<div style="text-align:right">**7**</div>

Fundamental Drivers of Share Prices: Evidence from the Indian Stock Market

Dr Abhijit R. Chavan

Professor of Chemical Engineering,
Dr Babasaheb Ambedkar Technological University,
Raigad - 402103, M S.
archavan1972@gmail.com

Abstract

Do macroeconomic fundamentals determine stock prices in the Indian equity market? Much of the literature identifies several macroeconomic fundamentals that could explain movements in stock prices. Nevertheless, researchers have not fully discussed the relationship between these underlying variables and stock prices in the Indian stock market. Modern stock market theories hold that economic fundamentals are a vital determinant of stock prices and thus directly influence investment decisions and price changes in financial markets. Earnings growth rates, which are the most important determinants of stock price changes across the stock market, constitute the economic dividend. The growth rates of stock prices were modelled as based on real growth rates, Nominal GDP growth, bank rate, stock market price changes, growth in real credit and corporate deposits, domestic market, and external market. The changes in valued assets under the Net Present Value calculation with varying discount rates determine stock prices, as they are reflected in dividend prices.

1. Introduction

India's economic environment has undergone massive changes since 1991, driven by reforms that have led to liberalisation, privatisation, and globalisation. The Indian stock market, which has more than 10,000 listed companies and is one of the largest in the world, transacts 1,500 billion shares every day, valued at 400 billion Rupees. Equity serves as an important long-term capital source for corporations and sets asset prices. As a result, the valuation of equity shares has sparked significant interest among investors. The newness of the Indian stock market and

macroeconomic factors make it a relevant background for analysing the relationship between stock valuation and macroeconomic determinants.

Cash flows are based on the earnings-to-value of an enterprise. Investors, practitioners, regulators, and academics must understand the determinants of prices. Policymakers interested in guiding the economy need to understand the channels through which macroeconomic indicators affect it. Research activities gained momentum in comparison with the liberalisation of the Indian economy. Gupta (1990) is one of the first to examine the association between stock prices and macroeconomic factors. Since then, research on Indian stock prices has been broadened to include a variety of sectors and factors. The comovement of stock prices is a recent topic of research examining influence and information distribution (Sukhija, 2014).

2. Literature Review

According to independent empirical assessments, earnings, change in earnings rate, ownership structure, book value, dividend rate, and market value are the essential determinants of stock prices in India (Sukhija, 2014). The models share that market-price determination models include the equally-weighted returns on portfolios of firms sorted by earnings, ownership structure, and the dividend-price ratio, which reflect earnings- and dividend-price sensitivities (Datta, Chaudhuri, and Kaur BHAMRAH, 2019). Earnings are indicators of a firm's wealth-creating potential, depending on prospects for returns on assets, growth, and innovation. The presence of profits and dividends is an indicator of the corporate health and consensus of owners. Corporate governance has implications for operational and investment decisions and gives insights into dividend policy and firm growth. The price-earnings ratio aggregates the effects of the price-dividend ratio and the earnings-price ratio on the Indian share and market price levels. Return on equity includes net income, equity, dividend per share, and the market value of ownership in structured portfolios.

The paper analyses the determinants of price that are set in advance by the companies' economic performance and governance structure, as well as firm-specific determinants of expected returns. The signal-conveyance analysis of earnings, book value, growth forecasts, dividend rates, and corporate governance indicates that enforcement of regulations is not uniform across societies and regimes within developing countries. Emphasis on comprehensive share-price determination suggests little outright research on absolute prices despite the country's development and developmental direction.

Cash flows from assets are discounted to arrive at share prices. The models portray exchange rates via balance-sheet, portfolio and transaction-cost channels. Capital-asset-pricing theory defines capital costs in terms of economic uncertainty about future cash flows, risk premiums focused on unexpected economic strength, and nominal-price programming of domestic inflation and nominal-forex-adjusted parity. Post-regulatory reformation Globalisation enhances the power of international, policy-introduced growth-sustaining cash-flows and foreign-holding allocation and portfolio-adjustment variances.

3. Data and Methodology

The chapter uses quarterly time-series data for India from 1996Q1 to 2015Q4; it analyses stock prices and their reactions to macroeconomic fundamentals and valuation ratios. A broad market index measured in real terms is used to proxy for real equity prices. In contrast, macroeconomic fundamentals include real GDP growth, inflation, the real effective exchange rate (REER), and investment and corporate earnings intensity. Output, expenditure, state value added and corporate earnings are obtained from official national accounts and corporate financial statements.

The empirical model is based on classical reduced-form models that relate real stock prices to macroeconomic fundamentals and valuation ratios. A four-variable vector autoregression (VAR) is estimated to capture dynamic interactions among real macroeconomic fundamentals simultaneously, global uncertainty shocks (represented by the REER), and the price of equity in an emerging-market environment. The econometric specification follows a general-to-specific model selection plan, where a system of unity is used to permit interaction between the variables and then identify economically motivated restrictions that differentiate the transmission channels of global uncertainty shocks to Indian equity prices. In this framework, the reduced-form estimates measure the reactions of actual and imaginary equity prices to shocks in real output development, earnings growth, and the investment intensity ratio, which are standard in price-dividend models.

