Impact on Stock Price by the Inclusion to and Exclusion from CNX Nifty Index

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Abstract

Changes in an index are a regular phenomenon and they take place due to the inclusion and exclusion of stocks from the index. The inclusion or exclusion of stocks creates great impact on the value of the firm. However, these changes are simply a short-lived event with no permanent valuation effect. The present research study analyzed the impact of the inclusion into and exclusion of certain stocks from *National Stock Exchange* (NSE) S&P CNX Nifty index with Indian perspective. The study provides evidence on whether the announcements of Nifty index maintenance committee have any information content. This will also demonstrate the efficiency of Indian stock market with particular reference to NSE. The study revealed that on an average, no permanent effects were observed on stock prices. It is also found from the study that the NSE reacted unfavourably to the inclusion and exclusion of stocks and it is impossible to earn any excess returns where the particular stocks are included or excluded from the index.

Keywords

S&P CNX Nifty index, inclusion, exclusion, announcement day, effective day

Introduction

A stock index reflects the mood and direction of the overall market movements. The stock indices, apart from being an indicator of the market movements, serve as a benchmark for measuring the performance of stocks under that index. The stock indices are rarely static and their composition keeps changing so that the objectives behind the construction of indices are served. The changes might also be effected by other reasons like mergers and corporate restructuring which might cause some of the stocks to exit from the market. Although changes in an index like Nifty are a regular phenomenon, these changes have

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implications for the markets in general. When a stock is added to (or deleted from) the Nifty, the index will try to include it in their portfolio and these actions may induce buying/selling pressure and correspondingly, the price level is increased (decreased) and the volume of both types of stocks increased.

The efficient market hypothesis (EMH) predicts that the security prices reflect all publicly available information. Therefore, one corollary of the EMH is that one can sell (or buy) large blocks of stocks nearer to the market price as long as one could convince other investors that one has no private or inside information. This statement assumes that securities are near-perfect substitutes for each other. If so, the excess demand for a single security will be very elastic, and the purchase of a large number of shares will have no impact on price. The purpose of this research study is to analyze the impact of inclusion into or exclusion from the stock index of a certain stock on the price of the relevant stock.

Review of Literature

The review of related literature is an essential part of research work. It enables the researcher to know about related studies and their methodology and conclusions. The review helps the researcher to identify the research problem, to acquire a thorough knowledge about the present problem and to help in the development of research procedure.

A study done by Harris and Gurel (1986) found 3.13 per cent abnormal returns resulting from additions to the S&P 500. This increase was almost reversed after two weeks and thus, they attributed the abnormal returns to the increased demand for the index funds. Their evidence is consistent with the price pressure hypothesis (PPH).

Shleifer (1986) investigated the index effect and examined the price impact related to changes in S&P 500 between 1966 and 1983. The study found that there was an abnormal price increase of 2.79 per cent and the cumulative returns persisted. The returns were positively related to measures of buying index funds and the results were attributed to the downward sloping demand curves for stocks.

Jain (1987) found that the stocks added to S&P 500 experienced excess returns of 3 per cent on the announcement day and this excess returns were added to S&P supplementary indices. This study contested the PPH and downward sloping demand curve (DSDC) hypothesis and ascribed the excess returns to the information content hypothesis.

Pruitt and Wei (1989) provided direct evidence that institutional investors cause for demand changes. The price pressure is attributed to institutional portfolio strategies that seek to match the S&P 500 index returns by purchasing the stocks newly added to the index.

Dhillon and Johnson (1991), in their article, examined only the additions to the S&P 500 index during 1978–88 and found that price levels persisted for around 60 days after the announcement, which is inconsistent with PPH.

Lynch and Mendenhall (1997) documented significant post-announcement abnormal returns that were only partially reversed following the additions to or deletions from the S&P 500 index in their research. Their evidence of permanent trading volume contributing towards added stocks provides support for both the PPH and the imperfect substitute hypothesis.

All the given studies have examined the index effects for S&P 500 in the United States (US). Later, there are some studies that examined the index effects in other countries as well. As far as the Indian

market is concerned, Vijaya and Vedpuriswar (2003) have investigated in their article, 'The Dynamics around Sensex Reconstitutions', the price effects for the sensex. Though this study reports a weak permanent price effect for deletions, the researchers pointed out that the study suffers from the problem of assumed announcement dates as Bombay Stock Exchange (BSE) did not maintain a record of the exact announcement dates. Therefore, the study has limited research focus on account of uncertain announcement dates.

