifty and Sensex movements which are taken as proxy for the stock market performance. However, absolutely contradictory results were shown by a very recent study conducted in the context of Nigeria by Adebisi and Arikpo (2017). The results of this study showed that there is no long run causal relationship between financial market performance and FPI. The financial market performance is measured by three variables in this study viz. stock market performance, stock market liquidity and total new issues.

Another study by Gurloveleen and Bhatia (2015) on the relationship between macro-economic variables and stock prices of 500 manufacturing firms in India showed that out of the ten variables that were taken for the study, only two are proved to be significant in impacting the closing stock prices, i.e. FII and exchange rate. Similar study was conducted by Venkatraja (2014) by studying the impact of macro-economic variables on the performance of Sensex. It was found that 82% variation in the value of Sensex can be explained by five selected variables which include FII. Halale (2014) observed in his study that day to day influence of FPI on the performance of Nifty Index is very significant. He further pointed out that the influence of monthly FII data on Nifty is higher than as compared to the annual data. In an attempt to study the impact of stock market performance on FPI, Haider et al. (2017) concluded that there is a strong positive influence of stock market movements on the FPI coming into the Chinese economy. However, his study also highlighted that events like Asian Financial Crisis of 2008 and the Shanghai Composite Stock Index Crash of 2015 has a negative hit on the FPI in China.

There are certain studies which have analyzed the impact of both FDI and FII on both Sensex and Nifty. One of such studies was conducted by Sekhri and Haque (2015) in which they concluded both FDI and FII determine the trend in the Indian stock market. They also pointed out that there is strong positive correlation between FDI and Sensex, and FDI and Nifty.

The above literature shows that various researchers in the past have studied the impact of foreign capital on the Indian stock market in the context of either NSE Nifty or BSE Sensex. This reveals a gap in the existing literature pertaining to the relationship between FDI and Nifty. Thus, this study fills the gap by analyzing the impact of FDI Inflows on stock market performance in India with special emphasis.
reference to Nifty with the help of VECM Technique. The objective of this study, thus, is to check the long- run relationship between FDI and Nifty. The study also tests the short run causality running from FDI to Nifty or from Nifty to FDI with the help of Wald Test statistic.

Need and objectives of the study
The above literature shows that various researchers in the past have studied the impact of foreign capital (either in the form of FDI or FII) on the Indian stock market (either Sensex or Nifty. However, since there is no unanimity about this issue and none of the previous studies have analyzed this relationship in the context of both long run and short run, this study tries to investigate this matter with the help of VECM Technique followed by the Wald test statistic. VECM technique helps to check the long- run relationship between FDI and Nifty, followed by the Wald Test to check the short run causality, i.e. whether it is FDI inflows that causes the movement in Nifty or is it vice versa. Both these techniques will help in not just testing the direction of causality but also provides an explanation about the magnitude of change towards equilibrium.

Objective of the study
To analyze the causal relationship between FDI inflows and stock market performance in India (taking Nifty as a proxy).

Hypothesis testing
Due to the above objective of the study, our prime hypotheses to be tested are as follows:

\( H_0 \): Null Hypothesis: FDI and Nifty have no causal relationship.

\( H_a \): Alternative Hypothesis: FDI and Nifty have a causal relationship.

Data, Methodological Framework and Modeling
To study the cause and effect relationship between FDI and stock market performance, net FDI equity inflows (Rs. Crores) and S & P CNX Nifty (Rs.) series are used. The study is conducted in the Indian context. The period of analysis is 9 years i.e. from April 2008 to March 2017. The data series of net FDI equity inflows has been compiled from the website of Department of Industrial Policy and Promotion (DIPP) and the series of Nifty has been compiled from the website of National Stock Exchange (NSE).

In this study, Johansen’s (1988) Cointegration Test and Vector Error Correction Model (VECM) have been applied. The econometric methodology needs to verify the stationarity of FDI and Nifty time series since most macroeconomic data tend to be non-stationary. After verifying the stationarity, Johansen Cointegration Technique followed by VECM are applied. However, the Johansen’s Cointegration test is applied only on original data series i.e. non-stationary in nature, whereas VECM is applied to growth or stationary series. So, it requires that both the series are integrated of the same order \( I(d) \).