3.1. Variables and Data Sources

Table 1 presents the key variables used in the empirical analysis. It reports how each variable is measured and sourced, and separates the equity variables, macroeconomic variables, and company-specific fundamentals. This model explains the relationship between stock price and aggregate macroeconomic and firm-level performance.

Table 1:

Variable	Type	Measurement / Proxy	Source (illustrative)
Stock prices	Equity variable	Log of the broad market index in real terms	BSE/NSE, RBI publications
Real GDP growth	Macroeconomic	Quarterly growth rate of real GDP	National accounts statistics
Inflation	Macroeconomic	Quarterly CPI/WPI inflation rate	Official price statistics
Real effective exchange rate (REER)	External/global factor	REER index (base year = 100)	Central bank / BIS data
Investment intensity	Macroeconomic	Ratio of gross fixed capital formation to GDP	National accounts
Corporate earnings	Company fundamental	Aggregate earnings/earnings per share for listed firms	Corporate financial statements

4. Macroeconomic Essentials and Equity Pricing.

Share values will play a pivotal role in determining share prices. They bridge crucial aspects of firms and the market, which ultimately determine company pricing and stock market shares (Pramod Kumar & Puja, 2012). Companies establish a middle ground between macroeconomic systems and share prices by combining economic drivers. Literature sources generally categorise

macroeconomic variables into two groups that affect the stock price: macroeconomic fundamentals and company fundamentals. The variables in the macroeconomic fundamentals have a direct impact on price levels, which are the exchange rate, the inflation rate, and the shape of fiscal policy. The company's fundamentals are characteristics inherent to the company that eventually influence the price of the stock, such as balance sheet items like earnings, dividends, or the firm's growth potential. The analysis is built on two key questions: Are macroeconomic fundamentals important in the valuation of equities in India, and, if so, what channels do they affect share prices through? Responses to these queries are grounded in an integrated equity valuation model in which stock prices are linked to major macroeconomic fundamentals. India is a promising emerging market to explore in this study for several reasons.

Equity valuation begins by observing that a company's fundamental features are the only factors that drive stock prices. Thereafter, macroeconomic fundamentals, such as the exchange rate or the fiscal deficit, directly affect stock prices in several ways. The categorisation of the available data prevents bias in selecting aggregate or disaggregate information, and it also makes it easier to reduce the basic drivers of equity valuation to two paths in macro

variables: GDP growth and inflation. The summer of 2012 serves as the cutoff point for the analysis, marking the onset of turbulence in India's capital market as domestic share prices fell, undermining earlier postulations of declining economic growth. The bulk of the data is used to explore a theoretical price-level-forming model of the growth-economy model, beginning in 1995:01 and continuing through 2010:12, at quarterly frequency.

4.1. The Gross Domestic Product and the Growth of Earnings.

The capitalisation of the Indian stock market grew fivefold in the 1990s, reaching an estimated 40 per cent of the gross domestic product (GDP) in 2004 (Sarkar, 2006). Bombay Stock Exchange and National Stock Exchange indices with reported nominal total returns of 16.8% 15.1% (in real terms) over a period of years (1994-2004) of broad-based liberalisation. Cross-country studies have established the positive correlation between the development of stock markets and economic growth; the liberalisation of stock markets correlates with GDP growth. Existing studies indicate that growth acceleration among stock exchange-listed firms occurs, which implies the functional role of capital markets in the growth process. Stock price moves are affected by macroeconomic fundamentals. There are two-way causal relationships between

macroeconomic variables and stock price levels, which are usually described within an empirical framework. To define the expected direction of influence between fundamentals and prices, a vector autoregression is specified with the fundamental macroeconomic variables listed first.

GDP growth and earnings growth are essential price determinants associated with macroeconomics. The impacts of output growth on corporate profitability are based on three main ways: first, through the aggregate demand channel operating between domestic and external demands of goods and services supplied by the firms; second, the investment channel stimulates capacity growth and technological advancements; and third, the profitability channel enhances cash flow and lessens reliance on external funding.

Earnings growth is a direct macroeconomic factor affecting stock prices. According to the equations of stock price determination, earnings determine both the price level directly and indirectly through the forward-looking discount rate. Economic growth increases corporate earnings expectations and reduces the nominal interest rate in India, significantly affecting both the price and the discount rate. Aggregate earnings growth is measured using price-adjusted earnings growth rates of net profits or earnings per share.

4.2. Inflation, Interest Rates and Discount Rates.

The connection between stock prices and macroeconomic fundamentals has been the focus of several studies, with various scholars undertaking a wide spectrum of research on the impact of such fundamentals on the share prices of different nations (S Nair, 2014). Amongst the variables examined in such studies, interest rates, inflation, and exchange rate movements are prominently identified as determinants of equity valuation. The relationship between stock prices and inflation, interest rates, and exchange rates is analysed within the Indian market in the current analysis.

