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Cracking the Code: Unravelling the Dynamics of Indian Real Estate through Fundamental and Technical Lens

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ABSTRACT

The great Maslow's theory has shown an undeniable importance of necessities for individuals to survive, one of them being shelter. Knowing this to be a basic requirement for human survival, it has also positioned itself as a way of revenue generation, profit maximizations for capitalists, and a major contributor to the growth of an ever-evolving economy. Search is how the Indian real estate has positioned itself on the face of the Indian economy and as a thriving example for the global economy. With a projected growth of over USD 1trillion by 2030 in market size, the massive Indian real estate has indeed lacked in research areas in terms of foundational study, as well as study in the prospects of risks and returns. But this also provided a scope for research to be carried on and to expand its roots into understanding the real estate industrial over years of establishment. This research study tries to answer the areas of gap in terms of a fundamental study and in terms of an analysis over the risk and returns. Considering an overall span of a decade's data from 2014 until present, and the presence of five pioneer companies of this industry, the study indeed covers major aspects, from a macro-economic standpoint all the way to a technical aspect of understanding the trajectories of the companies which steers the industry. In the end, the conclusion states an ever-evolving growth of the industry and paves a way, for an upward trajectory of the industry in future.

Keywords: Fundamental Analysis, Technical Analysis, BETA, CAPM, Risk, Return, Economic, Sector, Real Estate

INTRODUCTION

An overview of the Indian Real Estate Industry

The profound Maslow's hierarchy which structured the needs and demands of human race, has placed shelter at the ground root most level, under the head, Physiological Level. Indeed, having a basic shelter for an individual or a group of individuals does find itself as one of the prime necessities. This necessity has provided a gateway for private capitalists as well as socialist to turn this area into a source of income generation and profit maximization. This paved the way for the ever-evolving real estate industry. And along with that, investors also pivot themselves to discover an asset class which in itself consists of diversified sub asset sections which has a tendency to appreciate and reap massive benefits.**(Silverthorne, 2022)**

The mean crux of this industry, that is the real estate is always said to be an evolving asset which not only finds its place in important portfolios of various investors, but also find itself in a high risk profile as well as high return providing sections of investments**.(Joshi V. N, 2015)**Speaking about the real estate industry, India has always been on the face of ever evolving stature wherein which many investors have put in their capital and have massively increased this industry since the 2000s. If compared with the other Asian countries like Malaysia, and Singapore, the Indian real estate has the highest number of investments in terms of commercial as well as residential properties. Even though the cost of living in different countries compared to India is related to their per capita income arising from the GDP, still one common factor that is profoundly seen among Indian investors is, their attachment towards the properties**.(Vanaja & Reethika, 2022)**Comparing the Indian real estate with that of some of the growing economies like Russia and China, it has come to notice that one of the major factors that also affect the industry is the consumer price inflation and it has a far more stabilized reach than the other two countries. **(Kalam, 2018)(Dr. Krishan Kumar Tanwani, 2014)**

Like any other sector which contributes itself towards the growth of the massive Indian GDP, Indian real estate also plays a vital role in the same. The reason being, since shelter is a necessity for individual consumption regardless of it being for residential or commercial purposes, a certain level of expenditure is always seen from both a macro and micro level aspect. One of the the famous economic principles being to Keynesian Theory, States that on an average an individual invest more than savings. Based on the psychological Law of Consumption given by Keynes, the valuation of the multiplier that is MPC agrees to the fact that, there is always a good level of investment done by individuals towards real estates. **(Kutlu, 2023)**One of the main factors that boosted the investment in real estate sector is the RERA. Enacted in 2016, the real estate regulation and Development Act was formulated to safeguard home buyers from malpractices of builders, and to boost investments in the industry. Along with that, the act also benefited the society due to its increase in transparency among the private and massive players of the industry. Proper disclosures as well as registrations became a crucial part while setting themselves up in the massive market**.(Vyas, 2021)**

In the end it can be said that, this massive industry not only focuses on its profit maximization and revenue generation for the government and the economy, but also provides jobs to over 40 million people and continues to provide employment opportunities for the youth of the nation. Also, it is realized that post agriculture this industry is the largest employment provider in the country as per the economic survey 2017-18 in parliament**. (Sinha et al., 2020)(Bachelor et al., 1993)(Gupta, 2018)**

Indian Real estate through the phases of Demonetisation and COVID 19

In the year 2016, the policy of demonetization was executed across the entire Indian subcontinent wherein every old currency was replaced by a newly issued currency. This practice was started to curb the issue of black currencyand the malpractices of illegal money laundering and counterfeit currency. From a capital and monetary aspect, such a drastic step would affect those industries which always has huge amount of capital investment. In case of real estates, several clears in the market have seen growth in performance in the post demonetization period, over those who have seen a decline in the same. **(Raja Prasad, 2019)**

One of the most drastic phases faced by the global as well as the Indian economy was the massive impact of covid 19. This widespread pandemic not only affected the lives of various individuals across the globe, but also shook various economies and well-developed sectors as well as businesses. In the Indian scenario, the real estate industry was also majorly hit due to the covid 19 pandemic. The builders and construction aspect of the real estate industry was drastically affected when the lockdown decisions was spread across the entire Indian subcontinent, which made situations worse since the time demonetization took place.**(Bhoj, 2020)**On a performance basis, some companies in the market have stabilised themselves, whereas, some have seen the worse side of the pandemic until things got back to normal**.(Rao & Mamillapaui, 2020)(React , Adapt and Recover – The New Reality Contents, 2020)**But stock market has shown good amount of revival towards the end of 2020 3rd quarter, as companies had started to regain their grasp in the industry.**(Kabra, 2021)**

Financial and Working capital aspect of Indian Real Estate

Whenever there is expenditure done for necessities of society, there is always a talk about the inventorial and the financial aspect of such huge investments. And on top of that, everything industry in concern deals with manufacturing of final products, a consideration of the materials in use, their availability and conversion into final products, and the inside out finances required for it are crucial matters to be considered. Real estate industry in India also runs on the same logic.With regards to the working capital aspect of the industry, there have been instances where there is a major dependency as a section of current assets as inventories. Along with this, the industry runs on an idea, which clearly displaysthat, a good balance of the inventory usage and minimal short term obligations keeps the industry going.**(Bhatia & Barwal, 2015)**

Speaking about the financial aspect of this industry there is a relation between the capital efficiency as well as the financial efficiency that goes hand in hand. Optimum capital structure is always required among the real estate companies to balance out their efficiency with minor fluctuations that come in the areas of profitability**.(Rao, 2018)**When investments are seen in a financial aspect one thing that concerns investors is the return factor in terms of the time valuation. Sometimes after taking into consideration the prevailing inflation and discounting rates, investors therefore try to see that, investment in which section of the real estate within residential and commercial basis would reap the best of the returns. **(Sarkar et al., 2020)(Bhattacharaya & Tiwari, 2023)**

THEORETICAL BACKGROUND OF STUDY (LITERATURE REVIEW)

A theoretical background has been crafted out of the collected research people that align towards the scope and context of the study. These papers have been categorized into three aspects which describes the three different perspectives of the massive Indian real estate industry. They are described as follows :

Study of the Indian Real Estate from the lens of Metropolitan Cities

The Indian real estate has seen major growth at certain specific parts of the country which indeed have become the hubs for investments in real estate. This is because, the population has witnessed a major density of investment to be seen at such metropolitan cities. The major areas of investments include Delhi and NCR regions, Pune, Hyderabad, Bangalore and Maharashtra.