Statement of the Problem

The CNX Nifty index maintenance committee usually reviews the constituents of the index on quarterly basis and examines whether the stocks in the index meet the selection criteria. If any of the stocks do not perform up to the benchmark, they will go for replacements that will be announced at least five weeks before they become effective. When the composition of the index changes, the investors generally purchase the added security and sell the deleted stock within a few days of the announcement. The action of the index funds will cause demands to shift. This study aims to deal with the following problems:

1. Is there any excess return for the stocks excluded and included in the CNX Nifty after the announcement by the index maintenance committee?
2. Are there any effects of the announcements on the price of scrip in India?

Need for the Study

This study is needed in order to know how the market is volatile before and after the effect of inclusion or exclusion of a particular company scrip. Besides there is a need to measure the impact and study about how the market is good to the investor. This study aims to analyze the excess returns for the stocks excluded and included in the S&P CNX Nifty, before and after the effective by the index maintenance committee and effectives on the changes in price after the inclusive and exclusive period. The results of the study will be useful for the *National Stock Exchange (*NSE), index fund managers and broadly to the discipline of market efficiency. The study provides evidence on whether the Nifty index maintenance committee's announcements have any information content. This will also demonstrate semi-strong form efficiency of Indian stock market with particular reference to NSE.

Objectives of the Study

The main objectives of this study are as follows.

1. To analyze the effects of changes in both inclusion and exclusion of companies in S&P CNX Nifty companies during the period from January 2005 to December 2009.
2. To study the volatility of companies included and excluded in Nifty during the study period.

Hypotheses of the Study

The following hypotheses are tested in this study:

NH01: There are no excess returns recorded by Nifty companies in the post-announcement window.

NH02: There are no excess returns recorded by Nifty companies in the post-effective window.

NH03: There is no impact on the volatility of the companies included and excluded in Nifty on announcement day.

NH04: There is no impact on the volatility of the companies included and excluded in Nifty on effective day.

Methodology of the Study

Sample Selection

The purpose of this study is to analyze the price pressure effect on S&P CNX Nifty index. The sample for this study comprised all changes in the Nifty during the period January 2005 to December 2009. There are 24 additions and 24 deletions in S&P CNX Nifty during the study period. Out of these, 15 additions and 13 deletions in S&P CNX Nifty were selected for this study based on the selection criteria. The details of the sample companies are given in Table 1. The following points were taken into account while selecting the sample of 28 companies.

1. Additions and deletions due to corporate actions (like mergers and amalgamations, takeover and buyback) were not taken as sample. Due to corporate activities, the scrips information are not available.
2. Non-availability of announcement or effective dates.
3. The scrip could not be traded on the exchange due to suspensions. The details of the ceased companies will be deleted from stock exchange and information will not be available.

Sources of Data

The study depended on the secondary data and the required data were collected from websites like www.nseindia.com and www.yahoofinance.com and Prowess corporate database.

Period of the Study

The period for this study, to select the sample companies, starts from 1 January 2005 and ends with 31 December 2009. The study period covers only five years. The analysis period covers 21 days window

Table 1. List of Sample Companies Included and Excluded in S&P CNX Nifty Index

Sl. No.	Company Name	Date of Inclusion		Date of Exclusion	
		Announcement Date	Effective Date	Announcement Date	Effective Date
1	CAIRN	30.10.2007	12.12.2007	—	—
2	JET AIRWAYS	23.08.2005	26.09.2005	—	—
3	NTPC	10.08.2007	24.09.2007	—	—
4	RCOM	20.07.2006	01.09.2006	—	—
5	RPL	20.02.2007	04.04.2007	—	—
6	STER	20.02.2007	04.04.2007	—	—
7	NTPC	10.08.2007	24.09.2007	—	—
8	IDEA	30.10.2007	12.12.2007	—	—
9	CAIRN	30.10.2007	12.12.2007	—	—
10	DLF	31.01.2008	14.03.2008	—	—
11	RPOWER	29.07.2008	10.09.2008	—	—
12	RELCAPITAL	07.01.2009	12.01.2009	—	—
13	JINDALSTEL	06.04.2009	17.06.2009	—	—
14	JPASSOCIAT	04.09.2009	22.10.2009	—	—
15	IDFC	04.09.2009	22.10.2009	—	—
16	COLGATE-PALMOLIVE (INDIA) Ltd.	—	—	23.08.2005	26.09.2005
17	SCI	—	—	21.06.2006	27.06.2006
18	JET AIRWAYS	—	—	20.02.2007	04.04.2007
19	ORIENT BANK	—	—	20.02.2007	04.04.2007
20	DABUR	—	—	10.08.2007	24.09.2007
21	MTNL	—	—	30.10.2007	12.12.2007
22	HINDPETRO	—	—	30.10.2007	12.12.2007
23	GLAXO	—	—	31.01.2008	14.03.2008
24	DRREDDY	—	—	29.07.2008	10.09.2008
25	SATYAM COMP	—	—	07.01.2009	12.01.2009
26	RPL	—	—	06.04.2009	17.06.2009
27	TATA COMM	—	—	04.09.2009	22.10.2009
28	NATIONALUM	—	—	04.09.2009	22.10.2009

