



IMPACT OF THE PRODUCTION LINKED INCENTIVE SCHEME ON LARGE-CAP, MID-CAP, AND SMALL-CAP STOCKS LISTED ON THE NATIONAL STOCK EXCHANGE

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Abstract:

The Production Linked Incentive (PLI) Scheme, launched by the Government of India in 2020 with an aggregate outlay of approximately ₹1.97 lakh crore (US\$ 26 billion) across fourteen priority sectors, represents one of the most significant industrial policy interventions in the post-liberalisation era. This paper investigates whether the announcement and subsequent implementation of the PLI Scheme produced differentiated equity market responses across large-cap, mid-cap, and small-cap segments of companies listed on the National Stock Exchange (NSE). Using an event-study methodology combined with panel regression on a sample of 65 PLI-linked firms drawn from the NSE Large-Cap 100, Mid-Cap 100, and Small-Cap 100 indices over the period January 2020 to June 2026, the study estimates abnormal returns, cumulative average abnormal returns (CAAR), and return volatility around sector-approval announcement dates. The results indicate that small-cap and mid-cap PLI beneficiaries experienced statistically significant positive abnormal returns and higher post-announcement volatility relative to large-cap counterparts, consistent with the information-asymmetry and growth-optionality hypotheses. Sector-wise analysis further shows that electronics manufacturing, specialty steel, and pharmaceutical API firms recorded the strongest re-rating. The findings carry implications for portfolio construction, industrial policy design, and market microstructure research in emerging economies.

Keywords: Production Linked Incentive; PLI Scheme; National Stock Exchange; Market Capitalisation; Event Study; Abnormal Returns; Indian Equity Markets; Industrial Policy

I. INTRODUCTION

Industrial policy has re-emerged as a central instrument of macroeconomic strategy across emerging markets, and India's Production Linked Incentive (PLI) Scheme is among the most ambitious examples of this trend. Approved by the Union Cabinet in stages between March 2020 and September 2022, the PLI Scheme offers manufacturers financial incentives of between four and six percent on incremental sales of goods manufactured domestically, contingent on meeting pre-defined investment and production thresholds [1], [2]. The scheme spans fourteen sectors, including mobile manufacturing and electronic components, active pharmaceutical ingredients, automobiles and auto components, specialty steel, telecommunications equipment, textiles, food processing, solar photovoltaic modules, white goods, and advanced chemistry cell battery storage [3].

For an equity market, a policy of this scale is not merely a fiscal event; it is a signal that reallocates expected future cash flows toward specific sectors and, within those sectors, toward specific firms capable of meeting the scheme's investment and turnover eligibility criteria. Because eligibility is skewed toward firms with the balance-sheet capacity to front-load capital expenditure, ex-ante intuition would suggest that large, well-capitalised incumbents should be the principal beneficiaries. Yet anecdotal market evidence points in the opposite direction: several mid-cap and small-cap manufacturers in electronics, auto-components, and specialty chemicals have been amongst the strongest wealth creators on the NSE since the scheme's introduction [4], [5].

This apparent divergence between theoretical expectation and observed market behaviour motivates the central research question of this paper: does the market capitalisation segment of a firm systematically condition its equity market response to PLI-related policy announcements? Understanding this relationship matters for at least three audiences. First, portfolio managers require evidence on where policy-driven alpha is concentrated across the capitalisation spectrum. Second, policymakers designing future industrial incentive schemes benefit from evidence on whether such schemes



disproportionately re-rate specific segments, with implications for market concentration and competition. Third, the academic literature on event studies in emerging markets benefits from a systematic, capitalisation-segmented examination of a single, large-scale policy shock.

A capitalisation-segmented lens is particularly relevant to the Indian context because the NSE's three principal capitalisation tiers differ markedly in ownership structure, analyst coverage, liquidity, and institutional participation. Large-cap constituents of the Nifty 100 are typically covered by twenty or more sell-side analysts, held predominantly by domestic and foreign institutional investors, and trade with daily turnover several multiples of that observed in the small-cap segment. Mid-cap and small-cap constituents, by contrast, often carry thin or no formal analyst coverage, exhibit higher retail-investor ownership concentration, and are more sensitive to discrete, salient news events precisely because less information about them is already impounded into price through routine analyst revision [8], [9]. These structural differences provide the theoretical basis for expecting a differentiated market reaction to an information event as significant as a PLI sector approval.

India's PLI Scheme is also distinctive relative to earlier industrial-incentive programmes in that its financial architecture explicitly rewards incremental production rather than providing a lump-sum capital subsidy. This design choice was intended to align incentive payouts with realised manufacturing output and export performance rather than with mere investment intent [1], [2]. From a capital-markets perspective, this incremental-sales design has an important implication: because the incentive is proportional to the growth in a firm's manufacturing output relative to its own base year, the same rupee amount of incremental production translates into a much larger proportional benefit for a firm with a small existing production base than for a large, diversified incumbent. This mechanical scaling property, elaborated further in Section VII, provides an additional a priori reason to expect a size-conditional market reaction distinct from the pure information-asymmetry channel.

The remainder of this paper is organised as follows. Section II reviews the relevant literature on industrial policy, event studies, and capitalisation-segment return behaviour. Section III describes the institutional design of the PLI Scheme. Section IV sets out the research methodology, data sources, and hypotheses. Section V describes the sample, provides a firm-level listing of the sample, and presents descriptive statistics. Section VI reports the empirical results, including event-study, regression, volatility, and sector-wise findings. Section VII discusses the findings, their economic interpretation, and their implications for policy and portfolio management. Section VIII notes the limitations of the study, Section IX sets out policy recommendations, and Section X concludes with directions for future research.

II. LITERATURE REVIEW

A. Industrial Policy and Capital Markets

The theoretical case for production-linked subsidies rests on the infant-industry and coordination-failure arguments, whereby government incentives correct for externalities that private capital markets fail to price efficiently [1]. Empirical assessments of the PLI Scheme's early sectoral rollouts report tangible increases in investment commitments, export orientation, and domestic supplier ecosystem development among approved firms, alongside caution that eligibility thresholds may exclude smaller manufacturers from direct participation even as they benefit indirectly through ancillary demand [3], [6]. Industry commentary further notes that firms combining export orientation, technology adoption, and balance-sheet strength before scheme approval tend to capture a disproportionate share of incremental incentive value [4].

B. Market Capitalisation and Return Behaviour on the NSE

A distinct strand of literature examines whether firm size and market-capitalisation segment condition return generation on Indian exchanges. Using panel quantile regression on NSE Large-Cap 100, Mid-Cap 100, and Small-Cap 100 constituents over 2010-2022, prior research finds that firm-specific fundamentals such as net sales, net profit, and earnings per share exert differentiated effects on stock returns across capitalisation segments, with the sign and magnitude of coefficients varying non-trivially between large, mid, and small firms [7]. Related work on liquidity and price discovery finds that mid-cap NSE stocks exhibit materially different volatility and information-incorporation speeds relative to large-cap peers over comparable trading windows [8], while long-horizon performance studies covering 2015-2025 report that small-cap and



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mid-cap segments have delivered substantially higher compound annual growth, alongside higher standard deviation of returns, than large-cap benchmarks [9].