Speaking about property purchases in Bangalore, buyers have quite shown an interest in terms of specific requirements and amenities. And along with these, investors at Bangalore have a taste of modernization as well as physical visit towards their properties. **(Sheikh et al., 2017)**

Speaking about the case of the Pune City then in the past few years it has been one of those prime cities which has seen major growth in terms of properties and real estates. As per data, the city of Pune indeed has major room for opportunities to grow in multi folds. **(Sandbhor et al., 2013)(Sukrit, 2014)**

But the major central play for the real estate industry has been taking place at the heart of the country, i.e., New Delhi and NCR Regions. The construction industry indeed has played a major role by ranking itself 3rd among the various industries that has induced its contribution towards the growth of national economy. Data evidences have provided a substantial reason that they have been rapid increases in growth rates during 2010s, whichjustifies the rise in pricings of real estates in Delhi. It also does leave with a note that future research builds on city level models in order to investigate the trends of the house prices. **(Yadav, 2012)(Narendran, 2013)**

Company wise performance of Real Estate Industry

The growth of every industry is dependent on two major aspects of factors, firstly external factors like the economy and sector, and secondly the companies which hold the industry at its position and help its upward trajectory. Statistical tools have identified the fact that investing in diverse sectors could affect negative returns from the pioneering companies and advise them to invest in one stable sector like the real estate sector. Companies like Unitech, DLF ltd, and Omaxe Limited have shown variations in their elasticity, but on a lighter note, it would be better to construct a portfolio which minimizes risks and maximizes returns by investing in different levels of companies with adverse and favorable portfolios.**(Joshi, 2010)**

Though there always involves an issue of liquidity risks in real estate companies, there is also a certainty that business as well as financial risks affects various firms of this industry. Data and research have established an indirect relation between the factor of liquidity and the result of profitability for the real estate companies along with the notion of increase in pressure due to rise in cost of debt which leads to reduction of retained earnings and EPS**. (Sahni & Kulkarni, 2018)**

Study of Real Estate from an Analytical lens

Certain researchers have conducted technical analysis with the help of renounce statistical tools to understand the pioneering companies of the real estate industry.

One of the most common statistical tools which have been used for studying the top 15 companies of the real estate was data envelope analysis. This method has given a utilization to understand the relationships between input variables being capital resources various kinds of expenses and inventory turnover, and output variables being the profit margins. The study indeed has shown that costs borne in terms of manufacturing and inventory management have been key drivers of the industry. **(Roy & Kohli, 2016).**

Another method that has been taken into consideration to understand the real estates is the vector error correction model and the co integration test. This tried to prove a relation between house price index and the real estate stock index for a span of eight years and the resultsStates that both these two indices are independent of each other in short run and also investor confidence would have an impact on the real estate companies due to excessive debts recorded in their books and profit erosion.**(Parrikar, 2018)**

One aspect that can be studied about with real estate is their relation with the Indian financial market. To study that and to find how strong is the focal point of their direct relation and impact, a method of Corporate Real Estate Asset Management (CREAM) has been adapted to test its implication. The results from the carried-out analysis have shown that given from the aspect of the dynamics of both the markets the Indian real estate requires more professional orientation and personalized specialization, to make sure that financial institutions can work hand in hand with them. **(R G Ariyawansa (2013), " Financial Market and Real Estate Sector in India: Overview and Some Thoughts for Strengthening Emerging Economies like India " 16, 2013)**

Even though there have been minimal studies done in this area, A substantiating analysis has been done in the aspects of risk return relationship. Various statistical tools have been given an attempt to understand the level at which risk can be tolerated and returns can be generated. Assisted by 20 companies as data players, it has shown moderate to positive results and, has also given a green signal for investors to invest in this industry with an expectations of generating good returns with a balanced portfolio in future. **(Shobha & Navaneeth, 2017)**

RESEARCH METHODOLOGY

The research methodology for this project is carried out as follows :

Research Gap Of The Study

The considered literature review has revealed two major areas of research gap that would be addressed via this research study. Firstly, the literature review has revealed a lack of thorough study of the real estate industry in terms of economic and sectoral standpoint, despite vivid descriptions related to company growth and stability. Secondly, there has been minimal studies with regards to risk and return for the considered companies, as per the literature review.

Problem Statement Of The Study

Insufficient analysis exists on the economic and sectoral aspects of the real estate industry, despite extensive coverage of individual companies. This gap hampers a comprehensive understanding of industry dynamics, including growth, downturns, and broader economic impacts. Likewise, there is a dearth of research on risk and return analysis within this sector, particularly in rapidly advancing economies like India. Given the potential for significant growth and the dynamic nature of real estate markets, it is essential to explore these dynamics thoroughly. This research is critical for investors seeking to make informed decisions about allocating capital within the residential and commercial real estate sectors.

Objectives Of The Study

- To conduct a fundamental analysis of the widespread real estate sector of India and understand the parameters of its growth in last 10 years.
- To perform a technical analysis of the selected pioneers of the real estate industry and understand the reasons for their dominance.

Scope Of The Study

This study and its findings hold significant value for the Indian real estate sector, aiding investors and decision-makers in making informed financial choices and positively impacting their dealings in the industry.

Data Collection And Time Period

The data to be used in this study would be legally extracted from the financial statements and trusted websites like Yahoo Finance and NSE. The time duration for this study lies between 2014 and 2024. There are five companies which are being selected for the study.

The companies are: 1) Godrej Prop. 2) Prestige Estates. 3) Oberoi Reality. 4) Omaxe and 5) Phoenix Millers.

Research Design

The study will be displayed in two parts: one concentrating on key insights and observations (qualitative), and the other going into extensive numerical analysis and technical issues (quantitative).

Limitations Of The Study

- Time consuming and exhaustive.
- Facts and conclusions will be based on judgments drawn from numerical interpretations.
- Based on the relevancy of the data the derived observations could come in handy for investment and decision purposes