Source: www.nseindia.com

period, that is, 10 days before and after effective date. Announcement day means, NSE may announce to the press people that this company is going to be excluded or included on the particular date. Effective day means, NSE may change the scrip on that date, which was announced to the public through press people.

Tools used for Analysis

In order to analyze the price pressure effects of changes under both inclusion and exclusion in S&P CNX Nifty, the following tools were used.

Abnormal Returns (AR)

Abnormal returns (AR) were calculated as the excess returns earned by a sample stock over the benchmark portfolio. The benchmark used in the present study is the Nifty. The study used the market model for calculating the AR. The formula for calculating AR is as follows:

$$AR_{jt} = R_{jt} - \alpha - \beta_j R_{mt} \tag{1}$$

where,

AR_{jt} = the abnormal return of the particular stock j on the day t;
R_{jt} = the return of the particular stock j on the day t;
α = the average returns of the firm compared to the market average;
β = the market risk of this stock; and
R_{mt} = the returns on a market index for day t.

Mean Abnormal Returns (MAR)

Mean abnormal returns (MAR) is the average of the excess returns across the N firms on day 't'. The formula for calculating MAR is as follows:

$$MAR_t = \frac{1}{N}\sum_{j=1}^{N} AR_{j,t} \tag{2}$$

Cumulative Abnormal Returns (CAR)

Cumulative abnormal returns (CAR) is defined as the sum of all the excess returns over the window of interest. The formula for calculating CAR is as follows:

$$CAR_{j,t} = \sum_{T1}^{T2} AR_{j,t} \tag{3}$$

Mean Cumulative Abnormal Returns (MCAR)

The average of the CAR across the observations is a measure of the abnormal performance over the event period. The formula for calculating MCAR is as follows:

$$MCAR_t = \frac{1}{N}\sum_{j=1}^{N} CAR_{j,t} \tag{4}$$

GARCH

Generally, when testing for heteroscedasticity in econometric models, the best test is the White test. However, when dealing with time series data, this means to test for autoregressive conditional

heteroscedasticity (ARCH) errors and generalized autoregressive conditional heteroscedasticity (GARCH) errors too. The following is the formula for GARCH:

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + ... + \alpha_q \varepsilon_{t-q}^2 + \beta_1 \sigma_{t-1}^2 + ... + \beta_p \sigma_{t-p}^2 = \alpha_0 + \sum_{i=1}^{q} \alpha_i \varepsilon_{t-i}^2 + \sum_{i=1}^{p} \beta_i \sigma_{t-i}^2 \quad (5)$$

where,

ε_{t-1}^2 = information available on t–1 day;
α = constant; and
β = coefficient on a time trend.

Analysis of S&P CNX Nifty Index Changes due to Inclusion and Exclusion

In this study, an attempt has been made to test the PPH in CNX Nifty due to inclusion and exclusion. As stated earlier, the market model and mean cumulative abnormal returns have been used in order to analyze the PPH, as they are popular and widely used tools. The analysis of PPH is arranged as follows.

1. Analysis of price effects on included and excluded companies in S&P CNX Nifty.
2. Analysis of volatility in returns of included and excluded companies in S&P CNX Nifty.

