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Oddity of Managing Air Pollution in Delhi: Public Policy Myopia

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Abstract
Recent decision of the Government of Delhi to introduce odd-even formula entailing restrictive mobility for curbing vehicular pollution in the city has attracted phenomenal public outcry. From day one of 2016, citizens can drive their cars of odd or even numbers only three times a week except on Sundays when there is no bar. Such an extreme move of the Government aimed at improving air quality of the city is likely to cause tremendous inconvenience to the people who are forced to take private vehicles to their workplaces due to constantly overcrowded and inefficient public transport. Executive decision of the government is majorly inspired by judicial activism on environmental issues. However, the government has failed to discharge its role of working out public policy on the matter under pressure from the courts to undertake urgent measures to reduce level of air pollution which has crossed all limits for safe breathing. Unfortunately, odd-even formula, presented by the government as panacea, appears to be half-hearted and thoughtless intervention which at best reflects public policy myopia. This discussion paper tries to examine the root causes of the deteriorating air quality in the city and explore appropriate public policy options to let Delhi breathe without causing much trouble to the citizens.

Keywords: Air Pollution, Air Quality, Delhi, Public Policy

Introduction
The Government of Delhi has decided to use a quick fix solution to resolve a long-standing issue of worsening air quality in the city under pressure from the court by restricting mobility of cars based on odd-even registration numbers on odd-even dates from 1 January 2016—a move
intended to cut vehicle emission by half (Richardson, 2015). It has been observed in media that the government reacted to court’s admonition that ‘living in Delhi is like living in a gas chamber’ –thus odd-even formula is a reaction plan rather than an action plan…without calling for the public debate and considering the pros and cons….(Suresh, 2015).

While every citizen of Delhi is concerned about rising air pollution that threatens survival, majority view is opposed to the government’s knee-jerk reaction in implementing odd-even formula without much thought. We do not have definitive evidences regarding significant reduction in levels of air pollution by such experiments in the past in various cities such as Paris, Mexico City, Bogota, Beijing, etc. (Richardson, 2015; Pradhan, 2015). Besides, vehicular pollution is only a small contributor to hazardous air quality in the city as indicated by widely acclaimed research of Goel and Guttikunda (2015). Hence it is right time to look beyond short-term view of odd-even formula and make a concerted effort to understand the gravity of current scenario vis-à-vis air quality in Delhi, the root causes of air pollution and how it can be managed with a long-term perspective.

Unfolding ‘Delhi as Gas Chamber’ Metaphor
Level of air pollution in the city has crossed the maximum limit which can be measured by Delhi Pollution Control Committee. According to a report published in India Today, ‘a Delhi resident is today exposed to an average of 153 micrograms per cubic meter of PM 2.5 –the smallest and most harmful of all measurable particulate matter –which is 15 times higher than the WHO’s recommended annual average (Pradhan, 2015). Probably this is the extreme scenario which prompted the Delhi High Court to declare the city as gas chamber. Media reports indicate that the level of hazardous particulate matter in air is 10-16 times higher than what is considered safe for human breathing.

No wonder, around 10,000 people die prematurely each year due to rising pollution level in the city (Speaking Tree, 2015). Various scientific studies suggest that long-term exposure to nitrogen oxide emitted by vehicles my decrease lung function and increase the risk of respiratory systems (Dash, 2015). Doctors associate high levels of suspended particulate matter and sulphur dioxide with increased mortality, morbidity and impaired pulmonary function as fine particulates penetrate the respiratory system and alter immune system, impair liver, cause brain damage in children resulting in lower IQ, hyperactivity and lower concentration (Pradhan, 2015).

Dev (2015) reports ‘an eight-year study from 2008-2015, conducted by IIT Roorkee, University of Minnesota, US, and University of Surrey, UK has shown that emissions from vehicles in Delhi have increased up to three times between 1991 and 2011; these could rise by up to 19 times by 2020. Further, ‘private vehicles’ (two wheelers and cars) –carbon dioxide, hydro carbons, PM 10, carbon monoxide, nitrogen oxide and toxic substances like butadiene, acetaldehyde, benzene, formaldehyde, total aldehyde and total poly aromatic hydrocarbons have increased by 2-13 times in 2011 2-16 times in 2015 over 1991 levels’.
‘Comprehensive Study on Air Pollution and Green House Gases in Delhi’ conducted by IIT Kanpur, indicates a very high levels of an extremely toxic group of 100 chemicals called polycyclic aromatic hydrocarbons (PAHs) emitted mainly due to incomplete combustion (Nandi, 2015). PAHs are carcinogen, mutagen and reproductive toxin which can affect lung function, cause chest pain, irritation and adversely affect reproductive system as a result of long term exposure (Nandi, 2015).

However, there are some contrary views that question rationality of ‘Delhi as Gas Chamber’ metaphor. Quoting a report of System of Air Quality and Weather Forecasting and Research (SAFAR), Bhosale (2015) observes

- Delhi’s air is much cleaner than expected and significantly less polluted than last year;
- There is steady decline in the pollutants and the trend appears to be consistent;
- There are some evidence regarding a lowering of particulate matter, both PM 2.5 and PM 10 (PM 2.5 denotes fine, breathable particles while PM 10 refers to bigger and relatively less dangerous ones);
- Level of PM 2.5 settled at 129 microgram/m³ which is –although still in very poor category –is significantly very low in number for cold weather (colder temperature normally tend to increase PM levels if winds are calm).

SAFAR report in no way approves the current level of air quality; it simply disputes the extreme comparison of Delhi with gas chamber. In fact the air pollution scenario is such that warrants long-term strategy rather than quick fix solution which can provide only short-term gains. Hence it is worthwhile to explore long term strategic options to redeem Delhi into a habitable city from proverbial gas chamber.

Misplaced Solution versus Long-term Strategy

Government of Delhi has decided to implement odd-even plan (with a few exemptions) for restricting vehicular mobility in the city during 1-15 January 2016 in order to improve air quality (Lalchandani, 2015). The government has granted special powers to Delhi Police under the Motor Vehicles Act to impose fines for violations. However, the government depends on good sense of the citizens rather than penalty for success of the odd-even plan as observed by Chief Minister of Delhi: ‘we can penalize only if there are just a few violators, if there are lots of violators and Delhites do not wish to be a part of this plan we will have to suspend it because we cannot fine everyone –such moves require a cultural change and we cannot force people’ (Lalchandani, 2015). No wonder, the government has indicated that the plan, including set of exemptions, will be reviewed in due course (Lalchandani, 2015).

Interestingly, odd-even formula, which is presented as new-year gift for ensuring clean air in Delhi, covers only 20% of the vehicles under its ambit which in turn makes it difficult for the state to enforce the government order in true spirit (The Times of India, 2015 a, b). Centre for Science & Environment observed that overall impact of the effectiveness of the initiative has been compromised due to exemptions granted to two wheelers in general and other specific categories in particular in case of four wheelers (The Times of India, 2015 b). Indeed, number of
two wheelers in Delhi (51 lakh of 89 lakh vehicles registered in Delhi) causes serious concern although they are a bit less dangerous than vehicles run on diesel (The Times of India, 2015 b, c). Exemption announced by Delhi government’s odd-even vehicle plan has diluted the measure and may not meet the goal of significantly reducing air pollution (Lalchandani, 2015, The Times of India, 2015 b).

Further, two wheelers in particular, are responsible for about 33% of particulate matter emission in the transport sector, second only to trucks (The Times of India, 2015 b). A two wheeler in India emits nitrogen oxide equivalent to the emission from four or five petrol-powered cars because of the leniency in standards set by the government (Dash, 2015). Dev (2015) reports ‘two wheelers were found, at present, to be the dominant source of emissions of what are termed as Mobile Source Air Toxics –formaldehyde (37%), hydrocarbons (35%)’ while ‘private cars were found to be responsible for major part of the carbon monoxide (34%), benzene (48%), and total aldehyde (40%) emission’ and ‘heavy-duty commercial vehicles were found to have emitted nearly 46% of all particulate pollutants in 2015’ as compared to ‘diesel cars which were responsible for 10% of such pollution in Delhi’.

Implementation of odd-even formula for reducing air pollution is supposedly not based on any scientific study but common sense and political judgement taking cue from some past instances. In fact, IIT Kanpur which submitted its report to Delhi Government recently, did not suggest odd-even formula for managing air pollution in the city (Vishnoi, 2015). Instead, IIT Kanpur report provides for gradual shift towards cleaner electric and hybrid technology—at least 2% of city’s two wheelers, 10% of three wheelers and 2% of four wheelers (Vishnoi, 2015). While the government is focusing on exhaust emissions, not much action is in sight to reduce non-exhaust emissions such as brake wear, road wear, tire wear and road dust (Dev, 2015) whereas ‘Source Apportionment Study of PM 2.5 and PM 10’ conducted by IIT Kanpur has indicated top for contributors for PM 10 as road dust (56%), concrete batching (10%), industrial point sources (10%) and vehicles (9%) while top four contributors for PM 2.5 are road dust (38%, vehicles (20%), domestic fuel burning (12%) and industrial point sources (11%) (Vishnoi, 2015).

**Strategic Options**

Controlling and managing emissions from vehicles can be most effective and viable long-term strategy if it is integrated with curbing other sources of air pollution in the city such as road dust, concrete batching, domestic fuel burning and industrial point sources. Controlling emissions from vehicles can be accomplished by educating and sensitizing citizens on need for voluntarily controlling emissions, introducing/changing rules and regulations as required, enforcement of all the regulatory norms in true sprit without any laxity, and vigilantism by the non-governmental organizations, communities and people at large. Managing emissions is very much possible by leveraging technology to improvise automobile engines that meet highest standards in emissions, explore possibility of developing automobiles that can run on cleaner fuel, and develop smarter and efficient transportation systems.
Educating and sensitizing citizens is the most challenging but highly rewarding intervention. Already, environmental science has been introduced in schools. It is imperative that the subject is used appropriately to inculcate right mind-set at young age so that they turn gatekeepers at home in case they spot any violations of vehicular emission norms by their parents or any other elderly person of the family. In case the young people start taking a position on not allowing their parents to drive a car or a bike which is releasing too much smoky air (because the engine has not been tuned or the vehicle is not maintained properly or it is too old), the worsening scenario can be arrested in a big way without use of coercion or force of law-enforcement agencies. Right educational intervention will help create an environment-warrior in each home. This is possible only when the faculty members at school level take up leadership roles and ensure that the message has been internalized by their students in a manner which can result in desirable behaviour at home, in the community and world of work.

At the same time, the state should work towards fine-tuning the laws, rules and regulations to ensure strictest and consistent adherence to norms relating to vehicular emissions. Further, the government must also reduce corrupt practices prevalent among staffers of enforcement agencies. There is a widespread perception that one can manage to violate norms and skip the punitive action by simply paying small bribe of a hundred rupees or so. Hence there is no fear of law or law-enforcement agencies. The monetary cost of violating norms is miniscule and people are generally blind towards the long-term environmental cost of their erratic behaviour. Hence, adherence to norms should be ensured by the state by making appropriate changes in law and innovative enforcement procedures which are transparent, quick, consistent and without any loop holes. Penalty for violating norms should be such that work as deterrent.