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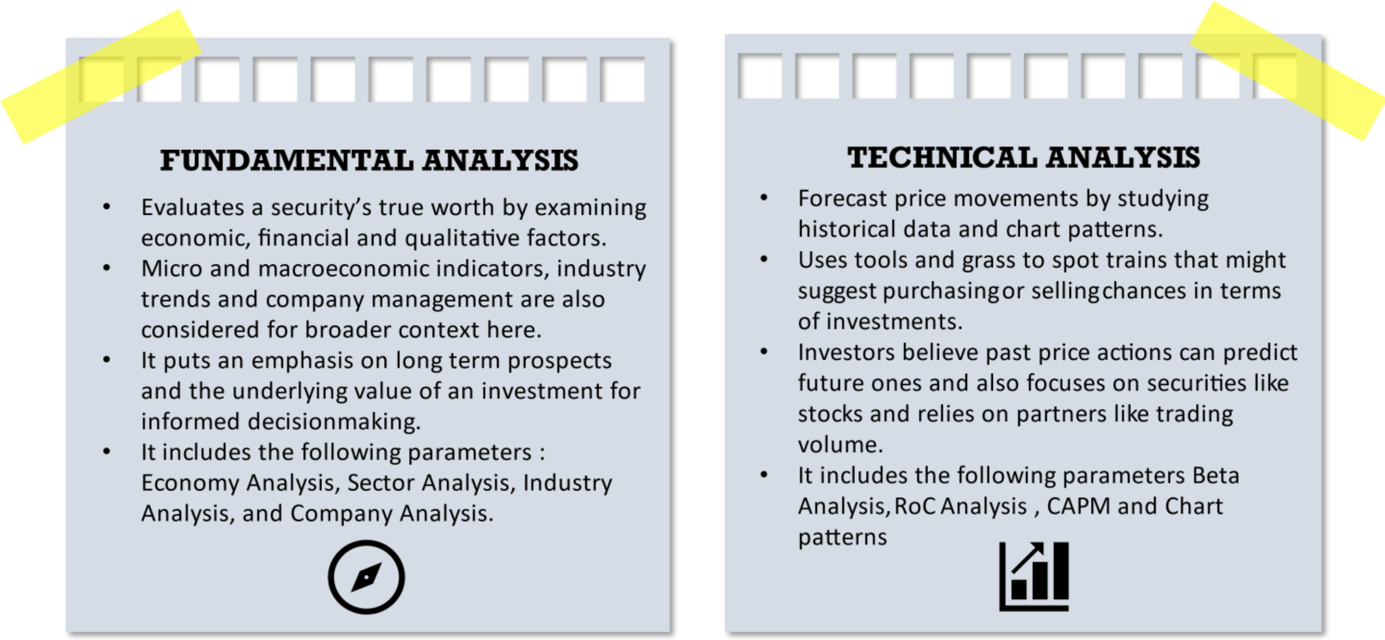
ANALYSIS AND INTERPRETATION

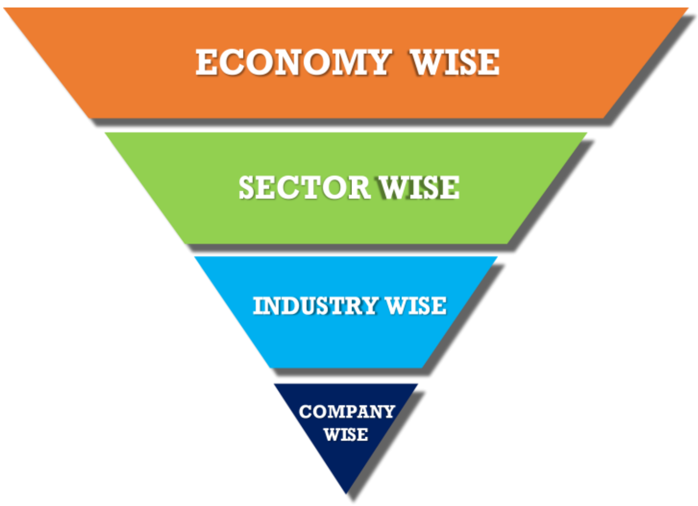
This section majorly outlays the analysis segment of the research. Here, the analysis has been carried out in 2 halves, i.e, Fundamental and Technical Analysis. An overview of the same is provided as follows :



It is further elaborated as follows:

Part 1 : Fundamental Analysis

In this analysis, a careful Study of a stock's real affair value is done to understand the position of selected companies in their industries with the given external factors. A Mindy analysis provide the scope to measure a particular security's intrinsic values by understanding its related economic and financial factors. Through the study, fundamental analysts try to understand the way external macro-economic factors, sectorial factors, as well as industrial factors impact companies. Not only that, this fundamental analysis also studies the fundamental grounds of companies to understand their positioning, growth and stability in the considered industry over a duration of time.



While carrying out the fundamental analysis, an approach that is considered here is the famous **TOP-DOWN**

APPROACH.

As diagrammatically represented, and popularly also known as the **Top-Down Investing,**this methodology provides an overall aspect to the investors with regards to the concerned security starting from its focus on the macro factors of the economy, going all the way to specific sectors, industry and companies.

It helps investors to take substantial decisions based on the external factors affecting their investment decisions for a longer duration of time.

A unique factor about this methodology is that, this can make more efficient use of an investor's time by putting its focus towards large scale economic aggregates, before selecting regions or sectors and then, specific companies, contrary to the fact of first starting out with companies and then going towards the larger economy.

Economic Analysis
As per the considered top-down approach, the first aspect that is to be understood here is the economic analysis. In this section of analysis, an overall aspect of the entire indeed economy is understood through selected parameters which assists the investors to judge the stability and growth of an economy.

The great and evolving Indian economy and its GDP has been studied under the selected five parameters which are as follows : Price and inflation; Government Debts; Savings and Investments; Exchange Rates; and Investor Confidence. An elaborate study of these for a considered duration of 10 years is shown below:

Factors of Economic Analysis	Generic Overview	Impact on the Indian GDP for considered time period
Price Level and Inflation	The price level signifies the aggregate of all economic prices. Inflation denotes the pace of its ascent, diminishing purchasing prowess and influencing consumer sentiment and expenditure.	Price and inflation impacts on Indian economy had been in at various steps. Early inflation despite fiscal efforts affected GDP. Its stability ensured from the period of 2016 - 2019 put tax reforms and global oil price drop. Covid 19 led to fluctuations in the years 2020-21, while global events spiked inflation since 2023. despite challenges the Indian GDP growth is projected at 7.3% in the years 2023 - 24.
Government Debt	It represents the cumulative financial obligation incurred by a governinh body to fund its operations and investments. Elevated debt burdens may jeopardize fiscal stability, precipitating adverse economic conditions and financial difficulties.	The impact of government debt on the Indian economy for the considered duration evolved in multi folds. Initially rising debt spread fiscal consolidation efforts in the years 2014 - 16, but it did not hamper the GDP growth until 2019. However increased spending during the pandemic escalated the debt raising concerns about future investments and sustainability until the present. This has definitely made balancing fiscal policies for long term growth as imperative.
Exchange Rates	Exchange rates dictate the comparative worth of currencies, directly influencing international trade competitiveness and exerting significant impacts on inflation, interest rates, and overall economic stability.	Exchange rate fluctuations profoundly influenced Indias economy and GDP within time duration considered. A depreciating rupee in 2013 led to import costs hike inflation as well as a sluggish GDP growth of 4.7%. City insured with policy interventions fostering robust GDP growth averaging 7.5 percent in the period 2015 until 18. Despite the challenges faced during the pandemic the economy managed exchange rates and government stimulus mitigated adverse impacts. Taining competitiveness while ensuring stability remains imperative and geopolitical uncertainties until the present.
Savings and Investments	Savings entail allocating funds for future needs, while investments deploy capital for potential returns. Both are vital for economic expansion, shaping capital accumulation and financial market dynamics significantly.	Savings and investment have profoundly influenced the Indian economy and its GDP within the time duration of 10 years until present. At first, the falling household savings and limited private investments had slowed the GDP growth until 2016. But then various government initiatives like digital India and schemes such as Attlee Pension Yojana had spurred growth by 2018. Short term disruptions were brought in by the policy of demonetization and GST and later on it was carried on by the pandemic. Long term strategies focus on improving savings attracting investments and fostering growth until the present.
Investor's Confidence	Investor confidence epitomizes faith in the enduring stability and lucrative prospects of financial markets. Robust confidence stimulates investment, propelling economic expansion, whereas diminished confidence can precipitate market turbulence and dampen ecnomic vigor.	Investor confidence shaped India's economic trajectory in the considered time duration until the present. Initially concerns over fiscal deficits and policy inertia hindered confidence until 2016; leading to a slowdown in FDI. Subsequent reforms bolstered sentiments until 2018, propelling FDI to record highs and driving GDP growth. Despite short term volatility until 2020 resilience during the pandemic and the ongoing reforms until present foster cautious optimism for sustained growth.