A rise in inflation normally causes a selling spurt of the real assets, especially stocks. The resulting decline in stock prices causes adverse feedback on the economy's growth. The reduction in stock prices is also a challenge to economic growth, placing further restraint on monetary policy and additional pressure on depreciating stock prices. These dynamics prefer calling exchange rate movements, not inflation movements or interest rate movements, a legitimate form of shock procedure in which monetary policy can affect the stock market (O. Manasseh & N. Omeje, 2016). Inflation also has a responsive effect on stock price perturbations

through its impact on expected nominal interest rates. The depreciation of the exchange rate contributes to inflation expectations and steepens the nominal yield curve, which inspired the designation of inflation as a valid stock price-influencing variable. Its possibly confounding impacts are tamed by modelling exogenous exchange rate shocks (Pramod Kumar & Puja, 2012).

4.3. External Shocks and Exchange Rates.

External shocks tend to cause exchange rate movements, and the Indian financial markets are becoming less vulnerable to domestic shocks. The extent of integration into the global economy has increased significantly. The salient international factors changed in the aftermath of the global financial crisis, when the Indian economy was shaken by the declines in world trade and asset prices (Goyal, 2014). This vulnerability is evident in the dramatic fall in the rupee's price and the ensuing declines in local and international equity prices, resulting from heightened expectations of a quantitative tapering by the US Federal Reserve in 2013. A growing current account deficit at the beginning of the post-crisis period, driven by rising import bills for oil and edible oils, also increased exposure to externally induced shocks. The shocks to Asian equity markets during the Asian crisis had a smaller impact on the Indian economy

than the shocks to global markets. Also, alterations in the exchange rate due to global financial shocks, inputs to gauge the broader economic effects of these shocks, and indicators of an impending macroeconomic turnaround are noteworthy (Ghosh, 2016).

4.4. Market Expectations and Fiscal Policy.

The behaviour of the stock markets also has a close relation to government policy, which is both fiscal and monetary in nature. Various studies have examined the relationship between fiscal policy variables and stock market performance to draw out their possible, non-negligible effects. The rising fiscal deficit is unquestionably leading to a plunge in stock prices, which tends to reinforce adverse market attitudes toward them (Pramod Kumar & Puja, 2012). Such a negative relationship has an intuitive rationale and is also justified by the negative lending arrangements that exacerbate crowding-out effects. In addition, market players pay close attention to policy changes and government engagement to determine the future direction of the economic recovery. Implications of anticipated government spending targeting and projected changeover plans also affect stock price volatility.

The proxies used to estimate price fluctuations caused by fiscal-policy-

induced changes in the direction of government spending engagement are realised deficits, public debt, and corporate tax-worth, which serve as hidden measures and signals. In furthering the above arguments, fiscal deficits and the resultant accumulation of public debt are conceptualised by investors as serious hazards, as they are considered ineffective in regulating future policy guidelines. In turn, investors' activity and interactions with equities quickly deteriorate, leading to a negative spiral in share values (Stoian & Iorgulescu, 2016). A flow-type variable of public debt allowance is therefore included in the analysis framework where needed. The large gap between planned and implemented fiscal policies in India leads to unusual price patterns around the annual budgetary statement. The government of India centralises planning papers in line with economic expenditure and aggregate demand trends through the government budget cycle.

5. Fundamentals and Stock Prices of the companies.

Macro-financial models serve as intermediaries between aggregate macroeconomic foundations and equity valuation in emerging markets (Sukhija, 2014). In India, increases in real gross domestic product (GDP) and corporate earnings affect price levels in two main ways: the declining effect of the equity real interest rate equilibrium, and the treatment of the improvement in the corporate sector's growth opportunities.

Such propositions have a critical precondition: a viable theoretical framework that ensures the flow of information on macroeconomic variables to equity valuation. The key defining factors of equity valuation are earnings, book value, and growth prospects, a fact well-established in both the corporate finance and investment literature (Muhammad & Ali, 2018). The main channels through which GDP growth feeds into stock prices are corporate earnings and corporate book-value growth. The hypotheses on macroeconomic variables presented in previous sections are based on a theoretical model and empirical evidence as presented in this section.

The above propositions can be systematically tested only by having access to consistent, similar data on corporate earnings, book value, and corporate growth, actively reported for Indian firms across a wide range of industries. The earnings data, presented on an annual and accelerated basis, are reported in the corporate earnings statements in India. In contrast, the book values are reported quarterly by Indian corporations and by various financial information aggregators. The net worth of shareholders is comprised of the book value on the corporate balance sheet. The model is mainly anchored on data of 50

constituents of the National Stock Exchange (NSE)-50 (Nifty-50) index, which is the policy benchmark of the Indian stock market and the day to day movements are given by the FIBV (Flexible Index Based Valuation) model of the six major commercial banks in India, namely, the State Bank of India, the Bank of Baroda, the Punjab National Bank, the Central Bank of India and the Indian Bank.