The initial step before applying both cointegration technique and VECM is to test for stationarity of the information arrangement. Factors that are non-stationary can be made stationary by differencing. The quantity of differencing \( (d) \) required to make the arrangement stationary recognizes the order of integration \( I(d) \). For this reason, Augmented Dickey- Fuller (1979) test is applied to confirm the stationarity of the data series and also to determine the order of integration \( (d) \).

As a second step, if both the data series under study are observed to be integrated in the same order, Johansen Cointegration Technique can be employed to study the long-run (cointegrating) relationship between these variables. Once a single cointegration vector is found, VECM can be applied to establish the causality between the selected variables. Engle and Granger (1987) pointed
out in their study that cointegration implies the existence of corresponding error correction mechanism which means that change in the dependent variable is a function of the magnitude of the disequilibrium in the cointegrating relationships and changes in other independent variables. According to this theorem, if two variables are found to be cointegrated, then their association among each other can be expressed in terms of the following two equations of VECM:

\[
\Delta \ln \text{FDI}_t = c_1 + \sum_{k=1}^{n} \alpha_{1i} \Delta \ln \text{FDI}_{k-1} + \sum_{k=1}^{n} \beta_{2i} \Delta \ln \text{Nifty}_{t-k} + \rho_1 \text{ECT}_{t-k} + \epsilon_{\text{fdi}_t} \ldots (1)
\]

\[
\Delta \ln \text{Nifty}_t = c_2 + \sum_{k=1}^{n} \beta_{1i} \Delta \ln \text{FDI}_{t-k} + \sum_{k=1}^{n} \alpha_{2i} \Delta \ln \text{Nifty}_{t-k} + \rho_2 \text{ECT}_{t-k} + \epsilon_{\text{nifty}_t} \ldots (2)
\]

where, \( \Delta \) is the first difference operator and \( \epsilon_{\text{fdi}_t} \) and \( \epsilon_{\text{nifty}_t} \) are white noise disturbance terms. \( \text{FDI}_t \) and \( \text{Nifty}_t \) are Foreign Direct Investment and Nifty at time period ‘t’ respectively. ECT_{t-k} is the lagged error correction term.

In terms of the VECM of equation (1) and (2) (FDI equation and Nifty equation respectively), \( \text{Nifty}_t \) Granger causes \( \text{FDI}_t \), if some of the \( \beta_{2i} \) coefficients, \( i=1, 2, 3...n-1 \) are not equal to zero and the error coefficient \( \rho_1 \) in the equation of FDI flows is significant at convention levels. Similarly, \( \text{FDI}_t \) Granger causes \( \text{Nifty}_t \), if some of the \( \alpha_{2i} \) coefficients, \( i=1, 2, 3...n-1 \) are not zero and the error coefficient \( \rho_2 \) in the equation of Nifty flows is significant at convention levels. These hypotheses can be tested by using either t-tests or F-tests on the joint significance of the lagged estimated coefficients. If both \( \text{FDI}_t \) and \( \text{Nifty}_t \) Granger causes each other, then there is a bilateral relationship between FDI and Nifty. The error correction coefficients, \( \rho_1 \) and \( \rho_2 \) serve two purposes. They are (i) to identify the direction of causality between FDI and Nifty and (ii) to measure the speed with which deviations from the long-run relationship are corrected by changes in the FDI and Nifty respectively.

On the other hand, if FDI and Nifty are not cointegrated, the standard Granger (1969) bivariate causality is performed without including the error correction term (Unrestricted VAR Model). One variable FDI is said to Granger cause another variable, Nifty, if Nifty can be explained by using past values of FDI and vice versa.