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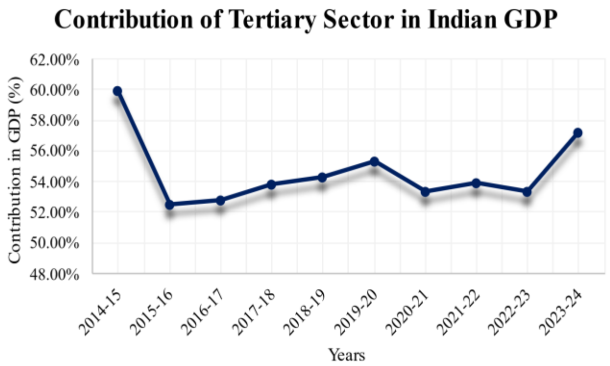
Sector Analysis
The sector analysis has been carried out with the help of PESTLE Model. The PESTLE model is crucial for sector analysis as it systematically evaluates external factors influencing business environments. It provides a comprehensive framework, encompassing Political, Economic, Socio-Cultural, Technological, Legal, and Ecological dimensions. Along with this, the graphical representation of the trend displayed by contribution done towards the GDP via the tertiary sector is shown as follows:

The tertiary sector's impact on India's GDP witnessed fluctuations from 2014 until 2023 and yet maintained an overall upward trajectory. Despite a notable plunge from 59.90% in 2014-15 to 52.50% in 2015-16, it steadily ascended peaking at 55.30% in 2019-20 period. Although affected by the covid 19 pandemic in 2020 – 21, it rebounded resiliently to 57.23% by the period end. This consistent upward trend underscores the tertiary sector's pivotal role in India's economic landscape over the past decade.



Graph 4.1 : Chart depicting Contribution of Tertiary Sector in Indian GDP

Alongside this, the PESTLE analysis is carried out as follows:

Factor 1 : Political Aspect
Under this factor, the political landscape significantly influenced India's tertiary sector. Various government initiatives like "Made In India" and "Digital India" spurred growth, while the implementation of GST initially disrupted operations but later facilitated efficiency. Skilling programs enhanced workforce productivity, and relaxation of FDI norms attracted foreign investment, fostering sectoral expansion and job creation.

Factor 2 : Economical Aspect
Under this factor, the sector surged as the primary GDP contributor, escalating from 59.9% in 2014 – 15 to 57.23% in 2023-24 period. Despite a brief set back to 52.5% in 2015-16 and the pandemic induced challenges in the duration of 2021, its resilience and swift rebound underscored its crucial role in India's economic landscape like bolstering job creation and overall development.

Factor 3 : Socio-Cultural Aspect
As per this aspect, the tertiary sector experiences significant transformation. Initiatives like skill India drive female participation in IT, healthcare and education. The burgeoning middle class fuels demand for e-commerce and entertainment. Government schemes promote formalization and job security, while technological innovations provide inclusivity and flexible work arrangements, notably in tier 2 and tier 3 cities.

Factor 4 : Technological Aspect
Under this aspect, in the time framework of 10 years the sector experienced remarkable technological advancements. Ranging all the way from ecommerce sector driving a 120 billion US dollars market, to a revolution created by the UPI transaction driven fintech, the country has seen various changes. Along with this, the it and bpo sectors flourished, reaching 227 billion us dollars in revenue in 2022 followed by this, ethic platform have also boomed catering to another 7.3 billion us dollars market, and lastly the automobile driven technologies like OLA and Uber, Including another section of revenue from 10 million monthly users by 2023 end.

Factor 5 : Legal Aspect
Under this aspect, the legal landscape of India's tertiary sector evolves significantly, with special focus towards subsectors like consumer rights and real estate transparency. Liberalization of FDI in retail and professional services bolstered growth, while initiatives like "Digital India" drove E-Commerce expansions, therefore necessitating adoption of legal frameworks to address emerging digital challenges. Efforts to formalize the sector and enhance labor rights

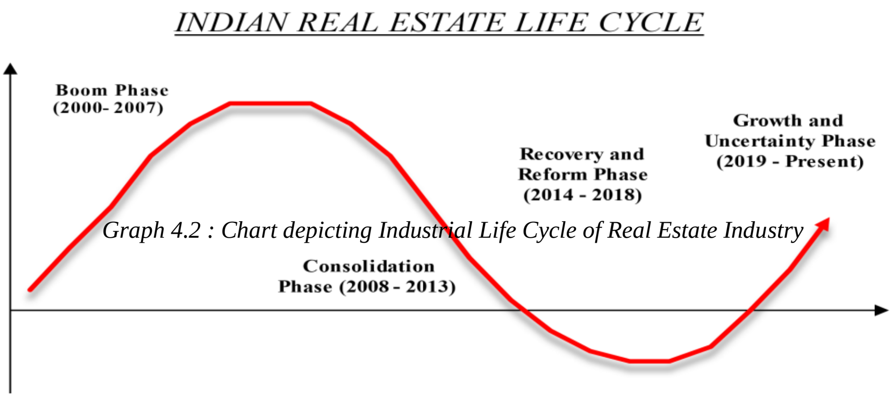
coexisted with the imperative to strengthen intellectual property laws to foster innovation and attract foreign investments.

Factor 6 : Ecological Aspect

Under this aspect, in the considered time frame the Indian tertiary sector's ecological impact manifested through increased energy consumption, driven by office buildings and transportation leading to a surge in commercial building energy use. Significant rise in E waste generation done by the E commerce and IT services has magnified the challenges faced by the waste management with growing volume of paper, packaging and food scraps. What a consumption surged by 10 – 15% primarily from the hospitality and health care sectors,therefore surging the limited water sources. Therefore, bare minimum 30% of the service sectors companies are adopting energy saving measures as of 2022.

Industry Analysis

The Real Estate industry, indeed has seen a massive series of changes from the time of expansion till present. It can be seen as follows:



Graph 4.2 : Chart depicting Industrial Life Cycle of Real Estate Industry

It can be explained as follows:

Phase 1 : Boom Phase

During this phase of time, the period of 2000s – 2007s has witnessed the economic liberalization effects of robust growth, spurred investments and escalating demand in the areas of housing and commercial spaces. Key milestones include the drafting of the Real Estate (Regulation and Development) Act (RERA) in 2003, establishment of the renowned SEZs in 2005 to attract foreign investors to invest heavily in the industry and its growing market, and the formulation of the Indian National Real Estate Development Council (NAREDCO) in 2007 to regulate and promote the industry.