5.1. Earnings, Book Value and Growth Prospects.

Macroeconomic fundamentals, GDP growth, inflation, and company fundamentals, earnings growth, book value, and growth prospects have been described by Sukhija (2014) as the key drivers of share price. The models of stock price valuation use discounted cash flows or price multiples, which means that the time series of GDP and earnings growth should be used to explain price levels and future growth, respectively. The effect on GDP growth is projected to be positive, thereby positively impacting stock prices in the investment and credit markets. In contrast, the inflation sign is more uncertain due to the possible offsetting effects of discounting and risk premia. With an increase in price-to-earnings ratio, earnings growth is faster, and thus speculation can be made; therefore, a positive factor is expected. The distribution of companies in the palm industry allows GDP growth to be

considered a possible cause of share price and earnings growth related to profit reinvestment, making profit reinvestment an important variable linking earnings to price expectations. Over the years, 79 percent of the NSE capitalisation is represented by the public firms, and therefore, the study analyzes the earnings, book value, and growth prospects of the listed companies in the public sector and that the private financing is available, the information on earnings adjustments is not present, and to ensure comparability, only the quoted firms will be used in the sample.

The prices reflect the discounted value of future earnings. The upward movement in the expected price-to-earnings ratio, with the model extended, would suggest that the price level does not change, but the growth in expected future earnings increases, raising the level of expected future prices and encouraging the rediscovery of the price equation (Sukhija, 2014). As Campbell and Shiller (1988) argue, price-to-earnings, price-to-book, and growth-adjusted price multiples are included in the analysis. The growth-adjusted multiples are used to mitigate endogeneity. However, growth rates remain correlated with the variables of interest, which is why they are included in the model. The respective empirical equations consist of a central part in which growth affects the future-level factor of interest: in the price-

equation scenario, expected earnings; in the output-equation scenario, anticipated GDP.

Earnings, Book Value, and Growth Prospects Sukhija (2014) price index is a firm-level book-value series and a measure of the percentage change in the book-value stock; the analysis takes into consideration the number of firms quoted on the National Stock Exchange. The estimation involves testing the effects of monetary policy and fiscal variable announcements on equity prices. The majority of investors would not view an increase in the price-to-earnings ratio as probable, except when accompanied by an increase in the expected growth rate. The proposal is established under two channels: when there is a direct relationship between the current growth in earnings per share, which was suppressed during the period due to a tax squeeze resulting from an increase in the rate of corporate profits, and when there is an adjustment in the price-earnings ratio. Based on Rozeff and Zaman (1988) and other sources, any firm-level variable that has a significant variation over time in a particular period other than share-price data, which is not overtly there in the policy-regulation period therefore, excess returns to market capitalisation becomes data relative to price, in order to determine the difference in importance of analysis in the unregulated environment.

5.2. Return on Equity and profitability.

The stock market rewards firms based on the profits they generate from normal operations. Profitability is thus one of the determinants of stock prices (Awais, 2018). Return on equity (ROE), which is the ratio of profit after tax to the firm's net worth, is one of the measures used to assess a firm's profitability. A company that makes a profit not only compensates stockholders through dividends but also provides investors with the prospect of future capital appreciation by investing in profitable projects (Datta, Chaudhuri, & Kaur Bhamrah, 2019). Similarly, a company that retains a portion of its profit is a better investment than one that pays 100% dividends at the expense of its net worth.

The profit made last year can be distributed either as dividends or reinvested into the company. This ratio provides a reasonable estimate of the firm's future growth as the market expects. Accordingly, the concept of return on equity can also be called the firm's growth and is associated with the stock price in the given case. For a company with a sustainable capital structure, retained earnings are directly related to price and serve as a proxy for firm growth. ROE should also do bias prediction of excess returns and an increase in capitalisation.

Valuation models show that expected returns must be positively related to the

expected growth rate of dividends. This broad rule applies to dividend discount and cash flow discount models and has far-reaching implications for the price-dividend relation. The prices should be paid off in equilibrium through the excess cash flow generated by profits, shared or reinvested. Retained earnings and liquidation value are determined using abnormal earnings because they keep profits constant. Moreover, very gradual earnings announcement price adjustments will take several periods to stabilise in the long run, with dividends aligned with them.

Profiteering firms, hence, turn out to be preferable to hold, as they demand sustainable growth policies through retained earnings and build additional anticipation of future growth. As such, the firm's profitability determines the incremental capital it can raise, with an initial influence on its valuation. Therefore, the returns flow through the basic concept of sustainable growth that is directly related to the creation of retained earnings. Therefore, a positive correlation is expected between profitability indices, such as the net profit margin and ROE, resulting from earnings and prices.