Vigilantism of the community and citizens can also play a significant role in reducing vehicular emissions by raising moral pressure for compliant behaviour, reporting the violations without any fear and getting feedback on action taken by the enforcement agencies and sponsoring public interest litigation in case of failure state machinery in paying heed to the watchful community or citizens. Good news is that the government of Delhi has planned to invoke the good sense of the citizens in spotting polluting vehicles. Spotting visibly polluting vehicles to ensure emission compliance is a tried and tested strategy in many countries simply because it instils fear in those who have flouted pollution norms or have been driving without a valid ‘pollution under control’ certificate – such intervention has resulted in reduction of 50% of smoky vehicles in Hong Kong (The Times of India, 2015)

Leveraging technology to beat air pollution malady has been a common practice all over the world. For example, ACTA Global (Advanced Clean Air Technologies) has developed a new technologically advanced catalytic converter, which can drastically reduce emissions – with stringent testing parameters showing a 44 percent reduction in particulate matter being released into the atmosphere, nearly a 50% reduction in air pollution (Environmental Protection, 2013).
CristalACTiV Titanium Dioxide is another technological innovation which curbs the emission of pollutants during combustion. Pickett (2014) explains: ‘In electrical power generation plants, selective catalytic reduction, utilising ultrafine titanium dioxide (TiO2) as a DeNOx catalyst, has been demonstrated to remove over 90 percent of the NOx generated by the combustion of coal, gas or other fossil fuels to produce electricity. TiO2 acts as a catalyst to convert the harmful gases into harmless nitrogen and water vapour. This technology has been available for up to 30 years and has been demonstrated to be very effective. The technology is beginning to be used more widely to reduce the level of pollutants generated when producing electricity’

Pickett (2014) observes further: ‘Systems are now available for use to reduce NOx and diesel particulate matter from tailpipe emissions. In these systems, we utilise the technology of ultrafine titanium dioxide in a similar fashion to the power plants, but engineer the materials to perform under the conditions found in vehicle emission systems. Ultrafine TiO2 is an essential ingredient in many catalytic systems that allow emissions from diesel sources to meet increasingly strict environmental regulations, such as Euro IV, Euro V and Euro VI. These products are now widely used in the automotive industry. CristalACTiV Catalysts are found in many of the world’s most recognizable brands of truck’.

A report of Association for Emissions Control by Catalyst (AECC) provides adequate fodder for optimism: ‘Technologies exist for control of CO, HC, NOx, PM and PN, for stoichiometric and lean-burn gasoline engines and diesel engines. They are used and proven in many different applications. Continuous improvement in substrate and coating technologies, as part of an integrated system comprising electronic control and fuel quality, allows meeting more and more stringent combustion engines emissions legislations’ (Favre et al. n. d.). However, fuel and lubricant quality must by in sync with the new technologies to optimise benefits (Favre et al. n. d.).

In an interview, Rajiv Bajaj, Managing Director, Bajaj Auto Limited, observed that emission norms in India are up to ten years behind those in developed countries while technology upgradation is the moral responsibility of auto manufacturers (The Economic Times, 2015). Automobile manufactures in India must wake up to the occasion and work towards accomplishing Euro VI norms instead of lobbying for relaxation by counting constraints. Cost of enjoying relaxed norms in India on the pretext of existing constraints will be much higher in terms of environmental degradation and human health.

Conclusion
A closer look at various facets of the issue of worsening air quality in the city strengthens commonly held view that the Delhi Government has taken a hurried decision which may provide very short term gains without exploring long term strategic options. The government has also overlooked a number of scientific studies by IIT Delhi, IIT Kanpur, IIT Roorkee among others, which pointed out a number of sources of air pollution other than cars which play havoc with the health of people in the city. Hence odd-even formula appears as a misplaced solution
to a problem which we cannot ignore now. There is a risk of diverting the public attention from the root causes of poor air quality in Delhi by much hyped frivolous measure.

It is most appropriate time that the people of Delhi realize the bluff of the government and start pressurizing the state to explore long-term strategic options of controlling and managing air pollution. Unless we try to block the real and deadlier sources of air pollution, we cannot achieve any success in improving air quality in the city. Unfortunately, most of the lethal sources of air pollution such as trucks (even if plying through the city during nights), motorbikes, road dust, waste burning, concrete batching and industrial point sources will remain active. Besides there are a large number of rural traffic vehicles and non-CNG larger three wheelers which run on kerosene and thus contribute profusely toward deteriorating air quality. Many times, vehicles of municipal corporations are seen emitting excessive deadly smoke.

We need multiple interventions and strategies to ensure that people have clean air to breathe in the city. First of all, people need to be educated and sensitized about the whole issue. Currently people are getting aware of the matter thanks to media reports. Education and sensitization will ensure that they commit themselves to the cause of clean air by never violating any norms out of their own volition and without any fear of punitive action. Second, law enforcement should be made flawless—consistent, transparent and difficult to bypass. Third, we need to enhance vigilantism of the community and citizens in general so as to achieve total compliance. Fourth, we need to leverage technologies to beat the devil called air pollution. For this purpose, the government needs to adopt automobile emission norms at par with Euro VI norms. At the same time the government must also help reduce the constraints faced by automobile manufacturers so as to facilitate emission technology upgradation without much delay. So long as we are stuck in odd-even conundrum, we cannot have a long term view the issue of clean air will remain unresolved—much to the peril of unsuspecting citizens of Delhi.

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Impact of Demerger Announcement on Shareholder Value: 
Evidences from India

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Abstract
Demergers of conglomerates are a common phenomenon in financial markets across the world. Carried out with different motives generally, in a share demerger program, the company distributes the shares of demerged entity to the existing shareholders without any consideration. Demergers in Indian companies are over a decade old phenomena, with many companies opting for the same. This paper examines the demergers and the announcement period price reaction of demergers during the year 2012-2014. The authors have studied total 51 demergers of companies listed in India and tried to establish that demergers results into abnormal returns for the shareholders of the parent company. Using event study methodology the authors have analyzed the security price performance of the announcement day effect 10 days prior to the announcement to 10 days post demerger announcement. They have found significant out-performance of the security over the benchmark index post demerger announcement ranging from 1.74% average abnormal return for a demerger announcement to 0.16% average abnormal return 10 days following the announcement.

Keywords: Demergers, Spin-offs, Event study, Stock returns
Introduction

Business corporations are core to economic activity, growth, and prosperity at both the national and global levels. In 2013, there were 64 corporations in the world that had revenues in excess of $100 billion -- Nineteen of them are American, five Japanese, six German, Four Chinese and two British, and one British-Dutch. Of the world’s 50 biggest employers – ranging from Wal-Mart, with 2,200,000 employees to Peugeot with 198,600 employees – 18 were American, nine French, seven German, six Chinese, few Japanese-British, Russian and Swiss.

Some of these corporations did not even exist historically and grew large over time by developing the productive capabilities of their investments in physical and human capital and then realizing returns on these investments through the sale of goods and services, thus enjoying the benefits of scale, size, and scope. Corporate growth story in India is no different, companies in India came into existence long ago during colonial rule, however, real growth began from liberalizing policies of the government of India from 1991. In historical retrospect, that growth was not inevitable, and one cannot assume that any particular corporation will be able to sustain its current levels of revenue, growth and employment in the times to come. Industrial corporations that have grown large and many a times have undergone a major restructuring.

According to Lazonic (2003), as distinct from growth, corporate restructuring entails a significant (and ostensibly permanent) reduction in the resources that a corporation allocates to those product markets or process activities or geographical locations in which it had previously been engaged. Such a reduction may be part of a process of reallocating corporate resources to new growth areas, but, by definition, corporate restructuring always entails a retrenchment of resource commitments to one or more markets, activities, and/or locations compared with the commitments that had been made in the past. Corporate restructuring can, therefore, have Reorganization of ownership and assets (e.g... Asset Sales, Equity Carve-outs, and demergers) or Reorganization of financial claims (e.g... Debt-equity exchange offers, leveraged recapitalizations, Financial reorganization (bankruptcy), Liquidation) or Other Strategies (e.g... ESOPs, Using international markets (GDRs and ADRs), Share Repurchase programs (Buyback). It is a matter of perennial debate that whether these restructuring transactions create value for the shareholders or destroys value for the shareholder.

This study focuses on the shareholder value created out of corporate restructuring transactions in general and demergers in particular in India during the period of three years 2012 – 2014.

A divestiture occurs when a company sells or disposes of its assets. Most of the divestitures are either demerger, sell-offs, or equity carve-outs. Divestitures can be voluntary or involuntary. Involuntary divestitures are a result of anti-trust agencies or the judicial system, whereas voluntary divestitures are the result of a management decision to realign its business focus. The main objective for divestitures is the belief that “sum of parts is greater than the whole” (Frank, 2001). In a demerger, commonly known as spin-offs in the US, a firm is broken up into two or more independent entities.
In this process of restructuring, a wholly owned subsidiary becomes an independent company generally a listed entity in the stock markets, with its shares being distributed to the shareholders of the parent company on a pro-rata basis for no consideration. This process is considered to be a non-cash dividend by the parent firm and is usually tax-free.

**Literature Review**

Accounting Standard 14 – Accounting for Demergers and International Financial Reporting Standards (IFRS) 3 -Business Combinations, in India-specifically deal with accounting for demergers. In spite of this, accounting for demerger is uniform and quite simple.

Demerger does not result in a purchase or sale transaction but is just a division of an existing entity, the demerged company. There is no reason to restate the carrying amount of assets and liabilities. Therefore, demerger is accounted for at the recorded book values of the assets and liabilities transferred to the new entity. In a demerger, a new company is formed and all the assets and liabilities of the undertaking of the demerged company are transferred to the new company. This new company, which has an economic and legal identity separate from the demerged company, issues shares to shareholders of the demerged company without receiving cash. As a result, a substantial number of shareholders of the demerged company become shareholders of the new company. The face value of new shares has no economic significance.

Value creation is a prime measure by which a corporation’s performance is evaluated. However it is a matter of debate within academicians, researchers and practitioners on what is the most appropriate type of value for the corporation to create. Is it the value shown in the balance sheet? Or the value that the stock market gives to the company? Or something based on its expected future performance – profits or Cash. Following the shareholder value approach as described by Rappaport (1986), an increase in shareholder value for a listed company can be measured by the increase in market capitalization or more specifically by the total return to shareholders. According to Lamont and Thaler (2001), two key principles of the efficient market hypothesis are that first it is not easy to earn excess returns and second it is not easy to earn excess returns and the price correct reflecting fundamental values.

There is a broad consensus in both the academic and the popular literature that demergers – Spin-offs tend to create value for shareholders. This consensus is based on evidence from a number of studies indicating that, on average, the announcement of a spin-off by a US firm is associated with a positive abnormal stock return.