Phase 2 : Consolidation Phase

In this phase, one of the most critical financial disasters had taken place that is the Global Financial Crisis of 2008 which catalyzed a deceleration in Indian real estate due to compromised investments and affordability. Notable events include the Lehman Brothers collapse in 2008, precipitating a global financial downturn as well as the 2011 amendment of the Land Acquisition Act, heightening hurdles for development projects.

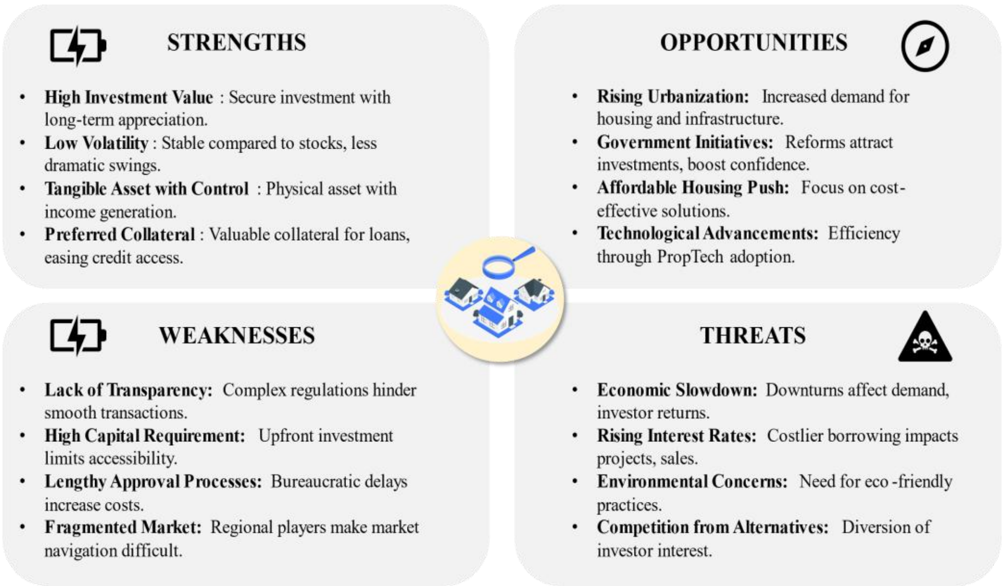
Phase 3 : Recovery & Reform Phase

In this phase of recovery and reform, various government initiatives such as housing for all by 2022 and Smart City projects drove demand. Milestones include the launch of Pradhan Mantri Awaaz Yojana in 2014, introduction of Real Estate Investment Trusts (REITs) in 2015, and implementation of RERA and GST in 2016 and 2017 respectively, fuelling transparency and accountability while impacting costs and regulations in the real estate industry and its market.

Phase 4 : Growth And Uncertainty Phase

This phase has been the most challenging phase for the industry, as it was hit with the Devastating NBFC crisis and the Covid 19 Pandemic. Even in those moments the industry demonstrated resilience, marked by rebound in demand and recording housing sales in 2022. Opinions by analysts foresee sustained growth and increased property values in the coming years despite prevailing uncertainties.

A miniscule representation of the SWOT analysis of the real estate industry can be represented below as follows:



Company Analysis
An integral part of the fundamental analysis, the company analysis covers a thorough examination of a company's financial robustness, managerial competence, and operational effectiveness. In fact investors meticulously analyze financial reports evaluating metrics such as revenue profitability and debt burdens.

An overview of the company profiles or the selected pioneers for this research study is shown as follows. Along with this the company analysis is also carried out as shown below:

Name of the Company	Logo	Year of Incorporation	Current Revenue	Profit earned	Industry
Godrej Properties		1990	Rs 3039 cr	Rs 571 cr	Real Estate
Prestige Estates Group		1986	Rs 8772 cr	Rs 1067 cr	Real Estate
Oberoi Realty		1934	Rs 2661 cr	Rs 817 cr	Real Estate
Omaxe Ltd.		1989	Rs 472 cr	Rs (193) cr	Real Estate
Phoenix Mills Ltd.		1905	Rs 540 cr	Rs 290 cr	Real Estate

Company Analysis Phase 1 : Financial Highlights
The below table explains in detail about the financial highlights of the considered pioneers of the real estate industry. Via this, and understanding with regards to the companies from the aspects of financial sections and parameters can be carried out.

The considered parameters are: 1) Profit for the Year,2) Cash andCash Equivalents, and 3) Revenue for the Year. It is carried out as follows:

Company name	Analysis on the Financial Highlights for 10 years on		
	Net Revenue Generated	Net Profit for the Year	Net Cash and Equivalents
Godrej Properties	Exhibited notable fluctuations over the period analyzed . Post witnessing a peak in 2019, it had seen a decline in 2021 before rebounding to its original position by period end.	Experienced a negative net profit in the year 2021, which subsequently displayed a consistent upward trajectory reaching its highest by 2023 end.	Experienced a substantial increase in net cash and cash equivalents from 2014 until the end of the period
Prestige Estates Group	The revenue trajectory demonstrated a consistent upward movement since the start in 2014 and steadily rising by duration end making an increase over 2500 INR during the period.	Witnessed fluctuations in net profit subsequent to its peak in 2017. It also depicted a rise by 2021 accompanied with a decline	Demonstrated significant growth in net cash and cash equivalents rising from a substantial in 2014, Hitting the peak in 2020 and moderating in 2023.
Oberoi Realty	The revenue trajectory demonstrate d a consistent upward movement since the start in 2014 and steadily rising by duration end making an increase over 3400 INR during the period.	Demonstrated a steady increase in net profit with a base in 2014 and culminating at its peak by 2023 end	Exhibited fluctuating net cash and cash equivalents initially declining in 2014 to 2018 and rebounding at the period end.
Omaxe ltd.	Experienced significant fluctuation speaking in 2017, followed with a decline in 2021 and subsequent rising by duration end.	Exhibited significant fluctuations, with the lowest maintenance from start and progressing towards the series of negatives by the period end.	Demonstrated consistent growth in net cash and cash equivalents rising steadily from its base to its peak in 2023.
Phoenix Mills Ltd.	Exhibited fluctuations but showcase the marginal overall i.e., an increase with an onset of stabilizing in 2014 rise in period end, making an increase of over 1200 INR.	Experienced notable fluctuations in net profit reaching a pinnacle by 2018, reaching a pit of loss and rebounding to its original position by 2023	Witnessed notable fluctuation in net cash and cash equivalents reaching a peak in 2019 falling short in 2021 and rebounding by duration end.