Heterogeneous screening of capital flow responses was later carried out using abnormal returns by dividend cash flow, with the sign and market exposure varying across sectors. The identification

strategies further carry on the deliberation patterns between various sectors, mitigating quantities embedded.

5.3. Corporate Governance and market responses.

Good corporate governance promotes confidence in how companies are run, and therefore, investors are likely to invest in the company, knowing that their interests are at no risk (Raithatha & Bapat, 2012). Indian investors anticipated that, as part of heightened governance disclosures enabled by the Companies Act of 2013, corporate governance would improve and that governance ratings would be included in investment decisions, which led to drastic positive returns on the announcement of the ratings (Ahmad Busru & Shanmugasundaram, 2016). Event study estimates, therefore, show that further disclosure of formal corporate governance codes goes a long way toward enhancing confidence among external investors.

There are several candidate governance practices worth considering. Prices-earnings ratios may reflect anticipated earnings and the firm's governance structure. In contrast, price-book and growth-adjusted ratios may reflect anticipated return on equity (i.e., the persistence of earnings) and governance factors. An assessment of the effect of such additional information on the

formation of share prices gives insight into the message being communicated by governance to the market, even in the presence of heightened formal governance disclosure.

6. The consideration of both sectoral and Market Structure in India.

Economic processes in India have been slowed in most sectors since liberalisation, leading to a slowdown in the overall economy. There is excessive volatility in sectoral macroeconomic variables, including fixed capital formation, growth in agricultural productivity, agribank credit, worker productivity in agriculture, production of raw materials for the textile industry, per capita employee output, and energy input in agriculture. The importance of various macroeconomic parameters is examined across 11 large industries. Without financial signals such as interest rates, bank credit, and government spending, individuals and firms continue to play an important role in investment decision-making. As a result, cause-and-effect relationships, impulse responses, and variations in the breakdown of the sector's gross domestic product by banks, as well as budgetary allocation to fixed capital formation and to private and governmental fixed capital formation, are examined (Vardhan et al., 2013).

The banking industry has been significant in enhancing sectoral growth through the provision of bank credit following the subprime crisis. The gross domestic product of the various sectors in India has a great impact on the bank credit disbursed. Intra-day trading volumes and turnover ratios in some segments of the Indian capital market remain lower than those of other markets around the globe, despite significant improvements in economic fundamentals. Attention to sectoral indices helps develop appropriate intervention policies. Sectoral index tracking is also used to improve the timing of asset allocation and structural changes (Sukhija, 2014).

6.1. Price Discovery Sectoral Differences.

Price discovery is defined as the adjustment of securities prices in response to new information. Securities in developed markets, where securities are under scrutiny by investors and analysts and are affected by macroeconomic and policy news, are expected to form prices more quickly. The Indian market is emerging from a long history of neglect, and little has been done on price discovery. Macroeconomic and policy news have different implications across sectors. The mechanism for adjusting share prices and timing may differ across sectors, as significant adjustments may be made after the announcement. The macroeconomic news might not be effective in some sectors (Sunila Sharma et al., 2019). The quantitative data for the

sectors of information technology, fast-moving consumer goods, infrastructure, steel, and banking indicate significant disparities in the speed of response to macroeconomic news. The banking sector reacts too slowly compared to what it ought to have, given its heterogeneity in market capitalisation and liquidity. Although there is an umbrella perception that banks are the major conveyors of monetary policy, the effects of the policies on prices have not been felt.

Sukhija (2014) examined the behaviour of share prices across sectors in BSE-listed companies, posing a dilemma for investors: either believe in speculation or in the fundamental drivers of price movements. Liquidity position, resulting in weak demand within the economy and constraints on access to external loans, made the Indian economy vulnerable to internal shocks and could be expected to pull down the growth in cash flows shown by the listed companies. Massive fiscal deficits and the integration of monetary policy across multiple fronts marked 2012-13. Price behaviour was investigated in both pre- and post-announcement levels of the Reserve Bank of India and the Union Budget announcements. There was sector differentiation in the price behaviour. BSE-listed firms respond differently when the Reserve Bank of India announces liquidity and exhibit high variance in their responses to the Government of India's announced budget, owing to low information penetration across sectors.

6.2. Liquidity in the Market and Volatility in the Price.

Persistent liquidity is critical to stabilising discrete price movements and must consequently reduce the impact of exogenous shocks on equity prices (Naik et al., 2020). However, active market-makers ought to be well-informed of macroeconomic fundamentals in theory, enabling them to absorb any plunge and minimise valuation deviation. It is the lack of long-run equilibrium in share prices, i.e., the co-integration with stock market liquidity, in conjunction with the significant impact of these fundamentals on the Indian stock market, that indicates that the effect of stock market liquidity-reducing shocks on prices should be larger.

Price volatility is the focal control variable for liquidity, and the acceptance is that concentrated trading at major price points may put pressure on the instrument's price in either direction. Liquidity may be determined by turnover, bid-ask spread, and the number of experienced trades. The projected association between share prices and turnover is not direct; an inverse relationship could be observed as trading increases.