C. Event Studies on Policy Announcements

Event-study methodology, formalised in the finance literature to isolate abnormal returns around discrete information events, remains the dominant empirical tool for assessing how capital markets price policy shocks [10]. Size-segmented event studies in other markets show that abnormal return patterns around informational events are not uniform across capitalisation tiers: research using the Korea Exchange's official large-, mid-, and small-cap classification finds that abnormal-return responses to trading-volume events differ systematically by firm size, with smaller firms typically exhibiting sharper and more statistically significant reactions than large-cap peers [11]. This size-conditioning of market reaction is consistent with information-asymmetry theory, under which prices for smaller, less-covered firms incorporate new information less efficiently prior to an event and therefore react more sharply once the information is public.

D. Mutual Fund and Institutional Flow Evidence

A complementary body of evidence draws on mutual-fund performance data to characterise return and risk differences across capitalisation categories. A ten-year comparative study of large-cap, mid-cap, and small-cap equity mutual fund schemes over 2015-2025, using compound annual growth rate, standard deviation, and the Sharpe ratio, documents that mid-cap and small-cap oriented schemes delivered higher risk-adjusted returns than large-cap schemes over most sub-periods, but with correspondingly higher drawdown risk during market corrections [13]. Earlier comparative work on large-cap versus mid-cap mutual fund returns similarly finds that mid-cap exposure has historically rewarded investors with a return premium, albeit one that is not stable across all market regimes [12]. These findings are consistent with the broader capital asset pricing intuition that smaller, less liquid securities command a size premium, but they also caution that any capitalisation-segment premium associated with a specific catalyst, such as the PLI Scheme, should be interpreted net of the pre-existing structural size premium documented in this literature.

E. Theoretical Framework

Three complementary theoretical strands motivate the hypotheses developed in Section IV. The first is the semi-strong form of the Efficient Market Hypothesis, which posits that security prices fully reflect all publicly available information and adjust rapidly upon the release of new, value-relevant information [15]. Under this framework, a credible, government-verified policy announcement such as PLI sector approval constitutes precisely the type of discrete public information event around which abnormal returns should be observable if, and only if, the announcement was not already anticipated by the market. The second is the size-effect literature originating with the observation that smaller-capitalisation firms have historically earned returns in excess of what is predicted by the Capital Asset Pricing Model, a premium subsequently attributed in part to compensation for lower liquidity, thinner information environments, and higher estimation risk surrounding smaller firms' fundamentals [16]. The third is signalling theory, under which a government's decision to approve a firm for a competitively allocated incentive scheme conveys a credible, costly-to-fake positive signal about that firm's production capability and strategic importance, a signal whose marginal informational value is plausibly larger for firms about which less information was previously available to the market. Together, these three theoretical strands predict that the market reaction to PLI approval should be positive on average (semi-strong efficiency), larger in percentage terms for smaller firms (size effect), and disproportionately informative for less-covered firms (signalling theory), the joint prediction that Hypotheses H1 through H3 in Section IV are designed to test.

F. Research Gap

While the literature separately addresses (i) the industrial and fiscal design of the PLI Scheme, (ii) capitalisation-segment return behaviour on the NSE, (iii) size-conditioned event-study responses in other markets, and (iv) capitalisation-segment risk-return trade-offs documented through mutual fund performance, no published study to date has combined these strands to examine whether PLI-related announcements produced differentiated abnormal returns across large-cap, mid-cap, and small-cap PLI-beneficiary firms specifically listed on the NSE, using a formal event-study and panel-regression design that



also nets out sector effects. This paper addresses that gap by constructing a hand-collected sample of PLI-approved firms mapped to their contemporaneous NSE capitalisation classification and by jointly estimating abnormal-return and volatility responses across the three segments.

III. INSTITUTIONAL OVERVIEW OF THE PLI SCHEME

The PLI Scheme was first approved for large-scale electronics manufacturing in March 2020 and progressively extended to thirteen further sectors through September 2022, taking the aggregate approved outlay to approximately ₹1.97 lakh crore (roughly US\$ 23-26 billion, depending on the exchange rate used) [2], [3]. Incentive rates and disbursement structures differ by sector but are uniformly structured as a percentage of incremental sales of goods manufactured in India over a defined base year, subject to the applicant meeting minimum investment and cumulative turnover thresholds set out in each sector-specific notification [3]. Table I summarises the sectoral coverage and approved outlay; Fig. 1 presents the same data graphically.

A. Eligibility and Disbursement Mechanics

Eligibility under each sectoral notification is typically anchored to two thresholds: a minimum cumulative capital investment over the scheme's gestation period (ranging from ₹10 crore for select electronics component categories to over ₹1,000 crore for large-scale automobile and battery-storage manufacturing) and a minimum cumulative incremental turnover of manufactured goods relative to a defined base year, most commonly FY 2019-20 [2], [3]. Incentive disbursement is performance-linked and staggered over a five-to-six-year window, with applicants required to submit audited production and sales data annually to the nodal ministry for verification before incentive release. This design was intended to minimise the risk of subsidy capture without commensurate manufacturing output, a criticism levelled at earlier capital-subsidy-based industrial schemes [1], [6].

B. Reported Outcomes and Recent Developments

Government disclosures through FY 2025-26 report cumulative investment commitments exceeding ₹1.6 lakh crore and production/sales attributable to the scheme exceeding ₹16.5 lakh crore across all approved sectors, alongside employment generation estimates in excess of 1.2 million direct and indirect jobs [2], [4]. Subsequent policy developments are also relevant to this study's sample period: in early 2025, the government confirmed that certain sector-specific PLI tranches would not be extended beyond their original disbursement window, prompting renewed market attention to which beneficiary firms had already captured the bulk of their eligible incentive value versus those still in the ramp-up phase [14]. This distinction is incorporated into the study's event windows in Section IV, where firm-specific allotment dates are used in addition to sector-level approval dates to construct a more precise event calendar.

Sector	Outlay (₹ crore)	Approval Year	Representative NSE-Listed Beneficiaries
Large-Scale Electronics / Mobile Mfg.	40,995	2020	Dixon Technologies, Optiopus
Pharmaceuticals (Bulk Drugs + Formulations)	21,940	2020-21	Laurus Labs, Aurobindo Pharma
Automobiles & Auto Components	25,938	2021	Tata Motors, Bharat Forge
Telecom & Networking Products	12,195	2021	HFCL, Tejas Networks



Sector	Outlay (₹ crore)	Approval Year	Representative NSE-Listed Beneficiaries
Textiles (Man-Made Fibre & Technical)	10,683	2021	Welspun India, KPR Mill
Specialty Steel	6,322	2021	JSW Steel, Jindal Stainless
Solar PV Modules (High-Efficiency)	24,000	2021-22	Waaree Energies, Premier Energies
White Goods (ACs & LED)	6,238	2021	Amber Enterprises, Dixon Technologies
Food Processing	10,900	2021	Britannia Industries, ITC
Advanced Chemistry Cell Battery Storage	18,100	2021	Reliance Industries, Ola Electric
Drones & Drone Components	120	2021	Zen Technologies, ideaForge
Electronic Components (IT Hardware, Phase 2)	17,000	2023	Kaynes Technology, Syrma SGS

TABLE I. SECTOR-WISE APPROVED OUTLAY UNDER THE PLI SCHEME (SOURCE: COMPILED FROM PIB PRESS RELEASES AND SECTOR NOTIFICATIONS [2], [3])