Following two equations are tested as per Unrestricted VAR Model:

\[
\Delta \ln \text{FDI}_t = c_1 + \sum_{k=1}^{n} \alpha_{1i} \Delta \ln \text{FDI}_{t-k} + \sum_{k=1}^{n} \beta_{2i} \Delta \ln \text{Nifty}_{t-k} + \mu_{it} \ldots (3)
\]

\[
\Delta \ln \text{Nifty}_t = c_2 + \sum_{k=1}^{n} \beta_{1i} \Delta \ln \text{FDI}_{t-k} + \sum_{k=1}^{n} \alpha_{2i} \Delta \ln \text{Nifty}_{t-k} + \mu_{2t} \ldots (4)
\]

In Granger sense, causality can be found by testing the null hypothesis \( H_0: \beta_{2i} = \alpha_{2i} = 0 \). The null hypothesis is accepted or rejected based on the standard Wald (1945) F- test to determine the joint significance of the restrictions under the null hypothesis. There is bi-directional causality if both \( \beta_{2i} \) and \( \alpha_{2i} \) are significant. Nifty Granger causes FDI if \( \beta_{2i} \) is statistically significant but \( \alpha_{2i} \) is not and FDI Granger causes Nifty if \( \alpha_{2i} \) is statistically significant but \( \beta_{2i} \) is not. This is called unidirectional causality. If both FDI and Nifty do not cause each other, all the coefficients of Nifty in equation (3) and of FDI in equation (4) should be statistically insignificant.

**Empirical Results and Discussions**

The unit root test of the FDI and Nifty series is vital for the cointegration and causality analyses. The Augmented Dickey- Fuller (ADF) test is employed to study the stationary test of these variables. Table 1 and 2 shows the result of ADF test for the FDI and Nifty series. The unit root test results
showed that the null hypothesis of a unit root of these variables viz. FDI was rejected at levels and Nifty was not rejected at levels. However, when the series are first differenced, both the series are observed to be stationary and integrated at the order of one, \(I(1)\).

**Table 1: Results of ADF Unit Root Test (At Levels)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>At Levels</th>
<th>Intercept</th>
<th>With Intercept and Trend</th>
<th>Without Intercept and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td></td>
<td>-4.2048</td>
<td>-7.7945</td>
<td>0.9642</td>
</tr>
<tr>
<td>Nifty</td>
<td></td>
<td>-0.6311</td>
<td>-2.1145</td>
<td>0.9305</td>
</tr>
</tbody>
</table>

**Table 2: ADF Unit Root Test (At First Differences)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>At First Differences</th>
<th>Intercept</th>
<th>With Intercept and Trend</th>
<th>Without Intercept and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td></td>
<td>-2.8874**</td>
<td>-3.4504**</td>
<td>-1.9437**</td>
</tr>
<tr>
<td>Nifty</td>
<td></td>
<td>-2.8863**</td>
<td>-3.4487**</td>
<td>-1.9436**</td>
</tr>
</tbody>
</table>

**Note:** ** indicates significance at five percent level. Optimal Lag Length is determined by the Schwarz Information Criteria (SC) for the ADF Test.

Proven that both the series of FDI and Nifty are integrated of the same order \(I(1)\), the Johansen Cointegration test is performed to study the existence of the long run relationship among FDI and Nifty and the outcomes are displayed in Table 3. In the table, the Johansen’s Trace Statistics and Maximum Eigen Statistics show that the null hypothesis of no cointegrating vector \((r=0)\) can be rejected at 5% significance level and the alternative hypothesis of at most one cointegrating vector \((r\geq1)\) can be accepted. Hence, the outcomes support the hypothesis of cointegration between FDI and Nifty, implying that there is a stable long-run relationship between FDI and Nifty.

**Table 2: Result of Johansen’s Cointegration Test**

<table>
<thead>
<tr>
<th>Vector ((s))</th>
<th>Trace Statistics</th>
<th>Max- Eigen Statistics</th>
<th>5 percent Critical Value for Trace Statistics</th>
<th>5 percent Critical Value for Max- Eigen Statistics</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(H_0: r=0)</td>
<td>0.1978</td>
<td>24.0184***</td>
<td>15.4947</td>
<td>14.2646</td>
<td>Cointegration</td>
</tr>
<tr>
<td>(H_1: r\geq1)</td>
<td>0.0033</td>
<td>0.3632</td>
<td>3.8415</td>
<td>3.8415</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** ** indicates significance at five percent level. The significance of the statistics is based on five percent critical values obtained from Osterwald- Lenum (1992), \(r\) is the number of cointegrating vectors. \(H_0\) represents the null hypothesis of presence of no cointegrating vector and \(H_1\) represents the alternative hypothesis of presence of cointegrating vector.