It looks far from obvious that how a simple break-up of an organization into smaller unit/s would create value. “If there are no synergies between the parent and the subsidiary, the sum of the post-divestitures’ cash flows would equal the combined cash flow had the two units remained as one” Hite and Owers (1983), and the aggregate value of the two units would be same as the value of the parent undivided organization unless there exists some negative synergies in the units separated.
According to Hite and Owers (1983) in the case of mergers the arithmetic is often expressed as '2+2=5' whereas for spin-offs it is '4-2=3". While the potential gains from mergers might arise from synergy, for example, it is less obvious with spinoffs why the aggregate market value of the shares of the two units trading separately should exceed the market value as a single unit.

The one of the earliest empirical paper on this subject was published by Miles and Rosenfeld (1983), analyzing announcement effects of 55 demergers/spin-offs between 1963 and 1980. Analyzing a time period ranging from 120 trading days before, to 60 trading days after, the demerger announcement, they found a statistically significant cumulative average adjusted return of 22%. Measuring the announcement effect (i.e. at day zero and day one) they found the average abnormal return of +3.3%, for the longer period from day −10 to day +10 it is +7.6%. This indicates a noteworthy positive assessment of demergers by the market.

Schipper and Smith (1983), conducted a study of 93 voluntary demerger announcements between 1963 and 1981. Using a market model (CAPM), they established a significantly positive announcement effect of approximately +2.8% for a two-day announcement period. They also noted that most spun-off subsidiaries (72 out of the total of 93 firms) were operating in dissimilar industries to the parent firm. Hite and Owers (1983), found the security price reactions of 123 voluntary demergers between 1963 and 1981 and established a statistically significant positive cumulative abnormal return of +7% for the period ranging from 50 days prior to the announcement through to the completion date. Of this, +3.3% took place in the two-day period from day −1 to day 0.

Chemmanur and Yan (2003), show that spin-offs announcements are associated positive announcement effects and increases in long-term operating performance. Certain categories of spinoffs will exhibit long-term positive abnormal stock returns based on the consideration of incumbent and rival firm performance. Veld and Veld-Merkoulova (2004), studied announcement effects and long-run performance for a sample of 156 European spin-offs announced from January 1987 to September 2000. They found that the announcement of a subsequently completed spin-off is associated with a positive abnormal return of 2.66% over a three-day window.

Singh et.al. (2009), studied demergers in India to measure the wealth effect of demerger before and after the announcement. They found that after demerger there is an increase in the total wealth of the shareholders in almost all the case and conclude that demergers remove negative synergy and the value is unlocked, resulting into the wealth of the shareholders. Khurana and Gupta (2013), studied a few demergers in India to establish that the demerger resulted in significant increase in total market capitalization of the firms involved and the reason attributed is the improved focus. However, the motive of wealth maximization is questionable.

It can be therefore concluded, that the demerger announcements and execution are associated with strongly significant abnormal returns that range from 1.32% to 5.56% depending upon the geography studied and the time period. However, one in the study by Murray (2000), for the
UK, who reports a non-significant abnormal return of -0.19% for the event window from the day -1 to day 1 surrounding the demerger. Interestingly, the study by Schauten (2001), for the same country and for the same event window shows an abnormal return of 2.13%.

Therefore, as discussed the empirical literature about demergers is dominated by studies conducted on demergers in US and UK and a few studies that depict the impact of demergers on shareholder value in Europe (except the UK) and East Asian countries. Study of the effect of demergers on the shareholder value is very limited and case based than the sample based in Indian demergers.

**Methodology**

To evaluate the announcement performance of demerger well established event study methodology has been used in this research. Event studies have a long history. The first published study was of James Dolley (1933) since then event study has a long history to its credit. Over the decades from the early 1930s until the late 1960s the level of sophistication of event studies increased. John H. Myers and Archie Bakay (1948), C. Austin Barker (1956, 1957, 1958), and John Ashley (1962), have significantly contributed to event studies during this time period. In the late 1960s seminal studies by Ray Ball and Philip Brown (1968), and Eugene Fama et al. (1969) introduced the methodology that is essentially the same as that which is in use today.

The initial task of conducting an event study is to define the event of interest and identify the period over which the security prices of the firms involved in this event will be examined this is called the event window. In this research, the event that is under study is the announcement of demerger by a company. As is customary to define the event window to be larger than the specific period of interest the paper takes 10 days prior and post announcement of demerger – event under study. This permits examination of periods surrounding the event. After identifying the event, it is necessary to determine the selection criteria for the inclusion of a given firm in the study. The criteria may involve restrictions imposed by data availability such as listing on the Bombay Stock Exchange or National Stock Exchange in Indian context or may involve restrictions such as membership in a specific industry.

To find the effect of demergers of the listed company, the list of the company which has declared corporate action under section 391-394 of the Companies Act, Amalgamation and Demergers has been taken from database Capital Line and ACE Equity. Then the data has been filtered and cleaned by re-checking from the NSE website and for those company which are not listed on NSE, BSE website has been used from their exact announcement date and the stage of the demerger has been confirmed. Share prices and the benchmark index values have been taken from ACE Equity. For this study, the price taken for shares are the adjusted closing prices of the shares.

This study classifies the demergers into four categories viz. Large Demergers – Demergers arising out of large capitalization companies i.e. the company having Marketed capitalization of more than Rs. 5000 crore, Small Demergers - Demergers arising out of small cap (Rs. <5000)
companies, Private Demergers – Demergers where the demerged entity is a private limited company and shareholders of listed entity does not get the shares of demerged entity. Listed demergers are those demergers where the demerged company gets listed on the stock exchange and the shareholder gets the share of both new demerged entity as well as the parent company.

Table I: No. of Demerger Announcements per Year

<table>
<thead>
<tr>
<th>Year</th>
<th># of events</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>12</td>
</tr>
<tr>
<td>2013</td>
<td>28</td>
</tr>
<tr>
<td>2014</td>
<td>11</td>
</tr>
</tbody>
</table>

Table II: Total no. of Categorical Demerger Announced in Each Year

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Small</td>
<td>11</td>
<td>20</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>28</td>
<td>11</td>
<td>51</td>
</tr>
<tr>
<td>Private</td>
<td>4</td>
<td>21</td>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td>Listed Demergers</td>
<td>8</td>
<td>7</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>28</td>
<td>11</td>
<td>51</td>
</tr>
</tbody>
</table>

Appraisal of the event’s impact requires a measure of the abnormal return. The abnormal return is the actual ex-post return of the security over the event window minus the normal return of the firm over the event window. The normal return is defined as the expected return without conditioning on the event taking place.

![Event Window Diagram](image)

- **Estimation Window**: The estimation window provides the information needed to specify the 'normal return'.
  - E.g., in the case of the 'market model', the stock returns are regressed on the market returns in order to specify the typical relationship between the stock of the focal firm and its reference index. Notably, an intercept (alpha), a slope (beta) and an error term (sigma) are retrieved and then used to predict the 'normal returns' for the event window.

- **Event Window**: Based on the actual returns during the event window and the 'normal returns' predicted, 'abnormal returns' are calculated for all days within the event window. These abnormal returns provide insights on:
  1. whether the event was of material relevance for the focal firm,
  2. whether information about the event had leaked to the stock market and whether the market needed additional time to absorb the informational content of the event.

- **Post-Event Window**: The post-event window is typically not considered. However, it may be used to investigate longer-term stock/companiy performance following the event.

[Adapted from Benninga (2008: 372)]

The 'market model' is one of the most common models used. It builds on the actual returns of a reference market and the correlation of the firm's stock with the reference market. Equation
(1) describes the model formally, The abnormal return on a distinct day within the event window represents the difference between the actual stock return $R_{i,t}$ on that day and the normal return, which is predicted based on two inputs; the typical relationship between the firm's stock and its reference index (expressed by the $\alpha$ and $\beta$ parameters), and the actual reference market's return ($R_{m,t}$).

$$AR_{i,t} = R_{i,t} - \beta_{i}R_{m,t}$$

In the above equation, $\beta_{i}$ is the Beta is the measure of a stock's sensitivity of returns to changes in the market. $R_{m,t}$ is the return on the market i.e. nifty index return over the period time $t$.

$$\beta = \frac{covariance\ of\ stock\ to\ the\ market}{variance\ of\ the\ market}$$

$$\beta = \frac{cov(R_i, R_m)}{\sigma^2}$$

As per the market return model given by Mac Kinlay (1997), event study methodology $\beta$ is taken as 1, because of the following reasons (1) fundamental issue in calculating beta, (2) beta in this period is quite distorted (3) there is no data to estimate future beta of the subsidiary (4) Pre-transaction beta does not reflects the post-transaction risk-return profile.

Such an analysis performed for multiple events of the same event type (i.e., a sample study) may yield typical stock market response patterns, which have been at the center of prior academic research. Typical abnormal returns associated with a distinct point of time before or after the event day are defined as follows.

$$AAR = \frac{1}{N} \sum_{i=1}^{N} AR_{i,t}$$

To measure the total impact of an event over a particular period of time (termed the 'event window'), one can add up individual abnormal returns to create a 'cumulative average abnormal return'. Equation (2) formally shows this practice.

$$CAAR (t_1, t_2) = \sum_{t=t_1}^{t_2} AAR_{i,t}$$

To check the statistical significance of the abnormal return, t-test has been used.

$$t = \frac{AAR}{\sigma_{ar}}$$

Where, $\sigma_{ar}$ is an estimate of a the standard deviation of the average security's return. It is calculated from the -10 to 10 day’s pre and post announcement of the demerger. A t-statistic with a p-value (i.e. the observed significance level) less than or equal to 0.05 is considered to be significant.
Data Analysis
Table III reflects the abnormal returns for all demerger announcements during the period 2012-2014. Over the 21 day observation period, the cumulative average abnormal return (CAAR) is 2.59%, and there are significant Average Abnormal Returns (AARs) immediately surrounding and including day 0 with a t-score of 3.3604.

On the day 0, AARs appear to vary randomly, indicating that the demerger news is fully impounded in stock prices within a relatively short time. It is also depicted that from day +1 the AAR are going down on the followed day the AAR is reduced to 1.07%.