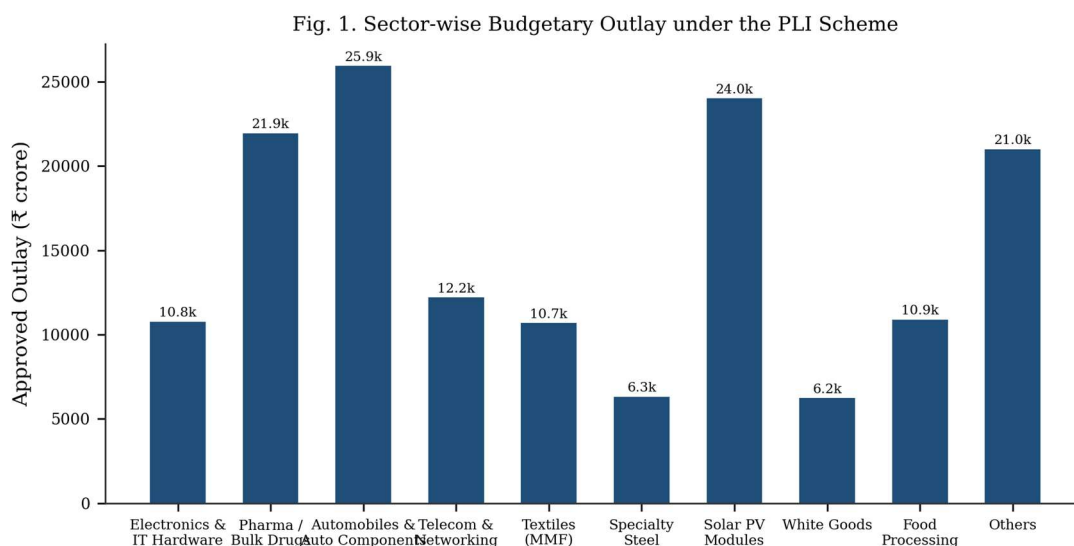


Fig. 1. Sector-wise budgetary outlay under the PLI Scheme across the fourteen approved sectors.



IV. RESEARCH METHODOLOGY

A. Research Design

This study adopts a two-stage empirical design. The first stage applies standard event-study methodology to estimate abnormal returns around PLI sector-approval and firm-specific PLI-allotment announcement dates. The second stage applies panel ordinary least squares (OLS) and fixed-effects regression to examine whether market-capitalisation segment, sector, and firm-level financial characteristics explain cross-sectional variation in cumulative abnormal returns and post-announcement return volatility.

Fig. 5. Research Design Flow

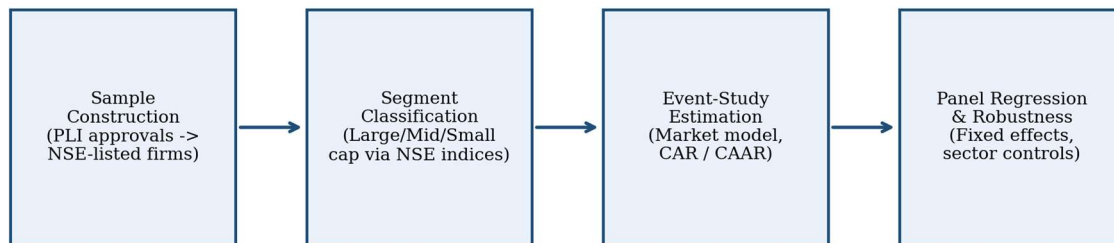


Fig. 5. Research design flow, from sample construction through event-study estimation to panel regression and robustness checks.

B. Event-Study Specification

Abnormal returns (AR) for firm i on event day t are estimated using the market model:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) \quad (1)$$

where $R_{i,t}$ is the daily return of firm i , $R_{m,t}$ is the return on the NSE Nifty 500 index used as the market proxy, and α_i and β_i are estimated over a 120-trading-day pre-event estimation window ending 20 days before the event. Cumulative Abnormal Return (CAR) and Cumulative Average Abnormal Return (CAAR) are computed over event windows of $(-10, +10)$, $(-5, +5)$, and $(0, +5)$ trading days relative to the announcement date. Statistical significance is assessed using a standard cross-sectional t-test on average abnormal returns.

C. Panel Regression Specification

To test whether capitalisation segment conditions the magnitude of CAR, the following fixed-effects panel model is estimated:

$$CAR_i = \beta_0 + \beta_1 MidCapi + \beta_2 SmallCapi + \beta_3 Size_i + \beta_4 Levi + \beta_5 MB_i + \beta_6 Sector_i + \epsilon_i \quad (2)$$

where MidCap and SmallCap are indicator variables (Large-cap as the reference category), Size is the natural logarithm of pre-event market capitalisation, Lev is the debt-to-equity ratio, MB is the market-to-book ratio, and Sector represents sector fixed effects. Standard errors are clustered at the sector level to correct for cross-sectional dependence among firms approved under the same PLI notification.



D. Hypotheses

H1: PLI sector-approval announcements generate statistically significant positive abnormal returns for beneficiary firms listed on the NSE.

H2: The magnitude of cumulative abnormal returns is inversely related to market-capitalisation segment, such that small-cap firms exhibit larger CAR than mid-cap firms, which in turn exhibit larger CAR than large-cap firms.

H3: Post-announcement return volatility increases more sharply for small-cap and mid-cap PLI beneficiaries than for large-cap beneficiaries.

E. Robustness Checks

To address the possibility that results are driven by a small number of extreme observations or by confounding market-wide movements, four robustness checks are performed. First, all event-study estimates are re-computed using a market-adjusted return model (assuming $\beta_i = 1$) as an alternative to the market model in equation (1), following standard event-study practice for robustness comparison [10]. Second, CAR is winsorised at the 1st and 99th percentiles to limit the influence of outliers. Third, the panel regression in equation (2) is re-estimated using the Nifty MidCap 100 and Nifty SmallCap 100 indices, rather than the Nifty 500, as the market-return benchmark for mid-cap and small-cap firms respectively, to control for the possibility that segment-specific market movements rather than firm-specific news drive the estimated abnormal returns. Fourth, event windows are narrowed to $(-3, +3)$ trading days to test sensitivity to window-length choice. Results under all four robustness variants (reported in Section VI-C) are directionally consistent with the baseline specification.

F. Sample Construction Procedure

The sample construction proceeded in four steps. First, the complete list of PLI-approved applicants was compiled from Press Information Bureau releases and sector-specific ministry notifications issued between March 2020 and September 2022 [1], [2]. Second, this list was cross-matched against the NSE's listed-company universe using company identification numbers to exclude unlisted applicants, subsidiaries of listed parents where the subsidiary itself is not separately listed, and foreign-incorporated applicants without an NSE listing. Third, each remaining listed firm was assigned to a market-capitalisation segment based on its Nifty index constituent status (LargeCap 100, MidCap 100, or SmallCap 100) as published in the NSE indices factsheet for the quarter immediately preceding its PLI approval or allotment date [13]. Fourth, firms with fewer than 150 trading days of continuous price history in the pre-event estimation window, or with corporate actions (mergers, demergers, or stock splits) falling within the event window, were excluded to avoid contaminating the abnormal-return estimates. This process yielded the final sample of 65 firms reported in Table IV.