After checking that there is one cointegrating vector among FDI and Nifty, an accurate VECM is to be developed to determine the direction of the long-run relationship. To understand the meaning of cointegration, the Granger Representation Theorem (Engle and Granger (1987)) states that if sets of variables are cointegrated, then there exists valid error correction representation of the data. Then, the VECM is estimated and its results are shown in Table 4. Additionally, the VECM is sensitive to the selection of optimal lag length. According to this model, the necessary lag length of FDI and Nifty series is determined by Schwarz Information Criteria (SC) and it reveals the optimal lag length of one.
Table 3: Results of VECM pertaining to causal relationship between FDI and Nifty
(LONG RUN CAUSALITY)

<table>
<thead>
<tr>
<th>Regression Equation</th>
<th>C</th>
<th>(\Delta FDI_{t-1})</th>
<th>(\Delta FDI_{t-2})</th>
<th>(\Delta Nifty_{t-1})</th>
<th>(\Delta Nifty_{t-2})</th>
<th>ECT(_{t-1})</th>
<th>(R^2)</th>
<th>Inference (Long run causality running from)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta FDI) on (\Delta Nifty) Coefficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No long run causality exists</td>
</tr>
<tr>
<td>T-Statistic</td>
<td>-0.0002</td>
<td>0.0440</td>
<td>0.0263</td>
<td>-0.6525</td>
<td>-0.3900</td>
<td>0.0177</td>
<td>0.3430</td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td>-0.0025</td>
<td>0.5406</td>
<td>1.6041</td>
<td>-7.2192*</td>
<td>-4.3440*</td>
<td>1.6417</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.9800</td>
<td>0.1264</td>
<td>0.1117</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.1036</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\Delta Nifty) on (\Delta FDI) Coefficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nifty → FDI</td>
</tr>
<tr>
<td>T-Statistic</td>
<td>0.0150</td>
<td>0.5026</td>
<td>0.2116</td>
<td>-0.0608</td>
<td>0.2976</td>
<td>-2.0085</td>
<td>0.7153</td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td>0.3320</td>
<td>2.9627</td>
<td>2.1766</td>
<td>-0.1134</td>
<td>0.5583</td>
<td>-9.0283*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.7405</td>
<td>0.0038</td>
<td>0.0317</td>
<td>0.9099</td>
<td>0.5778</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Optimal Lag Length is determined by the Schwarz Information Criterion (SC). * denotes the significance at one percent level.
In the above table, VECM result shows that the error correction term, \( ECT_{t-k} (-2.0085) \) in the second equation (i.e. Nifty equation) is negative and statistically significant at one percent level. This signifies the validity of long-run equilibrium relationship between both variables, Nifty and FDI. It also means that 200 percent of disequilibrium from the past period’s shock converges back to the long run equilibrium. In other words, there exists unidirectional long-run causality running from Nifty to FDI.

Once the long-run causality among the variables is proven, short-run causality can also be tested between the dependent variable and past values of independent variable jointly. It can be tested with the help of Wald Statistics. Null Hypothesis for testing the short run causality is that the past lags of the independent variable, i.e. FDI cannot jointly influence the value of the dependent variable, i.e. Nifty. If the probability value of Chi-square in the Wald Statistics is less than 0.05, the Null Hypothesis is rejected or vice versa. The same process is repeated for testing the short run causality between past lags of the independent variable, i.e. Nifty and dependent variable FDI. The results of the short-run causality are summarized in the following table:

<table>
<thead>
<tr>
<th>Table 4: Results of Coefficient Diagnostics (i.e. Wald Statistics) (SHORT-RUN CAUSALITY)</th>
<th>Chi- square</th>
<th>Probability</th>
<th>Inference (Short Run Causality running from)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST EQUATION (( \Delta FDI ) on ( \Delta Nifty ))</td>
<td>2.7176</td>
<td>0.2570</td>
<td>No short run causality exists</td>
</tr>
<tr>
<td>SECOND EQUATION (( \Delta Nifty ) on ( \Delta FDI ))</td>
<td>0.4933</td>
<td>0.7814</td>
<td>No short run causality exists</td>
</tr>
</tbody>
</table>

After testing the Wald statistics as shown in above Table, it is confirmed that there are no short-run causality exists between FDI and Nifty.