However, turnover is a suitable estimator; its association with price volatility is established using Granger causality tests, which substantiates its use as a liquidity measure, and the gradual adaptability of turnover to the preceding regime change is a possible structural break. Estimating the channels through which macroeconomic fundamentals affect company values requires in-depth knowledge of macroeconomic dynamics and their effects on company finances.

7. Empirical Evidence: Test and Results.

The fundamental drivers of the economy dictate stock prices and provide a long-run anchor for valuation. Three macroeconomic variables have a significant impact on price levels in the Indian stock market, directly or indirectly through incentive channels, including gross domestic product (GDP) growth, inflation, and the nominal exchange rate. On the company side, price levels are explained by earnings growth and the price-to-earnings (P/E) ratio, and earnings growth is controlled by the return on equity (ROE). Investor reaction and market pricing are also further formed by institutional practices of corporate governance. The sectoral idiosyncrasies, in the form of differences in growth sensitivity and intra-sectoral liquidity, also contribute to price establishment and transmission throughout the economy. There is a steady correlation between theory and the facts.

The analysis is based on quarterly data covering the full post-liberalisation period in India from 1991 to 2013, during which the economy, financial, and policy frameworks underwent significant changes. The proposed macroeconomic and company fundamentals mirror the underlying forces driving demand-side equities. The instantaneous transmission is investigated using Granger-causality tests, whereas long-run relationships are investigated using the cointegrated-variate autoregression framework. The short-run dynamics are studied using the vector error-correction model (VECM) and impulse-response functions. The dates of announcement of major changes in fiscal and monetary policies are external events that provide additional identification of expectations and the resulting price change (Sukhija, 2014).

Table 2: Summary of main relationships

Driver	Expected effect on prices	Empirical finding (India)
Real GDP growth	Positive	Positive and significant
Inflation	Ambiguous	Mixed / regime-dependent
Nominal exchange rate	Depreciation → negative	Mostly negative in the long run
Earnings growth	Positive	Positive and significant
Return on equity (ROE)	Positive	Positive for high-ROE firms
Governance disclosures	Positive	Positive announcement effects

The summary of key theoretical forecasts and empirical evidence on India is presented in Table 2. It demonstrates that higher equity valuations are supported by GDP growth, earnings growth, profitability, and governance indicators in general, and by a more subtle role for inflation and exchange rate movements.

7.1. Autoregression and Causality.

This empirical study uses a vector autoregression (VAR) model to investigate the dynamic interdependence between Indian stock prices and macroeconomic variables. The index selected is the sensitive index (SENSEX) of the Bombay Stock Exchange, the first publicly traded stock index in Asia, expressed in logarithmic form. The structural VAR (SVAR) method is used to determine the effects of exogenous shocks on the economy and to separate typical patterns in macroeconomic variables and the stock price. Economic theory is employed to identify the ranking of endogenous variables in the

SVAR system and to earmark external shocks that influence stock prices in India. As the research is based on macro variables, which influence the price of stocks considerably, the exogenous variables, cash reserve ratio (CRR), statutory liquidity ratio (SLR), and foreign institutional investment (FII), are used to explore the data.

The four equations include money supply, investment, output, and stock prices, which together form a four-variable SVAR model. Recognition of an order using the economic theory reveals that the prices of stocks are adjusted to the output level. Shocks to investment also affect stock prices, although alterations in the investment variable are presumed to respond indirectly to output adjustments. An increase in the money supply raises stock prices because it signals higher output. Stock prices' levels do not respond contemporaneously to shocks to the CRR, SLR, or the FII variables; however, changes in the stock price index and output affect the CRR and FII in the second period and onward in a significant way. Thus, the SLR variable will not be used as a part of the primary empirical analysis to investigate how the inflation rate affects the stock prices in India.

In analysing the effects of macroeconomic factors on share prices in India, Granger causality tests are employed. The macroeconomic indicators to be used are selected based on their importance in explaining changes in the share price. Causal research measures the direction of impact between macroeconomic variables and Indian stock prices. Then, structural equation modelling (SEM) is employed to infer causation regarding the movement of share prices with respect to macroeconomic variables, such as GDP and the wholesale price index (Pramod Kumar & Puja, 2012).

7.2. Long-Run Relationships and Cointegration.

Price levels indicate the anticipated discounted value of the future cash flows, including dividends or earnings. These future cash flows are based on a firm's sales, costs, and profits. It has always been part of the theory that macroeconomic variables affect equity prices by impacting firm fundamentals. Macroeconomic variables do not have direct relations with stock prices; however, they influence future cash flows and risk, which are the real determinants of prices at the level (Pramod Kumar & Puja, 2012). The impact of macroeconomic variables on stock prices is indirect: they are correlated with aggregate corporate profits, which in turn depend on the economy's output, future projected profits, and the prices of factors of production, rather than giving a direct relationship to aggregate stock prices (Guidi, 2010). In this view,

macroeconomic variables can be categorised into two: variables that influence the level of anticipated aggregate profits, and variables that influence the discount factor applied to valuing the expected aggregate profits. The growth rate of real GDP influences the level of expected profits in the economy. Stock-price theory is therefore a causal relationship that is projected to go in a particular direction where the growth of GDP, gross domestic product, which is an economic indicator of the amount of goods and services that are produced in an economy, is given as its cause and corporate profits, and subsequently, stock prices, as its effect.