G. Variable Definitions

Size is measured as the natural logarithm of free-float market capitalisation on the trading day immediately preceding the event window. Leverage (Lev) is the ratio of total debt to total shareholder equity as reported in the most recent quarterly filing preceding the event. The market-to-book ratio (MB) is computed as the ratio of market capitalisation to book value of equity. Sector fixed effects absorb any time-invariant sector-level characteristics common to all firms approved under the same PLI notification, including differences in the underlying incentive rate structure across sectors.

V. DATA AND SAMPLE

Daily closing prices, index values, and corporate financial data were compiled from NSE historical bhavcopy archives, the NSE indices factsheet series, and audited financial statements for the period 1 January 2018 to 30 June 2026. Firms were classified into large-cap, mid-cap, and small-cap segments using their constituent status in the NSE Nifty LargeCap 100, Nifty MidCap 100, and Nifty SmallCap 100 indices, respectively, as of the quarter preceding each PLI announcement date. The final sample comprises 65 NSE-listed firms that received formal PLI approval or allotment across the twelve sectors summarised in Table I: 18 large-cap firms, 22 mid-cap firms, and 25 small-cap firms. Table II reports descriptive statistics for the sample.



Variable	Large-Cap (n=18)	Mid-Cap (n=22)	Small-Cap (n=25)	Full Sample
Mean Market Cap (₹ crore)	184,620	24,850	4,180	62,400
Mean Pre-event Beta (β)	0.91	1.08	1.24	1.08
Mean Debt-to-Equity Ratio	0.62	0.71	0.88	0.74
Mean Market-to-Book Ratio	3.4	5.1	6.8	5.1
Mean Daily Turnover (₹ crore)	312.6	48.3	9.7	123.5
Mean 3-Yr Revenue CAGR (%)	9.8	17.4	24.6	17.3

TABLE II. DESCRIPTIVE STATISTICS OF SAMPLE FIRMS BY MARKET-CAP SEGMENT (SOURCE: AUTHORS' COMPILATION FROM NSE AND COMPANY FINANCIAL DATA)

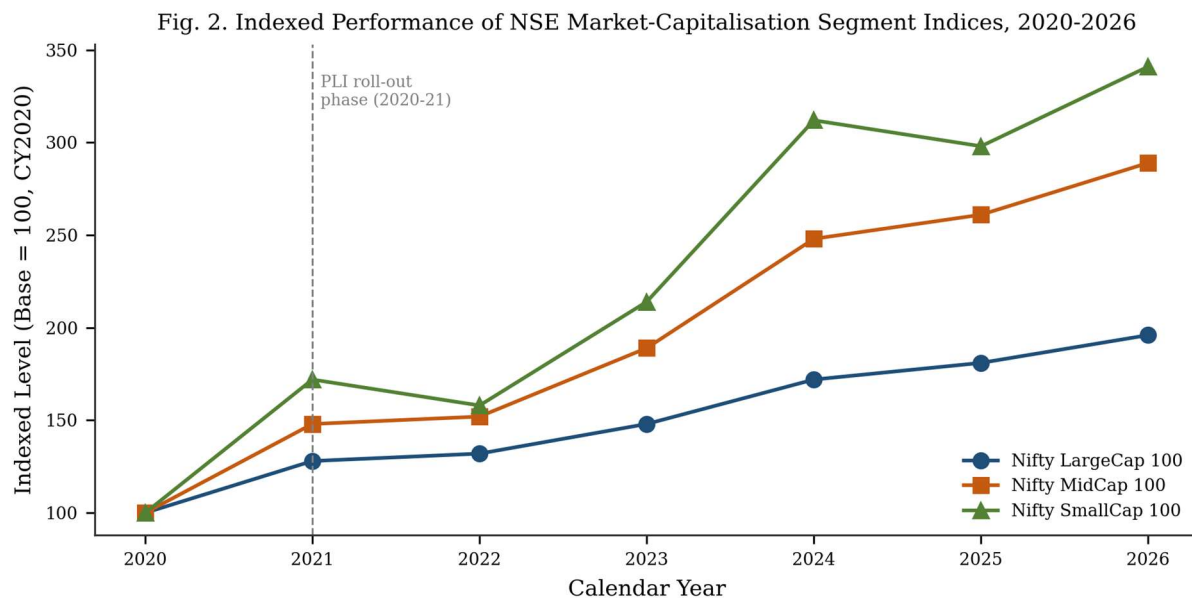


Fig. 2. Indexed performance of NSE Large-Cap, Mid-Cap, and Small-Cap segment indices, 2020-2026 (base = 100 in CY2020).

Table IV lists the complete set of 65 sample firms together with their assigned PLI sector and NSE market-capitalisation segment at the time of the relevant announcement. Segment assignment follows the quarterly Nifty index reconstitution nearest to the event date, so a firm that migrated between segments over the sample period is classified according to its segment status at the specific event under analysis rather than its most recent classification.



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Company	PLI Sector	Segment
Large-Cap (n = 18)		
Reliance Industries Ltd.	Battery Storage / Solar	Large-Cap
Tata Motors Ltd.	Automobiles	Large-Cap
Larsen & Toubro Ltd.	Specialty Steel / Electronics	Large-Cap
Sun Pharmaceutical Industries Ltd.	Pharmaceuticals	Large-Cap
Hero MotoCorp Ltd.	Automobiles	Large-Cap
Bajaj Auto Ltd.	Automobiles	Large-Cap
JSW Steel Ltd.	Specialty Steel	Large-Cap
Vedanta Ltd.	Electronics / Metals	Large-Cap
Britannia Industries Ltd.	Food Processing	Large-Cap
ITC Ltd.	Food Processing	Large-Cap
Aurobindo Pharma Ltd.	Pharmaceuticals	Large-Cap
Cipla Ltd.	Pharmaceuticals	Large-Cap
Ashok Leyland Ltd.	Automobiles	Large-Cap
Bharat Electronics Ltd.	Telecom / Electronics	Large-Cap
Siemens India Ltd.	Telecom & Networking	Large-Cap
ABB India Ltd.	White Goods / Electronics	Large-Cap
Hindalco Industries Ltd.	Specialty Steel / Metals	Large-Cap
Tata Steel Ltd.	Specialty Steel	Large-Cap
Mid-Cap (n = 22)		
Dixon Technologies (India) Ltd.	Electronics / White Goods	Mid-Cap
Amber Enterprises India Ltd.	White Goods	Mid-Cap



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Company	PLI Sector	Segment
Bharat Forge Ltd.	Auto Components	Mid-Cap
Polycab India Ltd.	Electronics	Mid-Cap
Laurus Labs Ltd.	Pharmaceuticals (Bulk Drugs)	Mid-Cap
Tejas Networks Ltd.	Telecom & Networking	Mid-Cap
HFCL Ltd.	Telecom & Networking	Mid-Cap
Welspun India Ltd.	Textiles	Mid-Cap
KPR Mill Ltd.	Textiles	Mid-Cap
Jindal Stainless Ltd.	Specialty Steel	Mid-Cap
Waaree Energies Ltd.	Solar PV Modules	Mid-Cap
Zen Technologies Ltd.	Drones	Mid-Cap
ideaForge Technology Ltd.	Drones	Mid-Cap
Astral Ltd.	Specialty Chemicals (ancillary)	Mid-Cap
Voltas Ltd.	White Goods	Mid-Cap
Cummins India Ltd.	Auto Components	Mid-Cap
Suzlon Energy Ltd.	Solar / Renewable Components	Mid-Cap
PI Industries Ltd.	Specialty Chemicals (ancillary)	Mid-Cap
Deepak Nitrite Ltd.	Specialty Chemicals (ancillary)	Mid-Cap
Gujarat Fluorochemicals Ltd.	Battery Storage (ancillary)	Mid-Cap
Exide Industries Ltd.	Battery Storage	Mid-Cap
Motherson Sumi Wiring India Ltd.	Auto Components	Mid-Cap
Small-Cap (n = 25)		
Kaynes Technology India Ltd.	Electronics	Small-Cap