Company Analysis Phase 2 : Key Ratio Analysis

The below table explains in detail about the key ratio analysis of the considered pioneers of the real estate industry. Via this, and understanding with regards to the companies from the aspects of ratio analytical sections and parameters can be carried out. The considered parameters are: 1) EPS Comparison, 2) DPS Comparison, and 3) P/B Value . It is carried out as follows:

Company name	Analysis on the Key Ratios for 10 years on		
	EPS Comparison	DPS Comparison	P/B Ratio
Godrej Properties	Demonstrated a consistent upward trajectory over the observed period, i.e., Commencing at a basic level in 2014 and rising up to its peak by the duration end.	For the initial two years, the company did provide dividend post which it never gave dividend to its holders.	Demonstrated a consistent upward trajectory over the observed period, i.e., Commencing at a basic level in 2014 and rising up to its peak by the duration end.
Prestige Estates Group	Exhibited notable fluctuations throughout the examined years. In other words, it has been through a series of stage of peak, fall and a subsequent surge.	The dividend at this company has been consistently stuck at two numbers, i.e., 1.5 and 1.2. Although, most of the times the dividend amount has been 1.5.	Exhibited notable fluctuations throughout the examined years. In other words, it has been through a series of stage of peak, fall and a subsequent surge.
Oberoi Realty	Over the period under review, the company has exhibited a persistent uptrend by reaching its peak by the period end.	The dividend stood consistent for the first six years, and then after a negligence of two years the dividend increased by 25% every year.	Demonstrated a consistent upward trajectory over the observed period, i.e., Commencing at a basic level in 2014 and rising up to its peak by the duration end.
Omaxe ltd.	Demonstrated an overall negative trajectory from a stage of positive numbers to continuous flow of negative values.	The company has seen a stage of consistency and slight growth in its dividend valuation, but ended the time period with no dividend being released for the past four years.	Demonstrated an overall negative trajectory from a stage of positive numbers to continuous flow of negative values.
Phoenix Mills Ltd.	Demonstrated considerable volatility throughout the observation period. Following a stage of pinnacle, the company has seen a series of both negative and positive figures and subsequently moderating to mediocre level by the observation period end.	The dividend valuation at this company has seen stages of growth consistency and the stage of no dividend as well. But with all this, it has also seen its peak by the end of the time duration.	Demonstrated considerable volatility throughout the observation period. Following a stage of pinnacle, the company has seen a series of both negative and positive figures and subsequently moderating to mediocre level by the observation period end.

It is graphically depicted as follows:

Company Analysis Phase 3 : Share Market Analysis

In 2023, an analysis of these real estate enterprises reveals a diverse market landscape. Godrej Properties and Oberoi Realty, categorized as Large-Cap entities, emerge as industry frontrunners boasting robust financial standings. Godrej Properties commands a market capitalization exceeding ₹54,821 crore, while Oberoi Realty stands at ₹51,160 crore. Notably, both companies demonstrate ascending Price to Book (P/B) ratios—Godrej at 5.36 and Oberoi at 4.83—signifying heightened investor confidence in their prospects.

Fig (No) : Pictorial Representation of Market Cap of Companies.

In the Mid-Cap segment, Prestige Estates emerges as a stalwart with a market capitalization of ₹44,692 crore. Although its P/B ratio exhibited fluctuations, resting at 4.83 in 2022, the company showcases potential for future growth. Phoenix Mills, also categorized as Mid-Cap, concentrates on retail properties, boasting a market capitalization of ₹41,066 crore.

Despite a dip in its P/B ratio to 1.99 in 2023, this downturn presents a potential entry point for discerning investors. Conversely, Omaxe Ltd, identified as a Small-Cap entity, grapples with challenges, evident in its market capitalization, estimated to be under ₹10,000 crore. With a negative P/B ratio hovering around -2.14, investors confront heightened risk in this domain.

Part 2 : Technical Analysis

Technical analysis stands as a robust framework utilized with financial markets to meticulously assess and predict price fluctuations of securities. This methodical approach is beaded by technicians or technical analysts that runs with a firm belief that factors like historical price data,trading volume and a multitude of chart patterns provide clues concerning forthcoming market trends.

With the help of statistical instruments and visual depictions that depict discern patterns, this methodology shows us harbingers of prospective buying or selling prospects. The technical analysis is carried out with the help of four methods; namely as follows: beta analysis, CAPM analysis, ROC analysis and chart pattern analysis. They are carried out as follows :

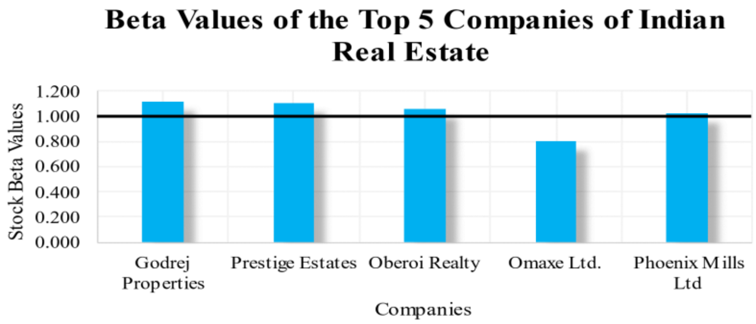
Analysis 1 : Beta Analysis

In terms of finance, beta coefficient is a representation of the risk profile of the entity considered for testing. It depicts the volatility of an entity with regards to its considered market. This risk is derived based on the returns generated from a security. The consideration of the security returns as well as the market returns, in the form of its covariance and variance is what is used to compute the beta value.

It is depicted as follows:

Table4.1 :Summary table depicting the Beta value of top companies of Indian Real Estate

Table of β of Market Players	
Company	β
Godrej Properties	1.110
Prestige Estates	1.100
Oberoi Realty	1.052
Omaxe Ltd.	0.807
Phoenix Mills Ltd	1.016



Graph 4.7 : Chart representing the Beta value of top companies of Indian Real Estate

As per the depicted graph and summary table, it can be clearly seen that majority of the players of the real estate industry considered here are above the threshold of the market beta. The company wise explanation is provided as follows:

Company 1 : Godrej Properties
a) Comparison against Market Beta –As per derived value, it is observed that the beta value for Godrej Properties is above the threshold of the market beta (i.e., 1). This states that, the company stocks are highly risky as well as highly volatile.

b) Impact on the Investors – The computed beta valuation for GodrejProperties exceeded the threshold of market value (1.00) indicating heightened stock volatility. Investors attracted to higher returns find this as a golden opportunity. Despite risks, it outperformed nifty 50 in 2022 described by the economic times offering potential for high returns.

Company 2 : Prestige Estates
a) Comparison against Market Beta – As per derived value, it is observed that the beta value for Prestige Estates is above the threshold of the market beta (i.e., 1). This states that, the company stocks are highly risky as well as highly volatile.

b) Impact on the Investors – Similar to Godrej properties, Prestige Estates also have a computed beta value exceeding the market (1.00) threshold,signallinga possibility of high fluctuations against the market stability.While appealing for above average returns, investors must acknowledge the accompanying elevated risks.

Company 3 : Oberoi Realty
a) Comparison against Market Beta – As per derived value, it is observed that the beta value for Oberoi Realty is close to the threshold of the market beta (i.e., 1). This states that, the company stocks are close to neutral or stabilized position in terms of risk and volatility.

b) Impact on the Investors – Despite being closer towards the market norms in terms of the beta value, Oberoi Realty exhibits potential for marginal fluctuations as well as stability, in terms of risk and returns which, could be appealing or a matter of concern for investors in future.

Company 4 : Omaxe Ltd.
a) Comparison against Market Beta – As per derived value, it is observed that the beta value for Omaxe Ltd is below the threshold of the market beta (i.e., 1). This states that, the company stocks are less risky as well as less volatile.