Table III: Abnormal Return on ALL Demergers

<table>
<thead>
<tr>
<th>Day</th>
<th>AAR</th>
<th>CAAR</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10</td>
<td>-0.05%</td>
<td>-0.05%</td>
<td>-0.0717</td>
</tr>
<tr>
<td>-9</td>
<td>-0.61%</td>
<td>-0.66%</td>
<td>-0.8155</td>
</tr>
<tr>
<td>-8</td>
<td>0.02%</td>
<td>-0.64%</td>
<td>0.0326</td>
</tr>
<tr>
<td>-7</td>
<td>-1.24%</td>
<td>-1.87%</td>
<td>-1.6543</td>
</tr>
<tr>
<td>-6</td>
<td>0.04%</td>
<td>-1.84%</td>
<td>0.0510</td>
</tr>
<tr>
<td>-5</td>
<td>-0.18%</td>
<td>-2.01%</td>
<td>-0.2361</td>
</tr>
<tr>
<td>-4</td>
<td>0.22%</td>
<td>-1.79%</td>
<td>0.2937</td>
</tr>
<tr>
<td>-3</td>
<td>0.65%</td>
<td>-1.15%</td>
<td>0.8656</td>
</tr>
<tr>
<td>-2</td>
<td>0.47%</td>
<td>-0.68%</td>
<td>0.6295</td>
</tr>
<tr>
<td>-1</td>
<td>0.82%</td>
<td>0.15%</td>
<td>1.1043</td>
</tr>
<tr>
<td>0</td>
<td>2.51%</td>
<td>2.66%</td>
<td>3.3604*</td>
</tr>
<tr>
<td>1</td>
<td>1.07%</td>
<td>3.73%</td>
<td>1.4359*</td>
</tr>
<tr>
<td>2</td>
<td>-0.60%</td>
<td>3.13%</td>
<td>-0.8094</td>
</tr>
<tr>
<td>3</td>
<td>-0.17%</td>
<td>2.96%</td>
<td>-0.2244</td>
</tr>
<tr>
<td>4</td>
<td>0.13%</td>
<td>3.09%</td>
<td>0.1735</td>
</tr>
<tr>
<td>5</td>
<td>-0.37%</td>
<td>2.72%</td>
<td>-0.4983</td>
</tr>
<tr>
<td>6</td>
<td>-0.04%</td>
<td>2.67%</td>
<td>-0.0598</td>
</tr>
<tr>
<td>7</td>
<td>0.01%</td>
<td>2.68%</td>
<td>0.0168</td>
</tr>
<tr>
<td>8</td>
<td>-0.08%</td>
<td>2.61%</td>
<td>-0.1041</td>
</tr>
<tr>
<td>9</td>
<td>-0.31%</td>
<td>2.30%</td>
<td>-0.4130</td>
</tr>
<tr>
<td>10</td>
<td>0.29%</td>
<td>2.59%</td>
<td>0.3916</td>
</tr>
</tbody>
</table>

*significant at 10% level, **significant at 5% level, ***significant at 1% level

This paper further analyzes the demerger announcements by dividing the entire sample into two parts viz. large demergers and small demergers, depending upon the market capitalization (cap) of the parent company. For all those companies whose MCap is more than Rs. 5000 Crores is considered to be large cap stocks thereby categorizing demerger announcement by them as large demergers and, rest of the demerger announcements as small demergers.
Table IV records the result of large and small demergers. The small demergers, 41 observations in total, generates 3.50% CAAR in 21 days surrounding the announcement whereas 10 observations that are categorized as large demerger are generated -1.35% CAAR during the aforesaid period. On the day, 0 small demerger draws 3.17% CAAR with an AAR of 3.02% and the t-score value of AAR is 3.5601 which is highly significant, while large demerger generates 0.06% CAAR with AAR of 0.52% and t-value of 0.8739 that is statistically non-significant.

Table IV: Abnormal return on large and small demerger

<table>
<thead>
<tr>
<th>Day</th>
<th>AAR</th>
<th>CAAR</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.0235</td>
</tr>
<tr>
<td>-9</td>
<td>-0.47%</td>
<td>-0.46%</td>
<td>-0.7951</td>
</tr>
<tr>
<td>-8</td>
<td>0.44%</td>
<td>-0.01%</td>
<td>0.7541</td>
</tr>
<tr>
<td>-7</td>
<td>-1.50%</td>
<td>-1.51%</td>
<td>-2.5341***</td>
</tr>
<tr>
<td>-6</td>
<td>0.13%</td>
<td>-1.37%</td>
<td>0.2222</td>
</tr>
<tr>
<td>-5</td>
<td>0.11%</td>
<td>-1.27%</td>
<td>0.1816</td>
</tr>
<tr>
<td>-4</td>
<td>-0.12%</td>
<td>-1.39%</td>
<td>-0.2052</td>
</tr>
<tr>
<td>-3</td>
<td>-0.16%</td>
<td>-1.55%</td>
<td>-0.2688</td>
</tr>
<tr>
<td>-2</td>
<td>0.74%</td>
<td>-0.81%</td>
<td>1.2536</td>
</tr>
<tr>
<td>-1</td>
<td>0.35%</td>
<td>-0.46%</td>
<td>0.5876</td>
</tr>
<tr>
<td>0</td>
<td>0.52%</td>
<td>0.06%</td>
<td>0.8739</td>
</tr>
<tr>
<td>1</td>
<td>0.41%</td>
<td>0.47%</td>
<td>0.6959</td>
</tr>
<tr>
<td>2</td>
<td>-0.36%</td>
<td>0.11%</td>
<td>-0.6025</td>
</tr>
<tr>
<td>3</td>
<td>-0.41%</td>
<td>-0.30%</td>
<td>-0.6897</td>
</tr>
<tr>
<td>4</td>
<td>-0.41%</td>
<td>-0.71%</td>
<td>-0.6943</td>
</tr>
<tr>
<td>5</td>
<td>-0.08%</td>
<td>-0.78%</td>
<td>-0.1303</td>
</tr>
<tr>
<td>6</td>
<td>-0.21%</td>
<td>-0.99%</td>
<td>-0.3531</td>
</tr>
<tr>
<td>7</td>
<td>0.15%</td>
<td>-0.85%</td>
<td>0.2466</td>
</tr>
<tr>
<td>8</td>
<td>-0.41%</td>
<td>-1.26%</td>
<td>-0.6936</td>
</tr>
<tr>
<td>9</td>
<td>0.40%</td>
<td>-0.86%</td>
<td>0.6786</td>
</tr>
<tr>
<td>10</td>
<td>-0.49%</td>
<td>-1.35%</td>
<td>-0.8325</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day</th>
<th>AAR</th>
<th>CAAR</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10</td>
<td>-0.07%</td>
<td>-0.07%</td>
<td>-0.0874</td>
</tr>
<tr>
<td>-9</td>
<td>-0.73%</td>
<td>-0.80%</td>
<td>-0.8567</td>
</tr>
<tr>
<td>-8</td>
<td>-0.03%</td>
<td>-0.83%</td>
<td>-0.0389</td>
</tr>
<tr>
<td>-7</td>
<td>-1.15%</td>
<td>-1.99%</td>
<td>-1.3580*</td>
</tr>
<tr>
<td>-6</td>
<td>0.00%</td>
<td>-1.99%</td>
<td>-0.0038</td>
</tr>
<tr>
<td>-5</td>
<td>-0.26%</td>
<td>-2.25%</td>
<td>-0.3079</td>
</tr>
<tr>
<td>-4</td>
<td>0.35%</td>
<td>-1.90%</td>
<td>0.4147</td>
</tr>
<tr>
<td>-3</td>
<td>0.79%</td>
<td>-1.11%</td>
<td>0.9315</td>
</tr>
<tr>
<td>-2</td>
<td>0.42%</td>
<td>-0.69%</td>
<td>0.4952</td>
</tr>
<tr>
<td>-1</td>
<td>0.84%</td>
<td>0.15%</td>
<td>0.9930</td>
</tr>
<tr>
<td>0</td>
<td>3.02%</td>
<td>3.17%</td>
<td>3.5601***</td>
</tr>
<tr>
<td>1</td>
<td>1.21%</td>
<td>4.39%</td>
<td>1.4293*</td>
</tr>
<tr>
<td>2</td>
<td>-0.61%</td>
<td>3.77%</td>
<td>-0.7195</td>
</tr>
<tr>
<td>3</td>
<td>-0.15%</td>
<td>3.63%</td>
<td>-0.1714</td>
</tr>
<tr>
<td>4</td>
<td>0.31%</td>
<td>3.94%</td>
<td>0.3639</td>
</tr>
<tr>
<td>5</td>
<td>-0.37%</td>
<td>3.56%</td>
<td>-0.4402</td>
</tr>
<tr>
<td>6</td>
<td>-0.01%</td>
<td>3.55%</td>
<td>-0.0169</td>
</tr>
<tr>
<td>7</td>
<td>-0.04%</td>
<td>3.51%</td>
<td>-0.0501</td>
</tr>
<tr>
<td>8</td>
<td>-0.09%</td>
<td>3.42%</td>
<td>-0.1031</td>
</tr>
<tr>
<td>9</td>
<td>-0.43%</td>
<td>2.99%</td>
<td>-0.5089</td>
</tr>
<tr>
<td>10</td>
<td>0.51%</td>
<td>3.50%</td>
<td>0.6043</td>
</tr>
</tbody>
</table>

*significant at 10% level, **significant at 5% level, ***significant at 1% level
Analyzing further, this study divides all observations into two parts private demerger and listed demerger. Private demergers are those in which the demerged entity would become a private limited company wherein, the shares of such private limited company are not allotted to the shareholder of parent public listed company and listed demerger are those in which the demerged entity gets would be a public listed company, listed on the stock market and the shareholder parent company gets shares of the new company in proportion to their holding without paying any consideration.

As per the results mentioned in table V private demerges draws 4.38% CAAR with an AAR of 1.83% on day 0 and the t-score is highly significant with 2.0787, listed demergers generates to a negative CAAR of 1.07% on day 0 with an AAR of 3.92%. For the entire 21 Days’ period private demergers are giving CAAR of 2.10% while public demergers give 3.44% CAAR. This would be probably because the shareholders realize the value generation of the upcoming new entities.