**Residual Diagnostic Testing**

After running the VECM Model, it is required to check whether the estimated model is of good fit or not for which the residual diagnostic testing is done pertaining to verifying whether the model suffers from the problems of either serial correlation or heteroskedasticity or normality. To test these problems, following tests are conducted.

1. For checking the problem of **serial correlation**, Breusch-Godfrey (1980) Serial Correlation LM Test is conducted. Null Hypothesis for this test is: there is no serial correlation in the model. Thumb Rule: If the probability value of the Observed R- square is less than 0.05, we can reject the Null Hypothesis.

2. For checking the problem of **heteroskedasticity**, Breusch-Pagan-Godfrey (1979) Test is conducted. Null Hypothesis for this test is: The model is homoskedastic. Thumb Rule: If the probability value of the Observed R- square is less than 0.05, we can reject the Null Hypothesis.

3. For checking the **normality of residuals**, Jarque Bera Statistics is checked. Null Hypothesis for this test is: The residuals are normally distributed. Thumb Rule: If the probability value of the Jarque Bera is less than 0.05, we can reject the Null Hypothesis.
Table 6: Results of Residual Diagnostic Testing for Model 1 (FDI to Nifty)

<table>
<thead>
<tr>
<th>Model 1 (FDI to Nifty)</th>
<th>R-squared</th>
<th>Probability</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial correlation</td>
<td>0.048486</td>
<td>0.624402</td>
<td>No serial correlation</td>
</tr>
<tr>
<td>Heteroskedasticity</td>
<td>0.063074</td>
<td>0.323663</td>
<td>Homoskedasticity</td>
</tr>
<tr>
<td>Normality of residuals</td>
<td>0.917650</td>
<td>0.632026</td>
<td>Normally distributed</td>
</tr>
</tbody>
</table>

Note: Own Compilation based on results derived on E-view (Version 7.0)

Table 7: Result of Residual Diagnostic Testing for Model 2 (Nifty to FDI)

<table>
<thead>
<tr>
<th>Model (Nifty to FDI)</th>
<th>R-squared</th>
<th>Probability</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial correlation</td>
<td>0.110832</td>
<td>0.052690</td>
<td>No serial correlation</td>
</tr>
<tr>
<td>Heteroskedasticity</td>
<td>0.033964</td>
<td>0.609414</td>
<td>Homoskedasticity</td>
</tr>
<tr>
<td>Normality of residuals</td>
<td>20.28560</td>
<td>0.00039</td>
<td>Normally distributed</td>
</tr>
</tbody>
</table>

Note: Own Compilation based on results derived on E-view (Version 7.0)

After testing the residual diagnostics, it can be concluded that both the models obtained from the VECM Technique are the models of best fit.

Conclusion and Policy Implications

To analyze the causal relationship between FDI and Nifty, Johansen Cointegration Technique is employed, followed by VECM. The Johansen Cointegration result establishes a single cointegrating vector (long run relationship) between FDI and Nifty. After proving a cointegration, VECM results revealed unidirectional long-run causality running from Nifty to FDI. It is also confirmed that there is no short run causality between FDI and Nifty, i.e. neither the past lags of FDI jointly impact the value of Nifty nor vice versa.

The flow of foreign capital is playing a significant role in the development of Indian stock markets. These foreign investors are coming to India in two ways i.e. FDI or FII. As far as FDI is concerned, it is not directly related with stock markets but provides opportunities to industries for technological upgradation, gaining access to global managerial skills and practices, optimal utilization of human and natural resources and global competitive advantage with greater efficiency. This in turn leads to better performance of the companies which is clearly reflected in the price of their securities traded in the market.