Analysis of Price Effects on Included and Excluded Companies in S&P CNX Nifty

Price Effects on Announcement Day for Stocks Added to and Deleted from the S&P CNX Nifty Index

Table 2 reveals the mean abnormal return values of the included and excluded companies in the S&P CNX Nifty, in the two different heads named as mean average returns (MAR) and mean cumulative average returns (MCAR), during, before and after the announcement day. The table clearly reveals that the MAR value on the announcement day is –2.93394 for the inclusion and –3.64386 for the exclusion of the scrips in S&P CNX Nifty index. The MCAR on announcement day is –26.20723 for the included companies and –25.61232 for the excluded scrips in the S&P CNX Nifty. The MAR value shows declining trend during the pre- and post-announcement window period, and for the included companies, was ranged from –3.96701 to –1.85981, and MCAR values ranged from –61.3829 to –1.85981, and it represents that the company did not earn positive abnormal returns during the window period. For the excluded scrips from the S&P CNX Nifty index, the MAR values ranged from –7.25518 to –1.15348 and the MCAR values ranged from –81.37993 to –1.15348, and it represents that the companies did not earn positive abnormal returns during the window period. Hence, both the inclusion and exclusion had negative impact on the share price of all the companies in S&P CNX Nifty index and the investors could not earn positive returns from their investment.

Price Effects on Effective Day (ED) for Stocks Added to and Deleted from the S&P CNX Nifty Index

Table 3 represents the value of MAR and MCAR for the S&P CNX Nifty, included and excluded companies in the Nifty index, during, before and after the effective day. It is clear that the MAR value denotes

Table 2. MAR and MCAR, During, Before and After Announcement Day (AD) for the Included and Excluded Companies in S&P CNX Nifty Index

	Inclusion		Exclusion	
Days	MAR	MCAR	MAR	MCAR
–10	–1.85981	–1.85981	–1.15348	–1.15348
–9	–1.95527	–3.81508	–1.35096	–2.50444
–8	–2.06251	–5.87759	–1.54969	–4.05413
–7	–2.16444	–8.04203	–1.78894	–5.84307
–6	–2.25770	–10.29973	–2.00146	–7.84453
–5	–2.36207	–12.66180	–2.24607	–10.09060
–4	–2.46837	–15.13017	–2.51705	–12.60765
–3	–2.56383	–17.69400	–2.75472	–15.36237
–2	–2.73999	–20.43399	–3.17084	–18.53321
–1	–2.83930	–23.27329	–3.43525	–21.96846
AD	**–2.93394**	**–26.20723**	**–3.64386**	**–25.61232**
1	–3.04093	–29.24816	–4.01431	–29.62663
2	–3.13979	–32.38795	–4.32151	–33.94814
3	–3.27575	–35.66370	–4.68614	–38.63428
4	–3.34830	–39.01200	–4.96472	–43.59900
5	–3.47087	–42.48287	–5.33983	–48.93883
6	–3.58310	–46.06597	–5.73184	–54.67067
7	–3.70136	–49.76733	–6.10941	–60.78008
8	–3.77246	–53.53979	–6.48803	–67.26811
9	–3.87610	–57.41589	–6.85664	–74.12475
10	–3.96701	–61.38290	–7.25518	–81.37993

Source: www.nseindia.com

the mean average return and MCAR denotes the mean average cumulative return of included and excluded companies from day –10 to day +10. The table shows declining trend during the pre- and post-effective window period for the inclusion made in the Nifty index and ranged from –1.20109 to –1.12802; and for MCAR values, it ranged from –24.28884 to –1.16450, and it represents that the company did not earn positive abnormal return during the window period. For the exclusion made in the Nifty index, MAR ranged from the –1.16843 to –1.03708; and for MCAR values, it ranged from –1.06906 to –22.54838, and it represents that the company did not earn positive abnormal return during the window period. The MAR and MCAR for stocks added and deleted to Nifty index in the effective window, that is, the 10 days prior and after the effective day ([ED – 10] to [ED + 10]), is calculated with market model. From the results, it is understood that the value of MAR and MCAR on the effective day zero (ED = 0) was –1.15666 and –12.73304 for the inclusion of all scrips in Nifty. And the value of MAR and MCAR for the scrips deleted from the Nifty index, on effective day, was –1.04764 and –11.82567 respectively. Hence, both the inclusion and exclusion made negative impact in the share price of all the companies in Nifty index and the investors could not earn positive returns from their investment.