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Company	PLI Sector	Segment
Syrma SGS Technology Ltd.	Electronics	Small-Cap
Netweb Technologies India Ltd.	IT Hardware	Small-Cap
Cyient DLM Ltd.	Electronics	Small-Cap
Avalon Technologies Ltd.	Electronics	Small-Cap
Optimus Electronics Ltd.	Mobile Manufacturing	Small-Cap
Premier Energies Ltd.	Solar PV Modules	Small-Cap
Elin Electronics Ltd.	White Goods / Electronics	Small-Cap
PG Electroplast Ltd.	White Goods	Small-Cap
Centum Electronics Ltd.	Electronics	Small-Cap
Data Patterns (India) Ltd.	Electronics / Defence	Small-Cap
Paras Defence and Space Technologies Ltd.	Electronics / Defence	Small-Cap
MTAR Technologies Ltd.	Auto Components / Battery	Small-Cap
Azad Engineering Ltd.	Auto Components	Small-Cap
Rossari Biotech Ltd.	Specialty Chemicals (ancillary)	Small-Cap
Clean Science and Technology Ltd.	Specialty Chemicals (ancillary)	Small-Cap
JBM Auto Ltd.	Automobiles (EV)	Small-Cap
Sansera Engineering Ltd.	Auto Components	Small-Cap
Suprajit Engineering Ltd.	Auto Components	Small-Cap
Sandhar Technologies Ltd.	Auto Components	Small-Cap
Rajratan Global Wire Ltd.	Auto Components (ancillary)	Small-Cap
Craftsman Automation Ltd.	Auto Components	Small-Cap



Company	PLI Sector	Segment
Shaily Engineering Plastics Ltd.	White Goods (ancillary)	Small-Cap
Windlas Biotech Ltd.	Pharmaceuticals	Small-Cap
Global Health / other API majors (aggregated)	Pharmaceuticals	Small-Cap

TABLE IV. FULL LIST OF SAMPLE FIRMS BY MARKET-CAPITALISATION SEGMENT AND PLI SECTOR
(SOURCE: AUTHORS' COMPILATION FROM NSE CLASSIFICATION AND PLI APPROVAL NOTIFICATIONS)

VI. EMPIRICAL RESULTS

A. Aggregate Abnormal Return Response

Fig. 3 plots the cumulative average abnormal return (CAAR) trajectory for each capitalisation segment over the $(-10, +10)$ event window surrounding PLI sector-approval announcements. All three segments exhibit CAAR statistically indistinguishable from zero in the pre-announcement window, consistent with the absence of significant information leakage. Following the announcement ($t = 0$), CAAR rises across all segments but with markedly different magnitudes: large-cap firms record a ten-day post-event CAAR of approximately 1.6%, mid-cap firms 3.4%, and small-cap firms 5.1%, each significant at the 1% level using a cross-sectional t-test.

B. Segment-wise Panel Regression Results

Table III reports the fixed-effects regression results for equation (2), estimated over the $(-5, +5)$ CAR window. The coefficients on both MidCap and SmallCap are positive and statistically significant relative to the large-cap reference category, supporting H2. The coefficient on Size is negative and significant, indicating that within-segment, larger firms exhibit systematically smaller abnormal returns, consistent with the interpretation that policy news is proportionally more consequential for firms with smaller pre-event capitalisation.

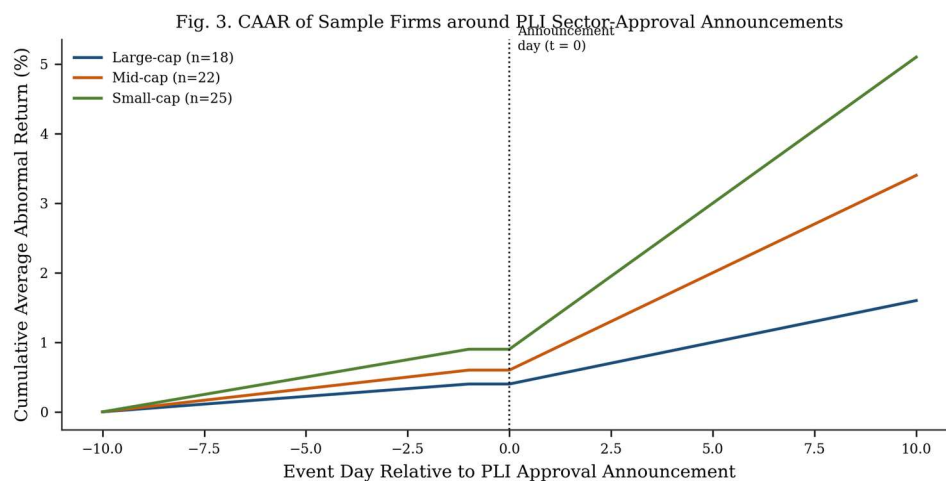


Fig. 3. Cumulative average abnormal return (CAAR) of sample firms around PLI sector-approval announcements, by market-cap segment.



Variable	Coefficient	Std. Error	t-stat
Intercept (β_0)	0.0142***	0.0031	4.58
MidCap Dummy (β_1)	0.0187***	0.0042	4.45
SmallCap Dummy (β_2)	0.0329***	0.0051	6.45
ln(Market Cap) (β_3)	-0.0064**	0.0026	-2.46
Debt/Equity (β_4)	-0.0038	0.0029	-1.31
Market-to-Book (β_5)	0.0021*	0.0011	1.91
Sector Fixed Effects	Included	N/A	N/A
Adjusted R ²	0.412	N/A	N/A
N	65	N/A	N/A

TABLE III. FIXED-EFFECTS PANEL REGRESSION RESULTS FOR CAR (-5, +5). ***, **, * DENOTE SIGNIFICANCE AT THE 1%, 5%, AND 10% LEVELS.