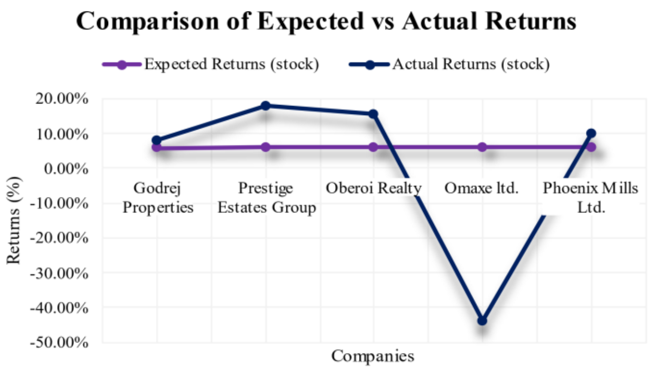
b) Impact on the Investors – Omaxe Ltd stocks has derived a beta value which lies below the market threshold. Even though it mitigates the possibilities of higher risks and volatility, with the result of low returns this attracts investors who could include this company's stocks to stabilize the portfolios.

Company 5 : Phoenix Mills Ltd
a) Comparison against Market Beta – As per derived value, it is observed that the beta value for Phoenix Mills Ltd is close to the threshold of the market beta (i.e., 1). This states that, the company stocks are close to neutral or stabilized position in terms of risk and volatility.

b) Impact on the Investors – Despite being closer towards the market norms in terms of the beta value, Phoenix Mills Ltd exhibits potential for marginal fluctuations as well as risk-return balance, in terms of risk and returns which, could be appealing or a matter of concern for investors in future.

Analysis 2 : Capm Analysis
A commonly used tool in finance, the capital asset pricing model quantifies the expected returns of a particular security linking it to the risk-free rate and its beta valuation. It aids investors in making informed decisions by considering both the time value of money and the specific risks associated with the particular asset.

It is depicted as follows:



Graph 4.8 : Chart representing the CAPMvalue of top companies of Indian Real Estate

Table4.2 :Summary table depicting the CAP Mvalue of top companies of Indian Real Estate

Table of CAPM of Market Players				
Company name	Expected Returns (stock)	Actual Returns (stock)	Δ	Situation of Stock
Godrej Properties	5.87%	7.84%	▲ 1.97%	Over-performed
Prestige Estates Group	5.88%	17.86%	▲ 11.98%	Over-performed
Oberoi Realty	5.94%	15.59%	▲ 9.65%	Over-performed
Omaxe ltd.	6.23%	-43.87%	▼ -50.10%	Under-performed
Phoenix Mills Ltd.	5.98%	10.01%	▲ 4.03%	Over-performed

As seen in the above charts and graphs, a clear-cut correlation between the Beta depiction and the CAPM depiction can be seen. It is briefly explained company wise as follows:

Company 1 : Godrej Properties
a) Comparison of Actual and Expected Returns – Godrej Properties' stocks outperform, exceeding expected returns and side by side validating market position and risk tolerance reflected in their beta calculation (2% growth).

b) Impact on the Investors – Based on the comparison between the two kinds of returns, the over performance of GodrejProperties has a potential to attract investors as it provides an assurance of higher returns. However, slight caution could still be taken as every over performance might not be an indicator of stabilized growth.

Company 2 : Prestige Estates
a) Comparison of Actual and Expected Returns – Prestige Estates' stocks outperform, over exceeding expected returns and side by side validating market position and risk tolerance reflected in their beta calculation (12% growth).

b) Impact on the Investors – Based on the comparison between the two kinds of returns, the over performance of Prestige Estates has a potential to attract investors as it provides an assurance of higher returns. However, major caution could still be taken as a 12% increase could be alarming for investors.Investors may hold or buy the company stocks if they anticipate sustained strong performance.

Company 3 : Oberoi Realty
a) Comparison of Actual and Expected Returns – Oberoi Realty's stocks outperform, exceeding expected returns and side by side validating market position and risk tolerance reflected in their beta calculation (9% growth).

b) Impact on the Investors – Based on the comparison between the two kinds of returns, the over performance of Oberoi Realty has a potential to attract investors as it provides an assurance of higher returns. However, major caution could still be taken as a 9% increase could be alarming for investors. Investors may hold or buy the company stocks if they anticipate sustained strong performance.

Company 4 : Omaxe Ltd.
a) Comparison of Actual and Expected Returns – OmaxeLtd is perhaps the only company that has underperformed, from the aspect of the comparison of actual and expected returns. Its value has provided a negative growth of over 50%.

b) Impact on the Investors – Having a negative variance of over 50%, the company does not promise any high returns with a smallernumber of risks being in the market. In such a case, investors prefer to sell off their shares or steer off from such company in their portfolio.In other words, the company presents bleak prospects for high returns amidst elevated market risks.

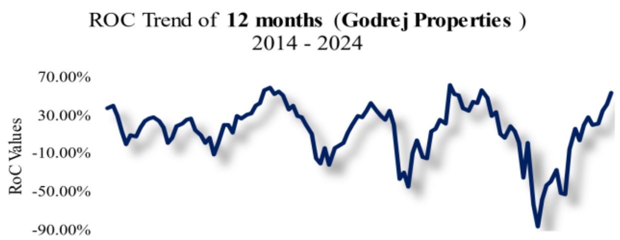
Company 5 : Phoenix Mills Ltd
a) Comparison of Actual and Expected Returns – Phoenix Mills' stocks outperform, exceeding expected returns and side by side validating market position and risk tolerance reflected in their beta calculation (4% growth).

b) Impact on the Investors – Based on the comparison between the two kinds of returns, the over performance of Phoenix Mills Ltd has a potential to attract investors as it provides an assurance of higher returns. However, slight caution could still be taken as every over performance might not be an indicator of stabilized growth.

Analysis 3 : Roc Analysis
The Rate of Change (ROC) in security analysis measures the percentage change in a security's price over a specified period. RoC measures price momentum, i.e., Positive values provides opportunities of buying and negative values depicts downtrends and cautions. It also assists investors in matters of entry or exit points and portfolio management by showing price change speed.

Note: In this analysis, the ROC trends are majorly depicted in two categories that is, **12 months and 24 months**. At each phase, the company's stock prices and their trends are analysed to ascertain the point at which stability can be better measured.

It is further described as follows:
COMPANY 1 : GODREJ PROPERTIES



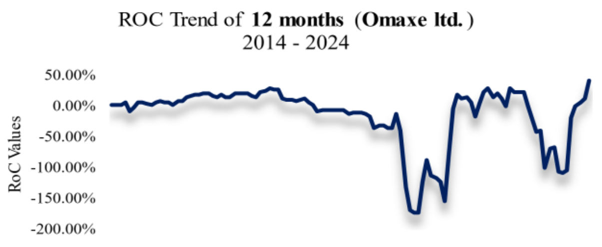
Graph 4.10 : Chart representing the RoC of 24 monthsof Godrej   *Graph 4.9 : Chart representing the RoC of 12 months of Godrej*

As per the trend of 12 months, it depicts that the trend of Godrej Properties in terms of pricing is negative. The chart shows a significant decline in ROC from over 70% in 2014 to -90% by the approach of 2024. This indicates a downward trend in stock prices and provides a vocal of discouragement for investors potentially leading them to sell their shares or avoiding investing in such a company.