Testing of Hypothesis

The analysis of average values of stock prices for sample companies in S&P CNX Nifty index reveals that no price effects were observed on the pre-announcement and post-announcement day for inclusion

Table 3. MAR and MCAR, During, Before and After Effective Day for the Included and Excluded Companies in S&P CNX Nifty Index

	Inclusion		Exclusion	
Days	MAR	MCAR	MAR	MCAR
–10	–1.16450	–1.16450	–1.06906	–1.06906
–9	–1.15138	–2.31588	–1.04793	–2.11699
–8	–1.15965	–3.47553	–1.06089	–3.17788
–7	–1.14695	–4.62248	–1.06239	–4.24027
–6	–1.14267	–5.76515	–1.06094	–5.30121
–5	–1.15283	–6.91798	–1.06739	–6.36860
–4	–1.13759	–8.05557	–1.07624	–7.44484
–3	–1.13511	–9.19068	–1.07127	–8.51611
–2	–1.20109	–10.39177	–1.16843	–9.68454
–1	–1.18461	–11.57638	–1.09349	–10.77803
ED	**–1.15666**	**–12.73304**	**–1.04764**	**–11.82567**
1	–1.18057	–13.91361	–1.09678	–12.92245
2	–1.14220	–15.05581	–1.07493	–13.99738
3	–1.18506	–16.24087	–1.15429	–15.15167
4	–1.17043	–17.41130	–1.05407	–16.20574
5	–1.14724	–18.55854	–1.07580	–17.28154
6	–1.15655	–19.71509	–1.06703	–18.34857
7	–1.13920	–20.85429	–1.05393	–19.40250
8	–1.13155	–21.98584	–1.04938	–20.45188
9	–1.17498	–23.16082	–1.05942	–21.51130
10	–1.12802	–24.28884	–1.03708	–22.54838

Source: www.nseindia.com

and exclusion. However, similar results were found for the Nifty additions and deletions too on pre- and post-effective days. From the results, it is clearly understood that the hypotheses NH01: 'There are no excess returns recorded by Nifty companies in the post-announcement window' and NH02: 'There are no excess returns recorded by Nifty companies in the post-effective window' are proved. Hence, NH01 and NH02 are accepted in the case of S&P CNX Nifty index. In other words, on inclusion and exclusion announcement day as well as effective day, investors could not earn excess returns on account of inclusion and exclusion in CNX Nifty index, because there was no leakage of information about inclusion and exclusion.

Analysis of Volatility in Returns of Included and Excluded Companies in S&P CNX Nifty

Analysis of Volatility in Returns of Companies Included into and Excluded from Nifty on Announcement Day

Table 4 gives the results of the returns volatility in the companies which are included and excluded from Nifty on announcement day. It is estimated for the presence of ARCH and GARCH effects. The GARCH is the better tool to estimate the future for financial asset returns data. The analysis shows that lagged squared disturbance is not statistically significant and error variance is not correlated. A residual ARCH test on the fitted GARCH (1, 1) model reveals that this model captures the heteroscedasticity effectively.

Table 4. Results of Volatility on Announcement Day using GARCH (1, 1) Model for Inclusion and Exclusion in Nifty

	Coefficient	Std. Error	*z*-Statistic	Prob.
C	1.136053	1.757317	0.646470	0.5180
	Variance Equation			
Intercept	0.687164	0.881886	0.779199	0.4359
ARCH	–0.036801	0.062806	–0.585953	0.5579
GARCH(1, 1)	0.588718	0.532995	1.104547	0.2694
Adjusted R^2	–0.048281			
Sum squared residuals	45.14508			
Log likelihood	–57.95477			

Source: Computed from EViews Software.
Notes: *significant at 1% level; **significant at 5% level; and ***significant at 10% level.

Returns for sample companies is not significant at 1 per cent level, having probability value greater than 10 per cent (0.10). In the conditional variance equation, ARCH and GARCH are returns coefficients, where ARCH is the coefficient for returns of sample companies listed in Nifty which is not significant at 1 per cent level, indicating that the inclusion in Nifty has no impact on the volatility of the returns of sample companies. On the contrary, GARCH coefficient is statistically insignificant and suggests that exclusion in Nifty influenced the company's returns. A high value of R-square (R^2) depicts a very high degree of explained variation. In this table, the R^2 value is –0.048281, which indicates a very low degree of explained variation. The sum of the ARCH and GARCH coefficients is negative and not close to one, indicating that volatility shocks are not quite persistent. Thus, the null hypothesis, NH03: 'There is no impact on the volatility of the companies included and excluded in Nifty on announcement day' is accepted.