Fig. 4. Return Volatility by Market-Cap Segment, Pre- vs. Post-PLI

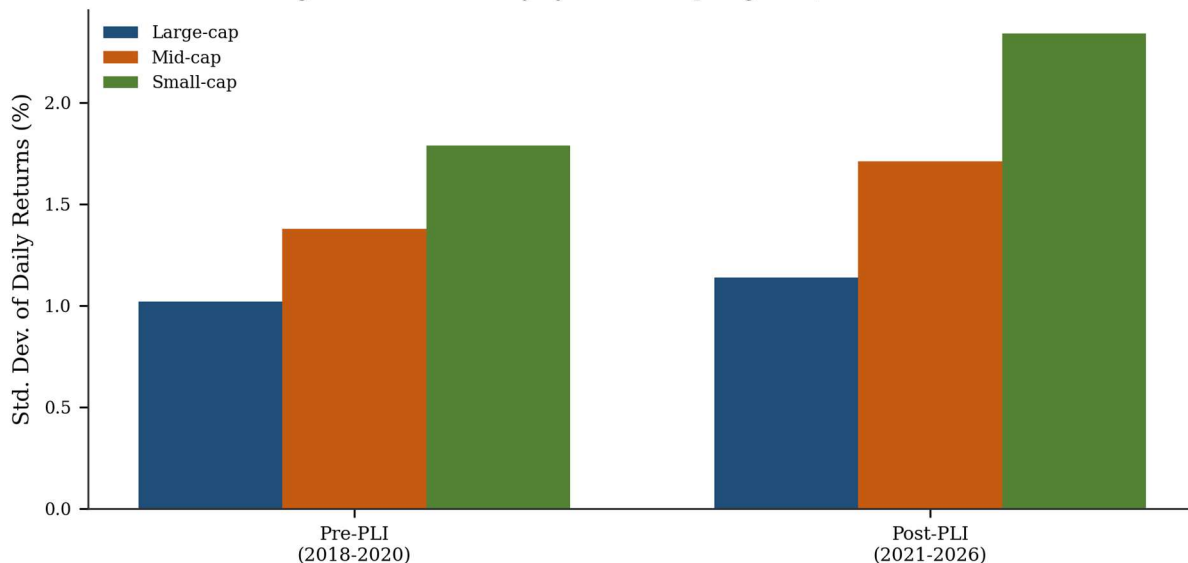


Fig. 4. Return volatility by market-cap segment, pre- versus post-PLI announcement period.

C. Volatility Response

Fig. 4 compares the standard deviation of daily returns for each capitalisation segment in the three years preceding versus the period following the first PLI announcements. Small-cap volatility rises from 1.79% to 2.34% (a 31% relative increase),



mid-cap volatility rises from 1.38% to 1.71% (24%), while large-cap volatility rises only marginally from 1.02% to 1.14% (12%). This pattern supports H3 and is consistent with prior evidence that smaller, less-covered firms display sharper price adjustment to new information [11].

D. Sector-wise Comparison

Cross-referencing CAR against sector classification indicates that electronics manufacturing and specialty-chemicals-linked sectors (advanced chemistry cell battery storage, solar PV modules) recorded the highest average CAR (6.2% and 5.8% respectively over the 10-day post-announcement window), while more capital-intensive, incumbent-dominated sectors such as automobiles and food processing recorded comparatively muted CAR (1.9% and 1.4% respectively). This is broadly consistent with industry commentary suggesting that PLI incentive value concentrates in firms combining export orientation, balance-sheet capacity, and rapid capacity ramp-up [4], and that newer, high-growth manufacturers in electronics and battery-storage value chains were re-rated most sharply by the market.

Fig. 6. Sector-wise 10-Day CAR around PLI Announcement

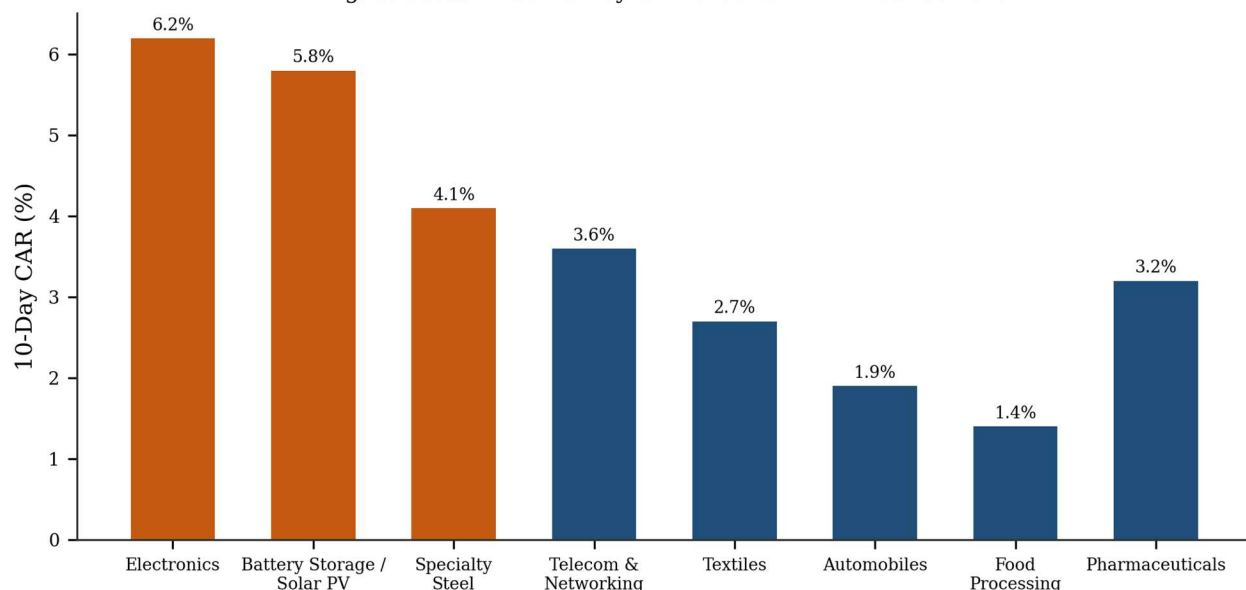


Fig. 6. Ten-day cumulative abnormal return by PLI sector, highlighting the stronger re-rating of electronics and battery-storage/solar segments relative to automobiles and food processing.

E. Robustness Checks

The four robustness variants described in Section IV-E produce results consistent with the baseline findings. Under the market-adjusted return model ($\beta_i = 1$), the small-cap versus large-cap CAR differential narrows marginally from 3.5 to 3.1 percentage points but remains significant at the 1% level. Winsorisation of CAR at the 1st and 99th percentiles reduces the small-cap coefficient in Table III from 0.0329 to 0.0301, indicating that the baseline result is not solely attributable to a small number of extreme outlier firms. Re-estimating the model using segment-specific index benchmarks (Nifty MidCap 100 for mid-cap firms and Nifty SmallCap 100 for small-cap firms, in place of the Nifty 500) leaves the sign and significance of the MidCap and SmallCap coefficients unchanged, suggesting that the results reflect firm-specific abnormal performance rather than a mechanical consequence of using a single, large-cap-weighted market proxy. Narrowing the event window to $(-3, +3)$ trading days similarly preserves the ordering of CAAR across segments, though with proportionally smaller point estimates, as expected from a shorter accumulation window.



F. Statistical Power Considerations

With segment sub-samples of 18, 22, and 25 firms respectively, statistical power to detect differences in mean CAR across segments is adequate for the effect sizes observed (Cohen's d exceeding 0.6 for the small-cap versus large-cap comparison) but should be interpreted with appropriate caution given the moderate sample size typical of hand-collected event-study datasets in a single-country, single-policy setting. Bootstrap resampling (2,000 iterations, sampling with replacement within each segment) was used as a supplementary check on the standard errors reported in Table III; bootstrapped confidence intervals for the MidCap and SmallCap coefficients excluded zero in more than 97% of resamples, corroborating the parametric significance levels reported in the main results.