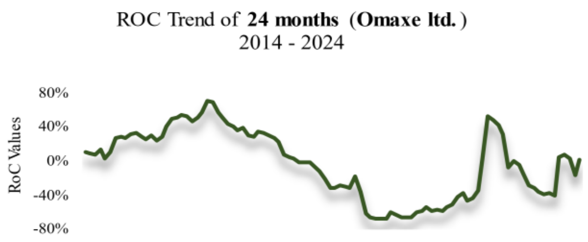
As per the trends of 24 months, it depicts that the trend of ROC for Godrej Properties stock values is volatile. Even though the 24 month change series consists of a lot of fluctuations, unlike the 12 months change fluctuation series it seems to provide a promising stability and a pinch of uncertainty in stocks directions. This shows that long term investments can be a possibility in Godrej Properties.

Company 2 : Prestige Estates Group

Company 4 : Omaxe Ltd.



Graph 4.15 : Chart representing the RoC of 12 months of Omaxe ltd.



Graph 4.16 : Chart representing the RoC of 24 months of Omaxe ltd.

As per the trend of 12 months, it depicts that the trend of Omaxe ltd in terms of pricing is Strongly negative. The graph depicts a steep decline from a stabilized position to a series of negative values touching until the max of minus 200% and then again rising above the breakout line of 0%. This indicates a significant and sustained drop in stock prices over the considered duration and depicts a serious discouragement towards investment decisions. It could potentially lead them selling of their shares to discontinue investment.

As per the trends of 24 months, it depicts that the trend of Omaxe Ltd in terms of pricing is deeply declining and low in terms of average. There had been brief periods with positive valuations going above the threshold of 40% but in the end,it has gone to a steep fall of close to minus 80% nullifying the positive responses. In the eyes of investors, this volatility carried on with a steep fall could show the factor of not interested to invest in Omaxe Ltd and to also sell off their recent shares to validate their dislike.

Analysis 4 : Chart Pattern Analysis

Charge pattern analysis takes into consideration the historical prize movements in order to gage and identify recurring patterns, assisting investors in making a prediction about the future stock price movements and taking informed trading decisions. These patterns influence decision making by providing visual to gage market sentiments and timing trades effectively. In this case, the stock charts that have been taken for the respective companies have been taken on a five year basis with the time duration of one month. Due to the extent of availability of information, this is the simplest format in which the charts have been identified. They have been step by step explained as follows:

Company 1 : Godrej Properties

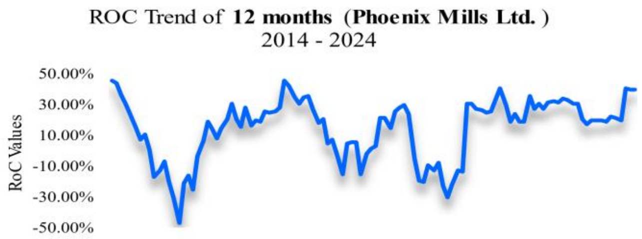
Identified Chart Pattern

The identified chart pattern here is a Rising Wedge Pattern. In this pattern, information is done with an uptrend with higher highs and higher lows. It always suggests a possible price reversal, with a bearish formation in technical analysis. It depicts a converging upward-sloping trendlines, steeper support than resistance.

Impact Of The Same On Investors

In the context of Godrej Properties investor decisions, rising wedges imply a temporary consolidation in the uptrend, indicating potential for the trend to continue. However, investors should watch for a breakout below the lower trendline, signalling a possible trend reversal

Company 5 : Phoenix Mills Ltd.



Graph 4.20 :Trading Chart view of Godrej Properties (5Y) *Graph 4.21 :: Trading Chart view of Prestige Estates Group (5Y)*

Company 2 : Prestige Estates Group

Company 3 : Oberoi Realty

Graph 4.22 :Trading Chart view of Oberoi Realty (5Y)

Identified Chart Pattern

The identified chart pattern here is a Rising Wedge Pattern. In this pattern, information is done with an uptrend with higher highs and higher lows. It always suggests a possible price reversal, with a bearish formation in technical analysis. It depicts a converging upward-sloping trendlines, steeper support than resistance.

Impact Of The Same On Investors

In the context of Prestige Estates Group investor decisions, rising wedges imply a temporary consolidation in the uptrend, indicating potential for the trend to continue. However, investors should watch for a breakout below the lower trendline, signalling a possible trend reversal.

Company 4 : Omaxe Ltd.

Graph 4.23 :Trading Chart view of Omaxe Ltd (5Y)

Identified Chart Pattern

The identified chart pattern here is a Descending Triangle. These kinds of patterns often seen in downtrends, tentatively indicate weakening demand. A break below support confirms downtrend continuation. This bearish pattern signals potential further downward momentum for its traders and investors. Such patterns indicate the weakening of the considered asset.

Impact Of The Same On Investors

Omaxe Ltd. has experienced a downtrend from ₹225 in 2020 to ₹75 in late 2022. A down trending resistance line and horizontal support line suggest potential resistance and support levels. Investors should assess financials and market conditions before deciding to invest. Looking at the present conditions, investors could either sell their shares or discontinue their investment here.

Company 5 : Phoenix Mills Ltd.

Graph 4.24 :Trading Chart view of Phoenix Mills Ltd (5Y)

OBSERVATIONS

The following are the observations for the conducted fundamental and technical analysis

Observations from Fundamental aspect

a) Maintaining price stability is essential for sustained GDP growth, while prudent debt management supports long term economic stability and growth.
b) Despite challenges India's tertiary sector resiliently drives GDP growth, showing consistent upward trajectory over the analysed decade.
c) Indian real estate cycles reflect growth, reforms & government interventions, navigating challenges resiliently towards sustained growth and stability.
d) Despite varied revenue trajectories and profit dynamics, the considered companies achieved overall growth and recovered from losses by the end of the tenure, as taken for the analysis.

Observations from Technical aspect

a) Real Estate firms with beta values over the threshold of 1, signals high volatility and risk, while the companies below the threshold or near to it offer lower to balanced potential
b) Real Estate companies exhibit diverse performance; strong performers attract investor interest, while underperformance face selling pressure, emphasizing risk adjusted assessment.
c) Real Estate companies show divergent performance, with positive RoC indicating growth for some, while Omaxe Ltd. faces declining trends.
d) While companies like Godrej, Prestige and Phoenix Mills Ltd exhibit consolidation, Oberoi's clear uptrend signals potential continuation.

CONCLUSION

Based on the observations, it is certain that the analysis has revealed the fundamental imperatives of maintaining price stability and prudent debt management for sustained GDP growth and economic stability for an overall development of the real estate industry. India's resilient tertiary sector, which took the challenges and consistently propelled its GDP growth, resulting in upward trajectory. The real estate sector, amidst cycles of growth, reforms and government interventions has, exhibited resilience towards a consistent growth and a stabilized position. Given the fact that there were different revenue streams and profit dynamics among the pioneer companies, these players indeed have achieved overall growth and recovery from losses. Moreover, from a technical perspective, real estate firms with higher beta values signified heightened volatility and risk, while diversified performance underscores the necessity for risk adjusted assessment. A favourable ROC the certain companies signals growth opportunities those challenges like declining trends for certain companies have persisted over the considered duration.

In the end, amidst diverse performance indicators, recent investor decisions are crucial for navigating the complex real estate landscape.

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