Analysis of Volatility in Returns of Companies Included into and Excluded from Nifty on Effective Day

The coefficient on all the three terms (C, ARCH and GARCH [1,1]) for the stock returns of sample companies during the effective window period in Nifty in the conditional variance equation is not significant, as shown in Table 5. Also, GARCH model estimates for financial asset returns data that lagged squared disturbance is not statistically significant and error variance is not correlated. A residual ARCH test on the fitted GARCH (1, 1) model reveals that this model captures the heteroscedasticity effectively. Returns

Table 5. Results of Volatility on Effective Day using GARCH (1, 1) Model for Inclusion and Exclusion in Nifty

	Coefficient	Std. Error	*z*-Statistic	Prob.
C	0.0558876	0.123530	0.452326	0.6510
	Variance Equation			
Intercept	0.000378	0.000295	1.281369	0.2001
ARCH	–0.067464	0.076170	–0.885698	0.3758
GARCH(1, 1)	–0.535763	1.151469	–0.465287	0.6417
Adjusted R^2	–0.064369			
Sum squared residuals	0.010359			
Log likelihood	113.1137			

Source: Computed from EViews Software.
Notes: *significant at 1% level; **significant at 5% level; and ***significant at 10% level.

for sample companies is not significant at 1 per cent level, having probability value greater than 10 per cent (0.10). In the conditional variance equation, ARCH and GARCH are returns coefficients, where ARCH is the coefficient for returns of sample companies listed in Nifty which is not significant at 1 per cent level, indicating that the inclusion in Nifty has no impact on the volatility of the returns of sample companies. Similarly, GARCH coefficient is also not significant at 1 per cent level and suggests that exclusion from Nifty did not influence the companies' returns. A high value of R^2 depicts a very high degree of explained variation. In this table, the R^2 value is –0.064369, which indicates very low degree of explained variation. The sum of the ARCH and GARCH coefficients is negative and not close to one, indicating that volatility shocks are not quite persistent. Thus, the null hypothesis of NH03: 'There is no impact on the volatility of the companies included and excluded in Nifty on effective day' is accepted.

Findings of the Study

The analysis of data has revealed the following important findings.

1. The study found that the stocks added to and deleted from Nifty experienced negative returns during the pre- and post-announcement period.
2. This study clearly exhibits that the price effects were similarly observed for the index on the effective day of inclusions and exclusions on S&P CNX Nifty index.
3. From the study, it is understood that the investors would not earn excess returns during the announcement day and the effective day for both inclusion and exclusion.
4. The study found that the event of inclusion and exclusion from the index had only a short-term effect on the inherent value of relevant stocks.
5. Though there was some evidence of price reversals, it is difficult to explain the results within the framework of PPH.
6. It is obvious from the present study that the company excluded from Nifty index experienced greater volatility.

Recommendations of the Study

The following are the important recommendations of this study.

1. It is clear from the present study that when the company enters the event of inclusion, there are negative results in the Nifty index during the post-announcement day period. Hence, the investors should follow the appropriate strategy to gain from the event of inclusion.
2. It is obvious from the present study that whenever the company enters into the event of exclusion, there is a negative result in the Nifty index during the post-announcement day period. Hence, it is advised that investors must be very careful while taking the investment decision at the time of exclusion.
3. Whenever the company undergoes inclusion or exclusion, there is high volatility in the share price around the day of inclusion and exclusion. Hence, it is suggested to the investors to wait for some days to take appropriate investment decision.

4. During the study period, the excluded companies performed worse than the included companies. These companies attempted to perform better again by entering into the index.
5. The study suggests that the company which is included in the index should perform well in order to retain their position in future.
6. The study recommends that regulatory authorities should monitor the reliability or the truth in the information provided by companies to protect their investors.

Conclusion

The price pressure hypothesis (PPH), like the efficient market hypothesis, assumes that long-run demand is perfectly elastic at the full-information price. However, since these events cause shifts in demand, primarily in the index funds, a study of their effect on prices would enable a more clear determination of whether price pressures exist. From the given analysis, it is clearly seen that the changes in Nifty would lead to great volatility in the stock exchange. The volatility would reflect the shareholders' or traders' psychology. Mostly, the excluded companies than the included companies recorded the negative returns to the investors. Hence, the investors should wait for the right time to invest and watch the market before investing the money, and that would help them to safely invest their money at all the times. To conclude, the study supports the PPH in the event of inclusion or exclusion in the Nifty index but the changes are short-lived events, with no permanent and significant valuation effect.

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