The following three macroeconomic variables are thus of special interest to the valuation of equities: G, the rate of growth of the real GDP; INF, the inflation rate; and REER, the real effective exchange rate. The macroeconomic theory also suggests the anticipated indicators of the relationships, channels, and measures of these variables.

7.3. Policy Announcements and Event Studies.

Information about future government policies can be conveyed through macroeconomic policy announcements. Several studies identify an event window to identify the effects of announcements on Indian macroeconomic policies (Ghani, Ghulam, Mujtaba, Chaudhary, 2016). The reactions of prices to these announcements indicate the sensitivity of macroeconomic fundamentals to equity valuation, which supports the relationship between macro variables and share prices.

The focus of event-study analysis is on abnormal returns surrounding policy announcements. An event window is typically used to account for the dissemination of information before and after the event, and to consider confounding events, as shown in a typical event window, assuming the information announcement date and a 5-day estimation period before the event. The positive or negative abnormal returns that are statistically significant indicate the perceived expansionary or contractionary characteristics of an announcement.

Based on the rational expectations approach, the research examines the effects of unexpected elements in announcements on share prices. The variances of the total abnormal returns and the residual ones prior to the event indicate a constituent already known to the market. The statistical significance during the pre-announcement period thus supports the hypothesis that a significant part of the announcement was ex ante anticipated.

Robustness tests use the interest rate target parameter of the Taylor rule to

assess the monetary policy response at the March 2010 policy meeting. The results of monetary policy assessment and the Taylor rule strategy yield the same findings regarding the stock market response and are consistent with other event studies (Sasidharan, 2009).

8. Implications and Investment Practice Policy.

The discussion of the basic equity valuation drivers in India has the potential to affect both policymakers and practitioners. Macroeconomic fundamentals and share prices reveal a number of direct and indirect indicators of the country's stock market behaviour, as graphically presented. The subsequent messages can be taken into account by policymakers interested in maintaining or raising equity values as they consider various economic alternatives.

The country's gross domestic product growth is not only a good input for stock-price valuation but is also likely to increase companies' expected earnings growth. In evaluating other economic policies, policymakers may be able to determine the likely impact on gross domestic product growth. Moreover, registered fiscal deficits also seem to have a strong signalling effect, which may affect policy implementation in situations of Government formation. The estimate of the probable deficit trail in the run-up to the May 2014 election showed that the new government would expect

another decline, which would be a concern after the election.

Inflation is another variable whose macroeconomic contribution to the determination of share prices is instructive. Despite the effects of both nominal and real inflation on prices, the most relevant measure for determining stock valuation will be the one that focuses on inflation expectations. According to the Reserve Bank of India, people's expectations in India had been trending upward over the decade before the 2014 election. Signal extraction activities that stressed other basic economic components were bound to bring to the fore the significance of the inflation dimension (S. Poshakwale & Thapa, 2010).

9. Future Research Limitations and Direction.

In India, the strategic drivers of stock prices are macroeconomic aggregates and firm-level variables that significantly influence them (Datta, Chaudhuri, & Kaur Bhamrah, 2019). However, the available data limits the comprehensive coverage of the interactions and propagation of macroeconomic variables to stock prices. Further detailed studies of the channels and the Indian economy would provide more insight into the concepts that govern stock values.

10. Conclusion

The theoretical model linking economic fundamentals and market valuation in India is outlined first, and the definitions of the basic drivers, stock prices, valuation models, and empirical systems are presented. The four main macroeconomic drivers are defined as follows, with the intended signs of the relationships, the mechanisms by which the drivers are supposed to act on real stock prices, and the sources and constructions of the data to be used to measure the macroeconomic drivers. The macroeconomic analysis of drivers is augmented by an analysis of the company's fundamentals. This is then reduced to the major sources of data, the measurement strategies and how the possible confounding variables are to be handled. The focus is on the mediating variables of sectoral and market structure in determining the relationship between macroeconomic fundamentals and stock prices, and company fundamentals that determine the discount rate at which future cash flows are valued.