The present study is conducted to empirically analyze whether the investment made by foreign investors in the form of FDI Inflows has an influence on the performance of stock market (measured by fluctuations in the national index, Nifty) or is it vice versa. According to the findings of this study, FDI Inflows have no significant impact on the performance of Indian stock market rather it is the
good performance of Indian stock market which induces the foreign players to infuse capital in the form of FDI. This phenomenon can be related with the signalling theory, i.e. stock market index is the barometer of the performance of the economy and if it is performing well in terms of touching new highs every day, it signals that the economy is flourishing and it has very high growth prospects. The domestic as well as foreign investors would like to invest their money in such markets where they expect high return on their investment and longer sustainability value. Therefore, the result provided by this study can very well be generalized by looking at the practical scenario of the Indian economy’s growth trajectory.

References


Department of Industrial Policy and Promotion: www.dipp.com


Capability-based People Strategy for Digital Economy

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Abstract

Purpose This paper sets out to argue that the people strategy in digital era is radically different from the conventional format. The paper aims to research and discuss in detail, the various factors that influence the crafting of people strategy. It explores the developments in digital era that have influenced the business world and that have influence on people factor.

Design/methodology/approach The paper is based on secondary research, and has studied earlier research efforts in digital era starting from late 1990s to recent developments i.e., 2017. The various developments that have disrupted the business have been critically analysed.

Findings The paper highlights the key capabilities required by leadership and the employees, to help the organization stay competitive in digital era. A detailed comparison across various facets of HR function have to carried out to identify the key differentiators between conventional Vs digital have been presented. The key cornerstone of people strategy in digital world is based on capabilities framework. In addition to soft and technical skills which are required for talent to be successful, the research has identified the digital skills which will critical for a manager/leader to be successful.

Originality/value The paper highlights key trends in advancement & impact on digital technologies on business. It brings into focus the need to assess, track and value the capabilities in general and digital capabilities for leaders and employees.

Keywords: People Strategy, Digital Economy, e-leadership skills, Digital Strategy

Introduction

The advent of digital world has changed the world of business for ever. The change spans across various dimensions such as Product & Service Innovation, Re-engineering the manufacturing shop floor, Customer Connect and Servicing, Stakeholder connect. The core dimension that is an underlying theme across the facets is the “Digital Factor”. The factor is not limited to creating and maintaining

Chuck Martin (1999) identified 7 major trends i) emergence and mainstreaming of online business (ecommerce) ii) intranet facilitating formation of virtual teams of employees iii) boundary-less organizations that allow seamless connect between employees, suppliers and customers iv) commoditization of products due to real time interaction between organization and customers in product /service design & delivery iv) Designing organizations to capture customer data v) Emergence of communities both within and external to organizations vi) Learning becomes pervasive by being real-time and all the time.

Sumanjeet (2012) had researched on e-skills for competitiveness of nations in 21st century. The e-skills required from European perspective. Tomi & Tiina (2015) in their research on corporate
governance of data, have reviewed the existing practices related to corporate governance of digital data and have proposed a framework.

Ronald & Sylvain (2013) have identified six social media skills for leaders to be successful i.e, i) Creation of compelling content to present creative stories to audience ii) Be able to leverage on techniques for dissemination iii) Be adept in managing communication overflow iv) be able to drive social media utilization v) be able to create an enabling IT infrastructure & vi) staying ahead of curve. It is essential for organizations.

Weizi (2016) in their research on e-leadership and strategy alignment have referred various levels of alignment i) strategy execution alignment through integration of organizational design and IS architecture ii) Technology Transformation alignment which involves identification of IT competences iii) Competition potential alignment by leveraging IT capabilities that can help organization in design and delivery of new products and service & iv) service level alignment by mapping business process with IT architecture.

Karla & Cara (2016) have identified the potential benefits of emotionally engaging customers through digital channels to build digital relationships with customers. Gerald et al (2016) in their research on aligning organizations for digital era has indicated that the preparation is an easy journey. Organizations need to focus on developing digital capabilities for the various dimensions such as company’s activities, people, culture and structure are aligned towards goals of the organizations. The hurdles faced by organizations are 1) lack of resources ii) lack of talent iii) competing priorities and iv) limiting the digital initiatives to projects with scope being limited to a function or division. The initiatives needed for digital transformation are 1) Nurturing digital culture that bolsters risk taking ability, agility and spirit of collaboration in the talent 2) Engendering of commitment of senior leadership to digital initiatives 3) Investing in grooming digital skills of home grown talent 4) developing of soft skills which include transformative vision, forward thinking and change orientation.