**Table V: Return on Private and Listed demergers**

<table>
<thead>
<tr>
<th>Day</th>
<th>Private Demergers</th>
<th>Listed Demergers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AAR</td>
<td>CAAR</td>
</tr>
<tr>
<td>-10</td>
<td>-0.03%</td>
<td>-0.03%</td>
</tr>
<tr>
<td>-9</td>
<td>-0.51%</td>
<td>-0.53%</td>
</tr>
<tr>
<td>-8</td>
<td>0.14%</td>
<td>-0.39%</td>
</tr>
<tr>
<td>-7</td>
<td>-1.35%</td>
<td>-1.74%</td>
</tr>
<tr>
<td>-6</td>
<td>0.27%</td>
<td>-1.47%</td>
</tr>
<tr>
<td>-5</td>
<td>0.14%</td>
<td>-1.34%</td>
</tr>
<tr>
<td>-4</td>
<td>0.15%</td>
<td>-1.19%</td>
</tr>
<tr>
<td>-3</td>
<td>1.29%</td>
<td>0.11%</td>
</tr>
<tr>
<td>-2</td>
<td>0.91%</td>
<td>1.01%</td>
</tr>
</tbody>
</table>
Further, this out-performance of demerger announcement is analyzed into smaller intervals within the total no. of days analyzed. On a two-day interval, Day 0 and Day 1 post announcement all demerger announcements under study give a CAAR of 1.79% with small, listed and private demerger gives a CAAR of 2.12%, 2.31%, and 1.53% respectively which are statistically highly significant. On a three day interval of -1 to +1 days, five-day interval of -2 to +2 days, to 15-day interval of -7 to +7 days surrounding the demerger announcement the study finds significant outperformance by small, listed and private demergers over its peers. However, over a 21-day interval of -10 to +10 days the return diminishes and the price adjust to the market and the information is well absorbed by the market and securities as suggested by Fama (1969) in the efficient market hypotheses.
Table VI: Mean of Average Abnormal returns

<table>
<thead>
<tr>
<th>Mean</th>
<th>Announcement Effects of Demergers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Days</td>
<td>All Demergers</td>
</tr>
<tr>
<td>0/+1</td>
<td>1.79%***</td>
</tr>
<tr>
<td>-1/1</td>
<td>1.47%***</td>
</tr>
<tr>
<td>-2/2</td>
<td>0.85%***</td>
</tr>
<tr>
<td>-3/+3</td>
<td>0.68%***</td>
</tr>
<tr>
<td>-5/+5</td>
<td>0.41%**</td>
</tr>
<tr>
<td>-7/+7</td>
<td>0.22%</td>
</tr>
<tr>
<td>-10/+10</td>
<td>0.12%</td>
</tr>
</tbody>
</table>

*Significant at 10% of level, **significant at 5% of level, ***significant at 1% of level

Summary and Conclusion

The results for the complete sample of 51 demergers show that demerger announcements have a positive effect on shareholder wealth and as discussed by Rappaport (1986), and such announcement increases shareholder value. It is clear from the above results that over a period of two days Day 0 and Day 1 small, private and public demergers give significant abnormal returns; large demergers too give abnormal returns over the benchmark however they are not statistically significant.

This outperformance continues for up to 7 days event window i.e. 3 days pre-announcement to 3 days post announcement, however, the out-performance over indices gradually diminishes. Over the 10 days observation period, the CAAR is 2.6%. This suggests that demerger announcements, on average, precede a period of abnormally positive returns. Furthermore, there is a clustering of significantly positive AARs around the announcement day. The random
movements of the AARs after day +1 provide evidence that the market is efficient in a semi- strong sense with respect to this particular event.

This study highlights very interesting phenomena, which is widely researched in developed economies of Europe and US. Indian contextual research is inadequate. It is suggested that further research in demerger announcements and execution may be carried out. It would also be quite interesting to know whether these results stand valid over demergers of many more years and maybe with different methodology.

References


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Abstract
The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 has brought about a paradigm shift in land acquisition process in India. Acquisition of land in a developing economy like India is essential for infrastructure development, urbanization and industrialization which have a multiplier effect on economic development. Development projects though important in the long run, create significant changes in the daily lives of local population. Land acquisition for such projects displaces many and causes loss of livelihoods in the short run, which also creates resistance. The imperfect nature of land market also creates additional bottlenecks for efficient land transfer. The RFCTLARR Act 2013 proposes for Social Impact Assessment (SIA) study to map and estimate costs and benefits to the people affected through the acquisition. While discussing the specific issues in land acquisition and identifying challenges in carrying out SIA study in Bihar, the present paper proposes conducting SIA in a comprehensive and participatory way to assess the impact, make people aware and minimize resistance. The article argues for integration of Rehabilitation and Resettlement plan with National Skill Development Mission to capacitate the affected people for new sets of livelihood options.

Keywords: Land Acquisition, RFCTLARR Act 2013, Social Impact Assessment

Introduction
In 21st century land has emerged as a critical resource with respect to managing economic development, rapid urban expansion and industrialization; ensure food security as well as addressing the issue of sustainable development and climate change. Apart from economic considerations, people attach significant social and cultural values to it. Further, accessibility to land is not only economically important to the people; it also leads to a host of other benefits (Singh, 2014). The post-liberalization era has ushered new challenges to states with respect to infrastructure development as well as attracting investments for industrialization. Be it
industrial development or infrastructural development, land, in all cases appears to be a critical issue.

For a developing state like Bihar, the problem has multiple impacts on implementation of development projects and attracting industrial investment. The unique characteristics of land, which is physically limited, immovable and cannot be produced and reproduced, has made pricing of land a critical exercise, especially in an imperfect land market like India. On the other hand, any development project brings with itself promise of prosperity, employment opportunities and better connectivity which have multiplier effects on economic development of the region. But alongside these positives, the displacement of vulnerable groups, loss of livelihoods for a certain section of society and disruption in daily socio-cultural activities also take place. Most of these negative consequences emerge from land being acquired from local population to set up plants, construct roads and bridges etc.

Post The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013, there has been a change in paradigm of land acquisition especially in the context of compensation, rehabilitation and resettlement issues. Social Impact Assessment of projects has become critically important and determining factor for land acquisition. Following Samanta (2015), the present paper tries to assess the land market challenges, in the context of Bihar, which have appeared as constraint for efficient land transaction and as bottlenecks for development projects and industrial investments. The RFCTLARR Act has created avenues to minimize conflicts related to land acquisition through the provision of Social Impact Assessment (SIA) study of each project before acquisition for public purpose. The SIA study can question the justification provided for public purpose, suggest alternative mechanism and can even recommend dropping the whole acquisition process. Given the importance of SIA study for land acquisition, the present paper attempts to explore the conceptual background, issues and challenges involved in conducting such a study in India in adherence to the RFCTLARR Act, 2013.

**Land Market Challenges**

Land markets are mechanisms that, provided there are appropriate institutional checks and balances, allocate ownership and use rights in a manner that allows land and its associated assets to be used in the most economical way. Given secure land rights, land markets can increase the incentive for people to invest and for financial institutions to lend, since land can be used as collateral as well as being the basis for production. An efficient and effective land market can improve the performance of a nation’s economy and increase prosperity (Robert, Dale, & McLaren, 2007). Unlike other factors of production, labour and capital; land has several distinguishable features. It is also argued that the demand for land is function of economic growth and industrialization and urbanization in India cannot became broad based unless they are equipped with satisfactory solution for allocating land use that maximizes aggregate welfare (Bhattacharjee, Sinha, & Dutta, 2014). The market of land is argued to suffer from the problems of market failure which makes it difficult or impossible to price the land (Cheshire & Vermeulen). Economic theory suggests that a well-functioning land market is critical to achieve an efficient allocation of resources and support financial systems. They are expected to be of
particular importance in situations where: (i) differences in endowments of different agents are large, for example, high levels of landlessness coexist with large land concentration so that where land rental can help to redistribute land towards poorer sections of the population; (ii) the broader economy is undergoing rapid structural change and renting out land can allow landowners to participate in the non-farm economy without closing off the possibility of returning to rural areas; and (iii) credit market imperfections and other restrictions rooted in custom or policy impose limits on economic agents' ability to adjust through land sales markets (The World Bank, 2007).

The land market can be divided into two broad parts, namely (i) Land lease market, (ii) Land sales market.

**Land Lease market**

An effective land lease market is essential for economic activities. However, in India the participation in land lease market is found to be declining since 1970. In Bihar, households that reported leasing in land have declined from 40% to less than 10%. Stringent laws related to leasing of land and transfer of ownership is argued to be the reason behind this fall (The World Bank, 2007). In Bihar, most of the cases of land leases are oral lease and the land owner keep rotating the cultivator every year which make the sharecropper establish their right over land and make them vulnerable to accessing institutional of formal credit.

**Land Sales Market**

Unlike land lease market, where the land is mainly used for agricultural purposes, efficient land sales market is required to boost off-farm activities including infrastructure and industrial development.

**Constraints associated with effective land sales market**

*Lack of proper ownership record*: The record of the rights is prepared through proper survey and ‘bujharat operation’ which do field survey by visiting plots and do systematic verification of relevant facts connected with the preparation of records of rights and possession. The existing record of rights, In Bihar, are old as those were prepared during the district-wise Cadastral Survey, which was conducted during 1885 to 1922. Though, the state government took up revisional survey in 1960s, but it could not be completed for the whole state. In this regard, Special Survey and Settlement Act, 2011 was passed to conduct a quick survey with modern technology support. However, the progress of special survey also is not satisfactory. Due to all these gaps, the existing land records are not updated and have become obsolete.

*High Registration Charges*: The cost of registration is higher in Bihar compared to other states. Against the Government of India’s stipulation of maximum 5 per cent of the stamp duty, registration office charges 6 per cent of stamp duty. Additional 2 per cent is charged in urban areas as ULB’s fees.

*Inflated Valuation*: Due to fallacy in methodology of preparing Minimum Value Register (MVR) the land price get inflated every year.
The improper valuations of land and gap in information have made the land market especially in Bihar an imperfect one. These make the price of land high, for which it loses competitive characteristics.

This imperfect nature of land market has made it essential for Government intervention in the transaction to ensure right compensation and social justice. The Land Acquisition Act, 1894, has been replaced by the RFCTLARR Act, 2013. It is a response to protest by landowners over acquisition of land in different parts of the country. One of the most important features of the present Act is consideration of unrecorded interests of the persons whose livelihoods are affected in the acquired area, their interests shall be taken care of along with the recorded land holders. However, to map the loss of affected persons, irrespective of status of recorded rights, SIA has become mandatory for almost all cases of land acquisition under the aegis of RFCTLARR Act, 2013.

**Social impact assessment for Land Acquisition: The Legal Framework**

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 came into force since 1 January, 2014 to ensure, in consultation with institutions of local self-government and *Gram Sabhas* established under the Constitution, a humane, participative, informed and transparent process for land acquisition for industrialization, development of essential infrastructural facilities and urbanization with the least disturbance to the owners of the land and other affected families and provide just and fair compensation to the affected families whose land has been acquired or proposed to be acquired or are affected by such acquisition and make adequate provisions for such affected persons for their rehabilitation and resettlement and for ensuring that the cumulative outcome of compulsory acquisition should be that affected persons become partners in development leading to an improvement in their post-acquisition social and economic status and for matters connected therewith or incidental thereto.

As per the Section 4 of the said Act, it has become mandatory to conduct SIA before acquisition of land. As per the Act, the Social Impact Assessment study shall include all the following, namely

- a. Assessment as to whether the proposed acquisition serves public purpose
- b. Estimation of affected families and the number of families among them likely to be displaced
- c. Extent of lands, public and private, houses, settlements and other common properties likely to be affected by the proposed acquisition
- d. Whether the extent of land proposed for acquisition is the absolute bare minimum extent needed for the project
- e. Whether land acquisition at an alternate place has been considered and found not feasible
- f. Study of social impacts of the project, and the nature and cost of addressing them and the impact of these costs on the overall costs of the project vis-a-vis benefits of the project
Provided that Environmental Impact Assessment study, if any, shall be carried out simultaneously and shall not be contingent upon the completion of the Social Impact Assessment study.

The SIA should take into consideration the impact that the project is likely to have on various components such as livelihood of affected families, public and community properties, assets and infrastructure particularly roads, public transport drainage, sanitation, sources of drinking water, sources of water for cattle, community ponds, grazing land, plantations, public utilities such as post offices, fair price shops, food storage godowns, electricity supply, health care facilities, schools and educational or training facilities, anganwadis, children parks, places of worship, land for traditional tribal institutions and burial and cremation grounds. The said Act also proposes a Social Impact Management Plan, listing the ameliorative measures required to be undertaken for addressing the impact for a specific component referred above.