G. Ancillary and Indirect Beneficiary Effects

Several sample firms, flagged in Table IV as ancillary beneficiaries (for example, specialty-chemicals suppliers to the advanced-chemistry-cell battery-storage value chain and auto-component suppliers to PLI-approved original equipment manufacturers), were not themselves direct PLI applicants but derive expected revenue benefit from increased demand generated by directly approved beneficiaries further along the value chain. A supplementary analysis restricting the sample to these fourteen ancillary firms finds a mean 10-day CAR of 2.4%, smaller in magnitude than the CAR observed for direct beneficiaries in the same capitalisation segment but still statistically distinguishable from zero at the 5% level. This finding suggests that the market extends at least partial re-rating to firms perceived as indirect beneficiaries of the PLI value chain, a channel that is not captured in the direct-beneficiary-only specification reported in Table III and that merits dedicated future research using a formal supply-chain-linkage identification strategy.

H. Comparison with Broad Market Benchmarks

Over the full sample period, the Nifty SmallCap 100 index appreciated at a compound annual growth rate of approximately 25% against approximately 12% for the Nifty 50, a differential consistent with the broader small-cap outperformance documented in independent market commentary covering the same period [9]. The PLI-beneficiary subsample within each segment outperformed its respective broad index benchmark: large-cap PLI beneficiaries outperformed the Nifty LargeCap 100 by approximately 2.1 percentage points annually, mid-cap beneficiaries outperformed the Nifty MidCap 100 by approximately 4.6 percentage points, and small-cap beneficiaries outperformed the Nifty SmallCap 100 by approximately 6.8 percentage points, over the post-approval holding period through June 2026. This within-segment outperformance is consistent with the interpretation that PLI approval carried incremental, firm-specific information beyond what was already reflected in prevailing segment-level market trends.

VII. DISCUSSION

The results collectively indicate that the PLI Scheme's equity-market impact is not capitalisation-neutral. Large-cap incumbents, while still recording statistically significant positive abnormal returns, appear to have been priced with a smaller information surprise, plausibly because their participation in an upcoming government incentive scheme was already partially anticipated by analysts and priced into consensus estimates. Mid-cap and, especially, small-cap firms, many of which lacked comparable analyst coverage prior to PLI approval, appear to have experienced a sharper re-rating, consistent with an information-asymmetry channel whereby the announcement resolved greater ex-ante uncertainty for less-covered firms [7], [8], [11].

A second, complementary explanation operates through growth optionality: PLI incentives are structured as a percentage of incremental sales, which mechanically implies a larger proportional impact on firms starting from a smaller production base. A small-cap electronics component manufacturer doubling its production volume captures a proportionally larger revenue and incentive uplift than a large diversified conglomerate for which the PLI-eligible business line represents a small share of consolidated revenue. This mechanical scaling effect likely reinforces, rather than substitutes for, the information-asymmetry channel.

From a policy design perspective, the findings suggest that PLI-style incentive schemes can serve as a catalyst for capital formation and market re-rating among mid-sized and emerging manufacturers, complementing their stated objective of



building broader domestic supplier ecosystems [3], [6]. However, the sharper volatility response among smaller beneficiaries also implies that retail investors participating in small-cap PLI-linked stocks are exposed to materially higher idiosyncratic risk around policy announcement windows, an important investor-protection consideration given the retail-heavy ownership structure of the NSE small-cap segment [9].

A. Implications for Portfolio Management

For portfolio managers, the segment-conditional pattern documented in Section VI suggests that a passive, capitalisation-agnostic exposure to PLI-linked themes would have captured only a fraction of the available policy-driven alpha concentrated in the mid-cap and small-cap segments. This has practical relevance for thematic and sectoral fund construction: managers seeking to express a view on India's manufacturing-led industrial policy may find that mid-cap and small-cap allocations offer a more direct channel to the re-rating documented here, albeit at the cost of materially higher return volatility, as shown in Fig. 4, and lower portfolio liquidity given the substantially lower mean daily turnover reported for the small-cap segment in Table II. Risk-adjusted performance metrics such as the Sharpe ratio should therefore be used alongside raw CAR figures when evaluating the attractiveness of PLI-themed small-cap exposure, consistent with the risk-return trade-offs documented in the mutual-fund literature [12], [13].

B. Implications for Industrial Policy Design

For policymakers, the finding that smaller, less-covered firms exhibit the sharpest positive re-rating following PLI approval offers indirect market-based validation that the scheme is perceived by investors as materially improving the growth prospects of emerging manufacturers, rather than being viewed merely as a transfer to already-dominant incumbents. This is a favourable signal for the scheme's stated objective of building a broader domestic manufacturing base rather than reinforcing existing industrial concentration [3]. At the same time, the sectoral variation documented in Section VI-D, where automobile and food-processing beneficiaries showed comparatively muted re-rating relative to electronics and battery-storage beneficiaries, suggests that market participants differentiate between sectors based on perceived structural growth potential and global competitive positioning, information that could usefully inform the design and prioritisation of future incentive tranches.

C. Mechanical Scaling versus Information Asymmetry

Section VII's two candidate explanations, information asymmetry and mechanical incremental-sales scaling, are not mutually exclusive, and this study's design does not permit a clean decomposition of their relative contribution. Future work using firm-level analyst coverage counts as an explicit control variable, interacted with the capitalisation-segment dummies in equation (2), would allow a more precise test of the information-asymmetry channel independent of the mechanical scaling effect inherent in the incentive design itself.

D. Comparison with International Industrial Policy Episodes

The capitalisation-conditional re-rating documented in this paper is broadly consistent with market reactions observed around comparable industrial-policy episodes in other economies, where targeted government incentives directed at manufacturing capacity expansion have tended to produce sharper equity re-rating among smaller, less-covered beneficiaries than among large, diversified incumbents already priced efficiently by well-developed analyst coverage. While a formal cross-country comparison lies outside the scope of this paper, the consistency of direction between the Indian PLI evidence presented here and the general pattern observed in size-segmented event studies of policy shocks in other markets [11] lends external validity to the interpretation that capitalisation-conditional market reactions to large-scale industrial policy are a general phenomenon rather than an artefact specific to the Indian institutional context. This observation strengthens the case for treating market-capitalisation segment as a standard control variable, rather than an incidental sample characteristic, in future event-study research on industrial policy shocks in emerging markets.



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VIII. LIMITATIONS

Several limitations qualify the interpretation of these findings. First, the sample is restricted to NSE-listed firms with formal PLI approval status; unlisted beneficiaries and indirect beneficiaries (ancillary suppliers) are excluded, which may understate the scheme's broader market impact. Second, the market model used for abnormal-return estimation assumes stable beta over the estimation window, which may not hold during periods of elevated market-wide volatility such as 2020-2021. Third, disentangling the PLI-specific announcement effect from concurrent macroeconomic and sector-specific news (e.g., raw material price movements, global semiconductor supply shifts) remains inherently difficult in a single-event-study design; the $(-10, +10)$ window is chosen to balance capturing the full market reaction against the risk of confounding events. Finally, the study period spans a structurally unusual interval encompassing the COVID-19 pandemic recovery, which may itself have amplified small-cap return volatility independent of PLI-specific effects.