Methodology
In conformity with the theoretical character of the research the author has chosen such methods as theoretical analysis, generalisation, induction and logical methods. The method of theoretical analysis was used to study the relevant research papers devoted to the areas of Digital Economy, e-skills, leadership skills for digital era. As a result of the generalisation of empirical researches made by the contemporary researchers, the key aspects of impact organisations on account of advent of digital world are presented. The induction method allowed the combination of such elements of usage of e-skills for stakeholder connect, preparedness of organization in terms of infrastructure, leadership, & employees. Also the other aspects covered as culture prerequisites such innovation, technology adaptation. The logical method was used to identify and justify the people management framework that can help in digital transformation of organizations.

People Strategy for Digital Economy
Nonako and Takeuchi (1995) defined KM as the capability of “a company as a whole to create new knowledge, disseminate it throughout the organization, and embody it in products, services and systems”. They categorize knowledge into implicit and explicit and methods adopted by organizations for capturing both implicit and explicit knowledge and monitor the adoption of the knowledge.

Anna (2003) has identified that there is a need for strong linkage between conceptualization of strategy and intellectual capital for organizations operating in knowledge intensive industries that operate in a complex and highly uncertain environment.
Joan (2012) analysed the relationship between impact of direct and indirect externalities on the knowledge products. Other dimensions impacting are learning network externalities, business strategies and value of goods generated.

In the digital world, there is need for revisiting the entire people strategy from a functional and transactional perspective to that of which is linked to the business strategy and the capability of the organization. In the digital economy the capabilities/skills/competences have a major role in the performance of the organization. The generic capabilities required are 1) Innovation & Change Management 2) Technology Adaptation 4) Leverage & integrate technology with business.

Traditionally the strategy of organization in general and people strategy in specific were framed for static or relatively stable environment. In the digital era, the change is occurring every quarter and organizations are expected to adapt and respond to stay competitive.

In order to attract talent with these capabilities, it is important that the organization communicates and demonstrate that the current team in the organization has these capabilities and it is leading the market place by virtue of these capabilities. The talent in digital era is very choosy and will not look at employment opportunity with an organization unless the organization has good brand visibility, especially in the social and digital media. The talent who are tech savvy and are technology evaluate an organization in terms of suitability based on factors such as leadership vision, technology adaptation, and voice of stakeholders.

The People strategy proposed for digital era is anchored on the capability, and the differentiation between conventional and capability driven approaches is placed below:

<table>
<thead>
<tr>
<th><strong>Dimension</strong></th>
<th><strong>Conventional Approach</strong></th>
<th><strong>Capability Driven Approach</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization</strong></td>
<td>Traditionally organizations have been crafting strategy largely by methods of linear extension and extrapolation of the past, keeping the relative stability of environment</td>
<td>In the digital era, it is imperative for organizations to continuously scan the environment for emerging technology trends and likely impact on organization business across value chain. Secondly, they need to carry out a capability assessment to validate the preparedness of organization to deal with new digital trends. Also organizations have to identify and assess the leadership both for generic and specific skills to adapt and lead organization for the next wave of digital change</td>
</tr>
<tr>
<td>Strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capability</strong></td>
<td>Organizations list the generic soft and technical skills based on the business context. Few organizations use the terminology of competency framework</td>
<td>In addition to technical competencies, the differentiating skills for leaders are i) Digital Literacy ii) Digital Vision iii) Advocacy iv) Presence – Walk the talk v) Communication vi) adaptability vii) self-awareness and viii) cultural awareness ix) Focus on customer experience x) Focus on data collection and utilization for decision making.</td>
</tr>
<tr>
<td><strong>Framework</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Employer</strong></td>
<td>Organizations were not focusing on branding largely from consumer</td>
<td>In the digital world, current employees continuously track the</td>
</tr>
<tr>
<td><strong>branding</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capability &amp; Leadership Planning</td>
<td>The conventional approach has been looking at availability of next leaders who could replace the current incumbents categorized into High, Medium and Low Readiness on the HR score cards to demonstrate organizational preparedness on having sufficient leadership talent to take care of future needs</td>
<td>Capability &amp; Leadership planning in digital era takes a step further. In addition to identification of talent, as prerequisite criteria, organizations need to factor in the dimensions of digital skills needed by the leaders and digital skill readiness. This will ensure not the availability of leaders, but digitally savvy leaders to lead the organization in digital journey.</td>
</tr>
<tr>
<td>Capability Sourcing</td>
<td>Organizations were using either the soft and technical skills based approach or competency based approach to assess the quality of their talent and not so much to assess the readiness perspective</td>
<td>Organizations need to identify the digital capabilities which are specific to their context and have the talent in critical positions assessed for their readiness. These digital capabilities can be supplementary to the soft skills that they have identified and will operate in sync with the technical skills for the talent.</td>
</tr>
<tr>
<td>Capability &amp; Performance Planning &amp; Review</td>
<td>The employee’s goals/KRAs were set from a logical extension and incremental growth. Performance planning has transitioned from annual calendar to quarterly reviews and in case of sales driven organizations to monthly reviews</td>
<td>In the rapidly changing digital world incremental goal cannot help an organization. The pace change needs rapid change and some complete transformation of strategy, products and services. The new products and services need new technologies either in design or delivery stages and sometime both. Thanks to digital world new product development and launches are being crowd sourced to connect and penetrate into the market faster. Performance planning and reviews have moved way from periodic to real time for connect and responsiveness to match market needs.</td>
</tr>
<tr>
<td>Rewarding</td>
<td>The conventional approach of rewarding employees has been on</td>
<td>In the digital context, organizations it is critical for organization to assess the</td>
</tr>
</tbody>
</table>
their Key Result Area (KRA)/Key Performance Indicator (KPI) accomplishment and comparative benchmarking against employees in the same/similar level. Few organizations have started the practice of rewarding talent for their potential performance of employees along with leveraging of digital skills to deliver performance. Employees are rewarded for the efforts undertaken to develop his/her digital skills, which are identified to be critical by the organization.

### Capability Retention

| Capability Retention | The usual HR dash boards tracks the % of people who have left the organization across levels/locations, with reason-wise and performance rating-wise break-up. The retention strategies are designed based on this data/indicators. The usual HR dash boards tracks the % of people who have left the organization across levels/locations, with reason-wise and performance rating-wise break-up. The retention strategies are designed based on this data/indicators. | In the digital context, retention of talent is to be tracked on the basis of digital capabilities and performance parameters. The performance linkage to the digital capabilities. |

### Capability based People Strategic Framework

<table>
<thead>
<tr>
<th>Capability based People Strategic Framework</th>
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</thead>
<tbody>
<tr>
<td><strong>Organization Strategy &amp; Priorities</strong></td>
</tr>
<tr>
<td><strong>Organization Design (Digital Connect to Stakeholders &amp; Market Place)</strong></td>
</tr>
<tr>
<td><strong>Organization Capabilities Framework (Includes digital Skills)</strong></td>
</tr>
<tr>
<td><strong>Capability based Talent Mapping &amp; Plan</strong></td>
</tr>
<tr>
<td><strong>Capability based Talent Mapping &amp; Plan</strong></td>
</tr>
<tr>
<td><strong>Capability based Talent Sourcing</strong></td>
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<tr>
<td><strong>Capability based Performance Management</strong></td>
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<tr>
<td><strong>Capability based People &amp; Leadership Development</strong></td>
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<tr>
<td><strong>Capability based rewards</strong></td>
</tr>
<tr>
<td><strong>Capability based retention</strong></td>
</tr>
</tbody>
</table>
Conclusion
The advent of digital economy has accentuated the importance of people element as a critical success factor for organizational survival. How the competitive ability and growth is dependent on the digital capabilities of the leaders and the managers. The digital technologies have radically transformed the way business is planned and managed. The focus is on gathering market intelligence and aligning organizational response to real time to the market needs. The leaders and managers in the organizations need to have digital skills to see emerging trends, be able to envision a digital strategy and lead the organization to solution the products and services to customer needs.

References
Call for Papers

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