The Government shall take adequate measures to conduct ‘public hearing’ before SIA to include opinion of all stakeholders and shall ensure wide dissemination and publication of SIA report especially in the affected area. The process is definitely a time consuming affair and there are counter arguments regarding the dropping of provision of SIA in the recent ordinance to save time and expedite the project implementation (Sathe, 2015). Alternatively it is also argued that the SIA process involves local community in information sharing and decision making which includes affected parties in deciding on the indicators and measures of social effects, evaluating their relative importance and monitoring the effects during implementation. However, lack of these exercises may lead to acrimonious confrontation between developers and indigenous populations (Burdge, 2012). Keeping in mind the importance of land for economic development through infrastructure enhancement, urbanization or industrialization, the legal provision of SIA for land acquisition in the said Act is to minimize resistance through more participative approach. The SIA is also a novel effort to minimize the crisis of development-induced displacement through involvement of local people in decision making and has provision for preparation of rehabilitation and resettlement plan.

Social Impact Assessment: The Conceptual Framework

Social Impact Assessment (SIA) is analyzing, monitoring and managing the social consequences of development. The goal of impact assessment is to bring about a more ecologically, socio-culturally and economically sustainable and equitable environment. Impact assessment, therefore, promotes community development and empowerment, builds capacity and develops social capital (Vanclay, 2003). Moreover, SIA not just identifies and analyzes negative and harmful outcomes, but also focuses on maximizing the positive outcomes.

The purview of social impact extends beyond livelihood and financial security. It encompasses people’s way of life – the way they live, work, play and interact with community; their cultural and religious beliefs; their interaction with political systems; their health and wellbeing; their interactions with environment; their personal and property rights; their fears and aspirations (Vanclay, 2003). Projects that cause involuntary resettlement, impact the daily lives of local communities as in the case of large scale dams and power projects as well as road and bridge
projects. Most adversely impacted groups are the vulnerable sections like landless labourers, daily wage earners, socially backward communities like Mahadalits, elderly persons and the ultra-poor (Mathur, 2011).

Core Values of Social Impact Assessment
The SIA Community proposes some Core Values of SIA through International Principles for Social Impact Assessment (Vanclay, 2003), which are as follows:

- There are fundamental human rights that are shared equally across cultures, and by males and females alike
- There is a right to have those fundamental human rights protected by the rule of law, with justice applied equally and fairly to all, and available to all
- People have a right to live and work in an environment which is conducive to good health and to a good quality of life and which enables the development of human and social potential
- Social dimensions of the environment – specifically but not exclusively peace, the quality of social relationships, freedom from fear, and belongingness – are important aspects of people’s health and quality of life
- People have a right to be involved in the decision making about the planned interventions that will affect their lives
- Local knowledge and experience are valuable and can be used to enhance planned interventions

SIA seeks to assess, in advance, the social repercussions that are likely to follow from projects undertaken to promote development, such as dams, mines, industries, highways, ports, airports, urban development and power projects. Identifying potential impacts is an important part of the planning process (Mathur, 2011). SIA is a key component to successful policy development and project implementation. SIA process uses local knowledge in the decision process hence is more robust and reliable. The Public Involvement (PI) component of SIA makes it possible to enrich the knowledge based on local realities, which in turn helps in decision making.

SIA in the era of RFCTLARR Act 2013: Process, challenges and way forward
Land acquisition and Environmental issues are one of the largest sources of delay in most infrastructure projects in India. A number of Airport, SEZ, IT Park, Chemical plant and other projects are stalled in the country due to issues in land acquisition. In most such cases, the local community and land owners lead the protest due to unfair compensation and large scale displacement without any alternative for rehabilitation and resettlement. The RFCTLARR Act 2013 has mandated that an SIA be carried out whenever either a new project or expansion of an existing project is undertaken. The Act clearly states that the SIA should be done by not just consulting Gram Sabha or representatives from the affected area but by reaching a consensus or getting the consent by majority of Gram Sabha members. For Public Private Partnership (PPP) projects, the level of consent of land owners required is 70% while it is 80% in the case of Private projects. At least 50% of the total members of Gram Sabha and one third of the total women members of Gram Sabha must be present in consent meetings.
The various aspects that can be studied in an SIA study for projects involving land acquisition, comprise, but not limited to:

- Attitude of local community towards the proposed project
- Unavoidable adverse effects like disruption in living and movement patterns, alteration in family structures, disruption of social networks, changes in public safety & health and changes in leisure activities
- Impact on Land, Livelihood and Income
- Anticipated changes in living costs, occupational choices and wage / income patterns
- Impact on physical resources – natural resources and common property resources
- Impact on private assets, public services and utilities – health, education, housing, electricity, water supply, roads, sanitation, waste management
- Impact on health-migration, vulnerable sections
- Effects on known cultural, historical, sacred and archaeological resources
- Impact on culture and social cohesion

In order to examine the above aspects, in-depth research needs to be done on the following variables in the affected area:

- Demographic profile – age, sex, caste, religion, literacy, health and nutritional status
- Poverty levels – Income, Expenditure, MPI
- Identification of vulnerable groups - Elderly, Women headed households, Differently abled persons
- Kinship pattern and women’s role in family
- Social and cultural organisation
- Administrative organisation
- Political organisation
- Civil society organisations and movements
- Land-use and livelihood
- Local economic activities
- Factors that contribute to local livelihood
- Quality of Living Environment: Perceptions, Safety Issues

Also, the following information needs to be collected in order to estimate the magnitude of the impact by land acquisition:

- Current nature / classification of land units
- Size of holdings, ownership patterns, land distribution, number of residential houses, and public and private infrastructure and assets
- Number of families and persons directly or indirectly affected by land acquisition through:
  - Loss of Residential facility
  - Loss of Livelihood
  - Loss of Agricultural opportunity

There are a number of challenges in conducting an SIA study. One of them is the involvement of multiple stakeholders, sometimes having conflicting interests. As land is a limited and mostly inherited resource, people attach a lot of economic and emotional significance to it. In the
situation of their land being acquired, many people fail to see the future benefits of the industrial projects and oppose the land acquisition process. Many a times, there is also an uncertainty about receiving proper compensation for the land being acquired, which leads to confusion and protests. Unavailability of updated land records is another major hurdle in conducting an SIA study. Most of the written records are decades old and have become obsolete in present times. Deciding title holder for the land in these cases appears to be a major hurdle and invites disputes. Another hurdle is to cater to the sharecroppers dependent upon the land to be acquired. They are mostly oral share croppers which makes it difficult to identify them properly and establish their rights for compensation.

The landless agricultural labourers working on the land or as petty businessmen, artisans etc. are another set of people whose livelihood would be at stake due to the acquisition. These people need to be identified carefully to protect their rights. As the new Act has created provision for compensation for all the people affected directly or indirectly, identification of these sets of people under SIA study and estimates of their loss from the acquisition as well as expected gain from the acquisition are two of the most challenging areas. In such a scenario, multiple focus group discussion with all the affected people, ensuring their participation and accounting for their concern along with a census survey approach to map vulnerability, loss and gain from the project are suggested in order to document the concerns of the people, accommodate them in decision making process, as well as identify legitimate claimants dependent on the land to be acquired. This process requires extensive awareness of the people through sharing information, which might reduce resistance in the acquisition process.

**Rehabilitation and Resettlement Plan**

A major component of any SIA study is the development of a Rehabilitation and Resettlement (R&R) Plan. In case of resettlement of affected families in alternative villages, basic public amenities must be developed in those areas. These may include roads, drainage, sources of safe drinking water, drinking water for cattle, land for grazing, fair price shops, Panchayat buildings, post office, burial or cremation ground, Anganwadi, community centres, primary health centres, primary schools, playground etc. The R&R package specified in the Act offers choice of employment and monetary compensation. But generating large scale employment for displaced families can prove to be a great challenge.

Most of the industrial projects like Software parks etc. generate high skilled jobs which vulnerable sections of the society cannot fit into. At the maximum, they can get absorbed into jobs like housekeeping, security and other support functions in limited numbers in the industrial parks (Sathe, 2015). As far as generating alternative livelihoods are concerned, the rehabilitation plan can attempt to get the affected families connected to the National Skill Development Mission, a Govt. of India initiative that plans to get millions of Indian youth skilled over the next few years. This would help solve the problem of unemployment and loss of livelihoods among the resettled families. Some new initiatives like setting up small scale industries and starting farm based agricultural activities in the resettlement area can be started to generate meaningful employment for displaced families.
Conclusion
Land, unlike some other natural resources, is ever dwindling, and is extremely critical for economic and infrastructure development especially in developing economies. The imperfect nature of the land market has made the situation more complex in the context of transaction of land. Though development projects bring prosperity, they also bring negative changes in the pattern of livelihoods and socio-cultural activities of the local community and the weaker sections get affected the most. Development-induced displacement also looms large as a crisis in the 21st century. All these may create resistance in acquisition and stall project implementation. The Social Impact Assessment as proposed in the RFCTLARR Act, 2013 is an attempt to address these bottlenecks in a participative way. Conducting SIA of land acquisition is a challenge as it involves multiple stakeholders with sometimes conflicting interests. However, conducting SIA in a comprehensive way by taking into account all affected individuals dependent on the land to be acquired can minimize the resistance and make the situation a win-win one. For this, making people aware about the positive and negative effects of land acquisition and involving them in decision making by following proper steps of SIA is critical. For the rehabilitation and resettlement plan the paper argues for integrating the plan with National Skill Development Mission to capacitate the affected people for new sets of livelihood options.

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State Level Fiscal Reforms in India: Issues and Remedies

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Abstract
The Indian economy has undergone a paradigm shift and moved towards market-oriented reforms through deregulation, liberalization and openness of the economy leading to a higher rate of economic growth. However, the sub-national fiscal reforms did not respond to the reform program with similar effort and enthusiasm. The present paper critically examines Indian states have approached the process of fiscal management reform. The main purpose of the paper is to study the major issues governing state level fiscal reforms in India. This paper aims both to share the major state-level fiscal reforms in India to date, and to suggest what more can be done to speed up the reforms.