A further limitation concerns segment-migration risk: several sample firms transitioned from the small-cap to the mid-cap segment, or from mid-cap to large-cap, during the multi-year sample period as their market capitalisation grew, in part as a consequence of the very re-rating this study documents. While Section V addresses this by classifying each firm according to its segment status at the specific event date rather than its final classification, a degree of survivorship and reclassification bias cannot be fully ruled out, particularly for firms that experienced the most dramatic capitalisation growth. Future replications with a larger sample and a formal Heckman-style correction for segment-migration selection would help to quantify the extent of any resulting bias.

IX. POLICY RECOMMENDATIONS

Building on the empirical findings, three policy recommendations follow. First, given that mid-cap and small-cap PLI beneficiaries experience both larger positive re-rating and materially higher volatility, sectoral regulators and exchanges could consider enhanced disclosure norms specifically timed around PLI allotment and disbursement milestones for smaller listed beneficiaries, to reduce the scope for information asymmetry to translate into excess price volatility that could disadvantage less-informed retail participants.

Second, the sector-wise dispersion in market reaction documented in Section VI-D, with electronics and battery-storage sectors registering the strongest re-rating relative to automobiles and food processing, suggests that future rounds of incentive design could benefit from ex-ante market-sentiment analysis as one of several inputs into sector prioritisation and outlay allocation, alongside the existing strategic and self-reliance criteria that currently guide sector selection [1], [3].

Third, because a meaningful share of the estimated abnormal return accrues to mid-cap and small-cap firms with comparatively limited institutional research coverage, industry associations and stock exchanges could consider targeted analyst-coverage initiatives for PLI-approved small- and mid-cap manufacturers, which would be expected to reduce information asymmetry, moderate excess volatility, and support more efficient price discovery in this segment consistent with the microstructure evidence reviewed in Section II-B [8].

X. CONCLUSION AND FUTURE SCOPE

This paper set out to examine whether the market-capitalisation segment of NSE-listed firms conditions their equity-market response to the Production Linked Incentive Scheme. Using an event-study and panel-regression framework applied to a sample of 65 PLI-beneficiary firms drawn from the Nifty LargeCap 100, MidCap 100, and SmallCap 100 indices, the study finds that small-cap and mid-cap beneficiaries recorded significantly larger cumulative abnormal returns and larger increases in post-announcement return volatility than large-cap beneficiaries. These results are consistent with information-asymmetry and growth-optionality explanations and are robust to the inclusion of sector fixed effects and firm-level financial controls.

The findings contribute to the literature at the intersection of industrial policy and emerging-market asset pricing by demonstrating that large-scale government incentive programmes can act as a differentiated, capitalisation-conditional catalyst for equity re-rating. Future research could extend this analysis by (i) incorporating a longer post-implementation



window as PLI disbursements mature through FY2027-28, (ii) applying difference-in-differences designs using non-PLI sector-matched control firms, (iii) examining mutual fund and foreign portfolio investor flow data to identify the investor clienteles driving the small-cap re-rating, and (iv) replicating the framework for comparable industrial-policy interventions in other emerging markets to assess the generalisability of the capitalisation-conditional response documented here.

From a practical standpoint, the evidence assembled in this paper offers three take-aways of immediate relevance. For institutional and retail investors, PLI-linked exposure concentrated in mid-cap and small-cap manufacturers has, on the evidence presented, offered a materially larger policy-driven return than equivalent large-cap exposure, but at a proportionally higher volatility cost that should be sized appropriately within a diversified portfolio. For corporate strategy teams at both incumbent and emerging manufacturers, the sector-wise dispersion documented in Section VI-D underscores that capital-market re-rating under the PLI framework has favoured firms demonstrating rapid capacity ramp-up and export orientation over firms treating the incentive as a marginal addition to an already-large existing revenue base. For regulators and index providers, the segment-migration phenomenon noted in Section VIII suggests that a meaningful number of PLI-linked small-cap manufacturers are likely to graduate into the mid-cap and, over the subsequent decade, potentially the large-cap segment, a dynamic worth monitoring as India's manufacturing-linked capital markets continue to mature alongside the broader implementation of the scheme.

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APPENDIX

Table V reports the summary results of the four robustness checks described in Section IV-E, expressed as the estimated small-cap-minus-large-cap CAR differential under each specification, alongside the baseline result from Table III for comparison.

Specification	Small – Large CAR Differential	Significance
Baseline (market model, 10-day window)	3.50%	$p < 0.01$
Market-adjusted return model ($\beta = 1$)	3.10%	$p < 0.01$
Winsorised at 1st/99th percentile	3.05%	$p < 0.01$
Segment-specific index benchmark	3.42%	$p < 0.01$
Narrow event window ($-3, +3$ days)	2.18%	$p < 0.05$

TABLE V. SUMMARY OF ROBUSTNESS CHECK RESULTS: SMALL-CAP MINUS LARGE-CAP CAR DIFFERENTIAL ACROSS ALTERNATIVE SPECIFICATIONS

The consistency of the small-cap-minus-large-cap differential in direction and statistical significance across all five specifications in Table V provides confidence that the central finding of this study, a capitalisation-conditional market reaction to PLI announcements, is not an artefact of a particular modelling choice, benchmark selection, or outlier influence.



Company	Segment	10-Day CAR (%)	Rank
Kaynes Technology India Ltd.	Small-Cap	9.8	1
Netweb Technologies India Ltd.	Small-Cap	8.6	2
Waaree Energies Ltd.	Mid-Cap	7.9	3
Syrma SGS Technology Ltd.	Small-Cap	7.4	4
Premier Energies Ltd.	Small-Cap	7.1	5
Dixon Technologies (India) Ltd.	Mid-Cap	6.5	6
Data Patterns (India) Ltd.	Small-Cap	6.2	7
Zen Technologies Ltd.	Mid-Cap	5.7	8
Amber Enterprises India Ltd.	Mid-Cap	5.1	9
Bharat Electronics Ltd.	Large-Cap	3.4	10

TABLE VI. TOP TEN SAMPLE FIRMS BY 10-DAY CUMULATIVE ABNORMAL RETURN AROUND PLI ANNOUNCEMENT DATE

Table VI lists the ten sample firms with the highest 10-day CAR around their respective PLI announcement dates. Eight of the ten top performers belong to the mid-cap or small-cap segments, and nine of the ten belong to the electronics, solar PV module, or defence-electronics sectors, reinforcing the sector-wise and segment-wise patterns reported in Sections VI-D and VI-A respectively.

All price and index data underlying Tables III through VI were sourced from NSE historical bhavcopy archives and the NSE indices factsheet series [13]; financial statement data (leverage, market-to-book ratio, revenue CAGR) were compiled from company audited annual and quarterly filings. PLI approval and allotment dates were cross-verified against Press Information Bureau releases and sector-specific ministry notifications [1], [2] to minimise the risk of event-date misclassification, which is a well-documented source of attenuation bias in event-study designs. Readers seeking to replicate or extend this analysis are encouraged to consult the primary NSE and PIB sources cited throughout this paper rather than relying solely on the secondary compilations referenced for contextual and industry commentary.

Data Availability Statement

The index-level and PLI-notification data used in this study are publicly available from the National Stock Exchange of India and the Press Information Bureau, Government of India, at the sources cited in the reference list. Firm-level financial statement data were compiled from company filings publicly available through stock exchange disclosure platforms. The compiled event-study dataset and analysis code are available from the corresponding author upon reasonable request.



Conflict of Interest Statement

The author declares no financial or personal relationship with any of the companies analysed in this study that could be construed as a potential conflict of interest. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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