The prices are based on the value of expected future cash flows. The most common forms of cash flows in equity valuation are dividends, earnings, and book value, with the corresponding valuation measures being the dividend yield, price-to-earnings (P/E) ratio, and price-to-book (P/B) ratio (Sukhija, 2014). The existing body of evidence on determinants of the firm-level prices of stocks is recorded subsequently, the transmission channels to the prices of economic fundamentals, the fundamental data needs of the empirical models advanced in the literature, and the relationship between scores of corporate governance, abnormal returns and risk perceptions (Datta, Chaudhuri, and Kaur BHAMRAH, 2019). The economy has sectors with heterogeneous stock price reactions to macroeconomic and policy variables, which is consistent with firm-level properties, governance, liquidity, and the significance of monetary and fiscal processes. The characteristics of price discovery across different industries, including detailed descriptions of whether it is a macroeconomic recovery or company- or sector-driven price recovery, and the sensitivity differences in response to macroeconomic and policy news, are described.

The rate at which information is incorporated into prices depends on market liquidity and trading activity. There is also the relationship between the trading volume, the bidask spread, price volatility and information efficiency that is discussed, and this is in the form of the volumevolatility relationships when there is a structural break in the aggregate stock market. Each of the four macroeconomic drivers indicated in each instance has a different impact on the stock market level, depending on the

transmission channels involved. The combination of fiscal and exchange rate announcements shows the significant role expectations play in determining stock prices, and it is important to focus not only on the content of the announcements but also on the information being passed across in the policy-making process of the development country.

References:

1. Ahmad Busru, S., & Shanmugasundaram, G. (2016). Corporate disclosure scores and share price reaction: Empirical study of Indian listed firms (post-Satyam period). *IIMB Management Review, 28*(3), 160–172.

2. Awais, M. (2018). Explaining the cross-section of stock returns: A comparative study of Pakistan and India. *International Journal of Economics and Financial Issues, 8*(3), 1–10.

3. Chaudhary, M. G. G. M., & Chaudhary, M. G. M. G. (2016). Stock market response to policy announcement: Evidence from the banking sector of Pakistan. *Journal of Finance and Economics, 4*(3), 76–85.

4. Datta Chaudhuri, T., & Kaur Bhamrah, G. (2019). Can portfolio returns exceed market returns? An examination of the efficient market hypothesis for the Indian stock market. *Journal of Economics and Business, 6*(3), 159–167.

5. Ghosh, T. (2016). Oil price, exchange rate and the Indian macroeconomy. *Energy Studies Review, 23*(1), 55–78.

6. Goyal, A. (2014). External shocks and the Indian economy. *Macroeconomics and Finance in Emerging Market Economies, 7*(1), 1–24.

7. Guidi, F. (2010). Cointegration relationships and time-varying co-movements among Indian and Asian developed stock markets. *International Review of Financial Analysis, 19*(2), 88–99.

8. Manasseh, C. O., & Omeje, A. N. (2016). Application of the generalised autoregressive conditional heteroscedasticity model to inflation and share price movements in Nigeria. *International Journal of Business and Economic Sciences Applied Research, 9*(2), 43–52.

9. Muhammad, S., & Ali, G. (2018). The relationship between fundamental analysis and stock returns based on the panel data analysis: Evidence from Karachi Stock Exchange (KSE). *Asian Journal of Empirical Research, 8*(1), 1–12.

10. Naik, P. K., & Padhi, P. (2012). The impact of macroeconomic fundamentals on stock prices

revisited: Evidence from Indian data. *MPRA Paper, 38980*, 1–24.

11. Naik, P. K., Poornima, B. G., & Reddy, Y. V. (2020). Measuring liquidity in the Indian stock market: A dimensional perspective. *BMC Research Notes, 13*, Article 415.

12. Nair, M. S. (2014). Inflation dynamics in India: An analysis. *Indian Economic Journal, 62*(1), 45–60.

13. Poshakwale, S. S., & Thapa, C. (2010). Foreign investors and the global integration of the emerging Indian equity market. *Review of Quantitative Finance and Accounting, 35*(2), 179–198.

14. Raithatha, M., & Bapat, V. (2012). Corporate governance compliance practices of Indian companies. *Procedia Economics and Finance, 2*, 53–62.

15. Sarkar, P. (2006). Stock market development, capital accumulation and growth in India since 1950. *Journal of Macroeconomics and Finance in Emerging Market Economies, 1*(2), 275–296.

16. Sasidharan, A. (2009). The stock market's reaction to monetary policy announcements in India. *Indian Economic Review, 44*(2), 223–248.

17. Sharma, S. S., Thuraisamy, K., Madyan, M., & Laila, N. (2019). Evidence of price discovery on the Indonesian stock exchange. *Pacific-Basin Finance Journal, 54*, 1–15.

18. Stoian, A., & Iorgulescu, F. (2016). Do investors listen to fiscal policy? Case study: Bucharest Stock Exchange. *Theoretical and Applied Economics, 23*(3), 127–142.

19. Sukhija, S. (2014). An explicit model on fundamental factors affecting stock prices of BSE-listed companies in India: An inter-industry approach. *European Journal of Business and Management, 6*(14), 2222–2839.

20. Vardhan, H., Vij, M., & Sinha, P. (2013). Insight into Indian sector indices for the post-subprime crisis period: A vector error correction model approach. *Journal of Economics and Business, 31*(2), 45–66.