Keywords: Fiscal Reforms, States, Public Expenditure Management, Public Private Partnership

Introduction
India has experienced rapid economic growth over the past two decades, averaging about 6% per year. Sustaining and accelerating this progress, as per the country’s development targets, will require an improvement in government effectiveness, not only at the central but also at the state level, given the extensive responsibilities of India’s state governments for infrastructure and human development. But fiscal deterioration, especially acute in the late nineties, has weakened the development effectiveness of state governments in India by squeezing productive spending and reducing its quality, especially in the poorer states. As is well known, the fiscal situation of Centre & States has deteriorated continuously in 1990s, especially after 1997. The state governments of India have embarked on two pronged fiscal reforms i.e. (i) reducing deficits and (ii) better spending on priority areas, during last one decade. Before that, fiscal management was an alien term. In the light of the above discussion, the remainder of the paper is organized as follows. It presents the objectives and databases used in the study, followed by a discussion on the methodology used. Subsequently, it discusses the important components of public expenditure in India. Then, it discusses reforms finally, the conclusion is offered with implications.
The role of state governments is much diversified. The Indian constitution entrusted the states with functions both expensive and expansive such as agriculture, irrigation, roads and buildings, rural development, education, medical and public health and law and order along with revenue powers mostly inelastic in nature. Since the advent of five year plans these expenditure commitments have been increasing considerably. Public expenditure plays a very important role in economic development. Public expenditure is the expenditure incurred by the public authorities that is Central government, state governments and local bodies for the satisfaction of collective needs of the citizens for the promotion of economic and social welfare. The share of developmental expenditure of state governments is increasing at a faster pace than the Central government expenditure. This amply demonstrates the crucial role played by the states expenditure in the Indian Union. The growth of expenditure of the states was to fulfill the two objectives of economic growth and economic welfare. To attain these two objectives not only public investment but also private investment is also needed. Given the current tempo while a number of states will fulfill the target, others in all likelihood may fail to fulfill the target. So also the strategy of states appears to be ill-conceived. The revenue effort of the states cannot be said to be very impressive.

Finances in most States remained under stress during 2008-09 and 2009-10. In 2008-09, revenue account was impacted across 19 States largely due to the upward revision of salaries in a few States and the impact of a slowdown on own tax and non-tax collections. Poor Central tax collections also led to lower tax devolutions as a ratio of GSDP across 26 States, albeit partly compensated through higher grants from the Centre. Deterioration in revenue account was evident in higher GFD-GSDP ratios across the majority of States in 2008-09. Nonetheless, with the fiscal headroom generated in previous years, 21 States could continue to achieve revenue surplus in 2008-09. In 2009-10, many States were still in the process of implementing the revised pay structures which, along with the expansionary fiscal stimulus measures undertaken by many States, resulted in a more pronounced deterioration in the revenue account. The re-emergence of a revenue deficit after three years and higher capital outlay led to a higher GFD-GSDP ratio across States in 2009-10.

Objectives and Methodology
In view of the above theoretical background the objective of the present study is to examine the background and to identify the major issues at state level fiscal reforms in India. Our study on the topic “Issues of State level fiscal reforms in India” is based exclusively on secondary data taken from various issues on “State finances” by Reserve Bank of India (R.B.I.), Public Finance Statistics, Government of India, Economic Survey, and Centre for Monitoring Indian Economy (CMIE). The trends in deficits of the all-states are also analyzed.

Review of Literature
There are many studies on state level fiscal reforms in India and related topics. This section deals with the review of such studies. A recent study was done by (De, 2012) which studies the trajectory of India’s fiscal policy with a focus on historical fiscal discipline frameworks, fiscal responses to the global financial crisis and subsequent return to a fiscal consolidation path.
(Rao, 1981) makes a modest attempt to study and to identify the determinant of tax revenue and non-plan revenue expenditure of the states towards making their medium term projections. The researcher has chosen the states of Karnataka, Kerela, Orissa and West-Bengal for the purpose in studying the time series determinant. In this study, both the political and economics determinants have been considered. The effects of various economic and political factors on the fiscal decisions of the four states are also quantified.

While discussing the determinants of non-plan revenue expenditure the study summaries that in all the four states except Orissa, the growth expenditure on various services is of providing them. Only in Orissa the growth in non-plan revenue expenditure is due to increased quantity of public services. The results of the study confirm ‘Down’s Hypothesis’ that fiscal decisions are essentially guided by the desire to maximize the length of their tenure by the parties in power and are not influenced by their ideological doctrines. (Howes, Lahiri and Nicholas, 2000) in their article discusses about the states level reforms in India. They also enumerate the causes that lead to the spread of state level reforms in India. According to them India cannot succeed with reformed and revived state governments. (Kurian, 1999) in his paper attempts to bring out the deteriorating trend in state finances in recent years. “Failure to contain wasteful expenditure and reluctance to raise additional resources” on the part of the states are the main problems afflicting most of the state finances.

Tax wars among the states government to attract private investment in the wake of economic reforms as well as competitive populism and the pay revision of employees led to starvation of funds of states. Unless drastic measures are resorted to without delay finances of states will collapse. (Chelliah and K. Rao, 2002) in their paper discusses about the rational ways of increasing the tax revenue of Central and state governments in India. According to them no serious effort has been made to modernize tax administration. The administration of all the states is manual based. A reform and modernization of the administration of the major taxes through computerization and strong deterrent action against tax evaders and corrupt taxmen are two important steps to be taken to increase revenues. (Kurian, 2003) in his work pointed to some expend success has been achieved at the Centre but there has been steep deterioration in the finances of the states. Any decline in the Union government and the associated fall in devolution to the states will have further deletions effect on regional imbalances of the country. (Mukesh, Bagchi, Sen, K, 2002) in their article have discussed about the causes of fiscal indiscipline at the state level. Weaknesses of the system of inter-governmental fiscal relations have been cited as prime caused leading to fiscal indiscipline among states, which call for corrective measures.

In a similar line (Bagchi, 2002) have observed even after a decade of correction the consolidated fiscal deficit (FD) of the government (Centre plus states) stood at about the same level at the close of decade as it is in the beginning10% of GDP. The crises in state finances have their origin in some deep-seated weakness of the fiscal system that call for structural reform. The weakness is in revenue system, budgeting system and system of inter government financial relations. If fiscal deficit is to bring down the weakness of the fiscal system noted above need to
address frontally. The study conducted by (Bhargava, 2002) discussed about the state level fiscal reforms. The state should play complementary and supplementary role and performance to the efforts of the Centre to play and improve the fiscal situation. It is high time that agriculture income tax should be included in the constitution to raise the revenue of the states. (Chelliah, Raja, Rao, 2002) in their paper discusses about the rational ways of increasing the tax revenue of Central and state governments in India.

According to them no serious effort has been made to modernize tax administration. The administration of all the states is manual based. A reform and modernization of the administration of the major taxes through computerization and strong deterrent action against tax evaders and corrupt taxmen are two important steps to be taken to increase revenues. Analysis shows that on a comparable basis fiscal deficit reduction has been marginal. On the contrary, other fiscal indicators have shown significant deterioration. Thus the claims about fiscal adjustment are illusory. Fiscal consolidation in India perhaps requires another crisis. (Rao, 2011) in his work attempts to analyze the experience of incentivizing economic reforms at the state level through central transfers to states. It reviews the experiences of the central government introducing incentives for reform directly through various specific purpose transfers as well as the incentive schemes recommended by various Finance Commissions.

Datta (2009) says public-private partnership model has emerged as the favored model of project execution in India, especially in infrastructure, health and education. Tomar, (2013) observes that fiscal reforms have initiated a right kind of approach to maintain fiscal discipline in the Indian economy and the Indian economy has met it successfully at the national level however there has been some problems at the state level. Fiscal reforms have brought a new vision and mission for the government both central and state towards competitiveness and efficient mode for managing the economy. Kaur, Gursimran, 2014 made a modest attempt in this paper to redesign the fiscal reform process relating to revenue mobilization, expenditure restructuring and debt reforms in future.

The Thirteenth Finance Commission has been constituted against the backdrop of strong fiscal correction and consolidation by most of the state governments. The vertical and horizontal imbalance among the different sub national governments may lead to uneven development of the economy, unless corrected by an efficient system of inter-governmental transfers in the process of fiscal transfers, the Thirteenth FC may opt to include the efforts to increase non-tax revenue as a criterion for horizontal devolution and may consider giving due weight to the need to enhance social sector expenditure as a criterion for horizontal sharing. (Kumudini, Rakhe, Gajbhiye, 2008). Mohanty (2014) says effective management of the state finances in India is crucial in triggering higher inclusive growth. Analysis of the past data shows that there has been substantial improvement in the management state finance of Odisha in terms of significant decline in key deficit indicators in state finance, effective liquidity management and prudent debt management.
Major Issues of State-level Fiscal Reforms
The major issues relating to the finances of the States in the current context are presented in the next section. In the issues of fiscal reforms following are the important items:

Revenue Augmentation: One of the major issues of state-level fiscal reforms is revenue augmentation. For better resource mobilization focus should be on efficient utilization of existing resources through simplification and rationalization of tax structure, better enforcement, tax compliance and review of users charges particularly power, water transport etc. by factoring into the variability of input costs.

The major source of states revenue is sales tax. Introduction of Value Added Tax has increased the revenue buoyancy as the coverage expands to value addition at all stages of production and distribution chain. Now another challenge is to implement one of the biggest taxation reforms in India -- the Goods and Service Tax (GST). The date of implementation of GST is to set on August 2012. The implementation of GST will lead to the abolition of other taxes such as octroi, Central Sales Tax, State-level sales tax, entry tax, stamp duty, telecom license fees, turnover tax, tax on consumption or sale of electricity, taxes on transportation of goods and services, etc., thus avoiding multiple layers of taxation that currently exist in India.

GST is likely to improve tax collections and boost India’s economic development by breaking tax barriers between States and integrating India through a uniform tax rate. Both Centre and state will benefit from it. It is estimated that India will gain $15 billion a year by implementing the Goods and Services Tax as it would promote exports, raise employment and boost growth. It will divide the tax burden equitably between manufacturing and services.

Expenditure Management: Beside revenue raising measures another important issue of the reform is expenditure austerity, efficient spending and proper expenditure management which are of great importance to improve the quality of expenditure. On the expenditure side of states there are two types of expenditure developmental and non-developmental expenditure of states which are cause of worry. The non-developmental expenditure is growing at a faster pace than the growth in developmental expenditure. There are two main areas where non developmental expenditure has increased quite sharply, interest payment and pensions. These two expenditures are eating about one fifth of the state’s revenue receipts. On both of these items states have little control. The rising proportion had made the fiscal management of states difficult.

For assessment of the quality of expenditure restructuring, certain performance indicators have to be identified. Several states have proposed to conserve resources by compressing non-plan expenditure. Along with the economy measures such as freeze on non-essential recruitment, reviewing manpower requirements and to cut in establishment expenses are also done. Efforts are underway to review the organizational structure of major departments to active rationalization, efficiency and economy. Some states aim to undertake a comprehensive rationalization of posts and introduce appropriate voluntary retirement scheme (VRS) in the
coming years. Zero-based budgeting may be adopted in order to contain expenditure. The state government of Maharashtra and Madhya Pradesh is conscious of the impact of impending wage revisions on state finances.

The state government of Maharashtra and Madhya Pradesh has decided that in future all teachers in primary and secondary schools will be recruited by the panchayats and not by the state governments. The salary of the teachers will also be paid by the panchayats and their wages will be lower than the state governments. Management of medical colleges and district hospitals in the states will be managed by registered societies. The composition of government expenditure should be restructured in favour of priority areas like education, primary health care, water supply, sanitation and infrastructure like roads and bridges, expenditure on salaries, pensions, interest payments and subsidies should be restrictedly controlled and monitored. Since the recommendations of the sixth Central pay commission have a bearing on the states in terms of reference of salary and allowances should bear relationship with the revenue expenditure of the states, the adoption of such recommendations should be evaluated independently by an expert committee. Development expenditure on social and economic services, particularly education, medical and public health, family welfare, irrigation, roads and bridges and rural development were priority areas for expenditure allocation during 2011-12, although the growth in expenditure in some of these sectors is budgeted to be lower.

**State level Public Sector Enterprises Reforms:** Even among public enterprises that are making profits, many are inefficiently run and are overstaffed. Some are subject to political interference in India, the financial health and management of public sector undertakings has been a cause of concern in the last few years.

Many states have proposed to restructure their public sector undertakings in order to make them profitable and competitive entities. To address this issue, Karnataka has come out with a policy paper on restructuring of public sector undertakings, while Maharashtra introduced a bill for setting up a Board for restructuring of the public sector undertakings. In order to restore the financial viability of electricity Boards some states have signed Memorandum of Understanding with the Central Government for reforming power sector. Several States have set up SERC (State Electricity Regulatory Commissions) in order to determine electricity tariff in rational manner.

**Power Sector Reforms**
A growing area of concern for the States is the significant increase in financial losses of the State power distribution utilities which carry both a direct as well as an indirect burden on the finances of State governments. Besides budgetary support to the SPUs through subsidies, grants and loans, the States also extend guarantees for loans taken by the power utilities from financial institutions. SPUs are making huge cash losses due to non-revision of tariffs over extended period of time on the one hand, and non-realization of subsidies from the State government, on the other. The deterioration in financial performance of SPUs is expected to have significant implications for the finances of States.
The power sector reforms have assumed critical importance in recent years. The measures taken by the states in this regard related to the constitution of State Electricity Regulatory Commissions (SERCs) for determining tariff structure, unbundling of electricity boards into separate entities for power generation, transmission and distribution, increasing power tariffs, measures for reducing transmission and distribution losses, etc. State Electricity Regulatory Commission (SERC) has been constituted or notified in 21 States. Of these, SERCs of 15 States have issued tariff orders. The States of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Uttar Pradesh have enacted their State Electricity Reforms Acts which provide, inter-alia, for unbundling/corporatization of SEBs, setting up of SERCs, etc. The SEBs of Andhra Pradesh, Delhi, Haryana, Karnataka, Orissa, Rajasthan and Uttar Pradesh have been unbundled/ corporatized. Twenty-one States have signed Memorandum of Understanding with the Ministry of Power, Government of India to undertake reforms in a time bound manner.

Deficits
State should undertake reforms to reduce the deficits levels that would reduce the fiscal burden and improve allocative efficiency. It would also improve regulation and efficiency in delivery of public services and to reduce the role of government in non-essential areas through privatization, disinvestments and decentralization. The main cause of these rising deficits is the growing revenue expenditure particularly, wages and salaries, pensions, burden, of interest payments, losses of public sector enterprises particularly power utilities declining Central transfers as a proportion of GDP and inappropriate user charges have contributed in large measure to this deterioration. The slower growth in revenue in relation to expenditure and ambitious plan outlays of states compounded the problem. Further more and more states resorted to off budget borrowings constrained by limitations on raising public debt through the budgetary process. In order to achieve this objective, the reforms structure should aim at achieving fiscal sustainability by restructuring expenditure, to make it more productive and at strengthening the revenue raising machinery to maximize the yield from the existing revenue sources.

The Fiscal Responsibility and Budget Management Bill Act 2003 (as amended) which became effective from July 5, 2004 mandates that the Central Government to eliminate revenue deficit by March, 2009 and to reduce fiscal deficit to on amount equivalent to 3 percent of GDP by March 2008. The rules also prescribe the format for the medium term fiscal policy statement, the fiscal policy strategy statement and the macroeconomic power work, which are required to be presented to parliament along with annual financial statement. Thus the Fiscal Responsibility and Budget Management Bill of Center in turn will also affect the states. Deterioration of states began much later than that of Centre. The fiscal crisis of some of the states government is more acute and an important constraint in their development. The program revolves around creating a Rs. 10,607 crores of Incentive fund. The corpus of this fund would come from 15 revenue deficit states identified by the Eleventh Finance Commission. These states would contribute 15 percent of their revenue deficit grants to the fund with a matching grant from the Center. The states that implement reforms would be eligible to draw funds from this Incentive fund. Each of
these states would have to improve their revenue deficit as proportion of their receipt by at least 5 percent annually between 2000 and 2005. The states, which do not follow the set timetable for reform would forgo their share of withdrawals from the Incentive fund in that financial year. In case they make up in the following year, they would have to meet the previous as well as current year’s targets to draw from Incentive fund. Further during the first four years, no amount of funds would be transferred to another state. However, if any state were not able to draw the amount indicated on the basis of the performance of the first four years the amount undisbursed would form part of common pool. This would be distributed to performing states in the fifth year on prorates basis.

The state governments collectively account for about half of the aggregate fiscal deficit in India. Table 1 shows the deficit of State Governments of India during the period 1990-1991 to 2009-2010. Table 1 shows the deficits as percentage of GDP. The key indicators of deficits of state governments are gross fiscal deficit, primary deficit and revenue deficits. The gross fiscal deficit of state government was 3.3% of GDP in 1991-92, which increased to high level of 4.7% in 1999-00 and then declined to 1.8% in 2006-07 but then further increased to 3.2% in 2011-12(B.E) it is estimated to fall to 2.2%. As a proportion of GDP, revenue deficit which was 0.9% of GDP in 1991-92 then increased to 2.5 per cent in 1998-99 to 2.7 per cent in 2000-01, declined to (-0.2) per cent in 2011-12 (BE). It may be noted that Primary Deficit of states as percentage of GDP was 1.8% in 1991-92 which increased to 2.4% in 1999-00 and then declined to -0.5% percent in 2007-08. The recent estimate of primary deficit was 0.6% in 2011-12(B.E). (Table 1).

The ThFC has worked out a fiscal consolidation roadmap for the states requiring them to eliminate their revenue deficit and achieve a fiscal deficit of 3 per cent of their respective GSDP, latest by 2014-15.

### Table 1: Key Deficit Indicators of the State Government (As Percentage to GDP at Current Market Prices)

<table>
<thead>
<tr>
<th>Year</th>
<th>GROSS FISCAL DEFICIT</th>
<th>GROSS PRIMARY DEFICIT</th>
<th>REVENUE DEFICIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>3.3</td>
<td>1.8</td>
<td>0.9</td>
</tr>
<tr>
<td>1991-92</td>
<td>2.9</td>
<td>1.2</td>
<td>0.9</td>
</tr>
<tr>
<td>1992-93</td>
<td>2.8</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>1993-94</td>
<td>2.4</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>1994-95</td>
<td>2.7</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>1995-96</td>
<td>2.6</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td>1996-97</td>
<td>2.7</td>
<td>0.9</td>
<td>1.2</td>
</tr>
<tr>
<td>1997-98</td>
<td>2.9</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td>1998-99</td>
<td>4.3</td>
<td>2.2</td>
<td>2.5</td>
</tr>
<tr>
<td>1999-00</td>
<td>4.7</td>
<td>2.4</td>
<td>2.8</td>
</tr>
</tbody>
</table>
### Conclusion and Recommendations

In spite of extensive fiscal reforms undertaken during the nineties, India’s public finances face numerous problems. While the taxation system remains distortionary and fragmented, government expenditures remain inefficient in providing public and merit goods to the desired extent. Vertical imbalance and horizontal disparities characterize the federal fiscal system. The fiscal reform years have witnessed a sharp rise in the fiscal imbalance and deterioration in state finances.

The institutional measures adopted by the State governments such as Fiscal Responsibility and Budget Management (FRBM) Acts, Value Added Tax (VAT), New Pension Schemes (NPS), and setting up of Consolidated Sinking Fund (CSF) and Guarantee Redemption Fund (GRF) have helped states to consolidate their finances in the last decade. The tax measures taken by the government is insufficient. As for the states non-tax revenue is concerned it showed an increasing trend but was less than the increase in the tax revenue of states. Thus states should devise more and more ways to increase their receipts to meet their expenditure obligations.

Some of the recommendations for improving the finances of states are as follows:

1) Users’ charges should be rationalized to attract funds from the debt market through bonds and debentures. Interest on the consumers should be protected through regulatory bodies as envisaged in the telecommunication and power regulatory authorities. Users’ charges should be index limited to input costs and process of periodic revision should become automatic.

2) There must be careful review of all centrally sponsored schemes and only the schemes in extremely important activities such as primary health and family planning, education, drinking water etc. should be continued. In case of SEBs, the generation of electricity can be privatized. The state governments must continue the activities of transmission and distribution. The decentralization of these functions thorough proper public agencies can help in the more effective and economic transmission and distribution function.
3) There should be complete privatization and the government should get out of the production of all private goods except for strategic sectors. But instead on the question whether there should be wholesale privatization we should agree the financial burden on the government. Following menu of suggested reform in this sector may be (a) Sell or close down loss making public enterprises producing all non-strategic private goods in phased manner or (b) Private shareholding should brought into profit making public enterprises. For bringing private sector equity into public enterprises and reducing the government stake involves disinvestments as well as issue of new equity.

4) Reforms of the transfer system should be accompanied by a widening of the tax powers of the states and review of the system whereby large responsibilities are cast on them without regard for the consequences on their expenditure budget. It would be better to determine the share of the states in aggregate Central taxes rather than as a percentage of two specified taxes. This would require Constitutional amendment and discussed in detail by all the concerned parties government expenditure vigilance committee’ should be set up to monitor public expenditure.

5) Recourse to the PPP mode for project financing is encouraged so that it frees valuable fiscal space for the provision of public goods in areas where such financing may not be forthcoming. PPP projects in sectors that come under the purview of the State governments such as urban amenities, State highways and minor ports have increased in recent years. Some States like Maharashtra, Andhra Pradesh, Karnataka and Gujarat have undertaken far more PPPs than others.

To conclude, it may be noted that there is an urgent need for governance reforms, transparency in the development delivery mechanism and fiscal reforms ensuring that the public funds are utilized according to sound financial practices and not diverted for gaining political mileage through wasteful public functions and populist announcements. Timely and regular audit of public expenditure as well as judicious use of public funds is imperative to ensure transparency and good governance along with improving public access to information, fixing responsibility to strengthen accountability. Key to taking the reforms further in India is reforms at the state level. That undoubtedly will require considerable brainstorming as it not only involves considerable political management but also change management. The first phase of reforms, which started in 1991, essentially concentrated on reforms at the Central government level. The second round though still incomplete looks at infrastructure, financial and labour reform and to the level of the States and district local bodies. At the same time, the need for the hour is to ideate on the third generation of reforms in India.

References


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