Performance Analysis of IPOs: Evidence from India

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ABSTRACT

Initial public offering (IPO) is a method to raise finance by private companies to meet their growing requirements. IPOs have become attractive and lucrative to the investors as they are under-priced and offer a good return in the future. Therefore, the present study analyses 144 IPOs offered from 2014 to 2020 on Bombay Stock Exchange (BSE), India. Raw returns, market-adjusted excess return (MAER), annualized returns, and wealth relative tools are used for analysis. The study supports the empirical research in the Indian context that IPOs are underpriced. Further, the raw return has increased from 18.09% to 48.83% during 12 months’ time period indicating wealth generated amongst the shareholders. The wealth relative model has been employed to ascertain the performance of IPOs against the market. The results confirm that in all the years, IPOs have outperformed the markets, and they are under-priced too.

Keywords: Initial Public Offering (IPO); Bombay Stock Exchange (BSE); Underpricing; Raw return; Short run performance; Wealth relative model.

1.0 Introduction

IPOs are the original shares directly issued to the public by the company (Babu & D’Souza, 2021). It is witnessed by Singh & Karla, (2018) that it is difficult to earn decent profits in an efficient market while it is possible with the new issues because of the inconsistency of fundamentals. Hence, it becomes a unique study for academicians and scholars to research the performance of IPOs. The pricing of IPOs is an interesting area. It can be either under, over, or at par price. Due to fear of valuation and

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subscription, companies price their offerings below assets actual price. Thus, pricing
phenomenon lower than the stock's intrinsic value is described as underpricing.
Consequently, in the market efficiency's view, there is a greater chance that variations in
the returns are possible in the future, i.e., post listing (Heerden & Alagidede, 2012).
Numerous studies have been undertaken to study the capital markets (Patil & Bagodi,
2021). Both primary and secondary markets have been lucrative to investors. Many
studies have worked in the area of primary markets and reported the reason for
investment by individuals (Rammurthy & Patil, 2021). The recent shocks of note ban in
2016, the substitution of planning commission with Niti Aayog in 2014, introduction of
goods and services tax in 2017, and pandemic in 2019 has changed the facets of the
Economy (Livemint, 2019). IPOs are one of the win-win situations for the company and
investors. It is one of the least-cost fundraising sources for the company, while investors
get an asset at less than intrinsic value (Manjunath et al., 2020). Globally the IPO flood
has been witnessed in recent years. According to Ernst & Young's report (2021), the
world has seen a record growth of 64% in IPO volume and 67% y-o-y growth in
proceeds (www.ey.com). Due to pandemic and financial crisis in 2021 we witnessed a
record flow of IPOs. According to the same report, in 2021, 2,388 companies raised
capital in their respective world markets. The report further explores that countries
in Europe, Middle East, South Asia (India), and Africa are the top most flooded with
IPOs. The technology sector saw the highest new offerings, followed by health care
(www.ey.com). India, one of the developing countries, has also witnessed new and
upcoming companies raising finance from capital markets. In total 274 companies issued
IPO in the Indian markets during 2010-2020 (www.chittorgarh.com).

Many empirical studies have attempted to understand the pricing of new issues
against the various time horizons (Beatty & Ritter, 1986; Loughran et al., 1994; Kim et
al., 1995; Ghosh, 2005; Mehta & Patel, 2016; Tanted & Mustafa, 2019). Underpricing
refers to pricing an asset lower than its listing day price (Babu & D'Souza, 2021). It is
observed that either accidentally or purposefully underpricing is done. The asset is
charged lesser in order to attract investors. There is also a lack of information
asymmetry, i.e., lack of information regarding the company's future prospects. It takes
time to understand the company and prices to settle down in the market. This time may
vary from one day to years. Hence earlier studies have selected the period of short-run
and long-run to analyze IPO performance.

The study examines IPO performance in terms of the returns for the period of
listing day, one week, one month, three, six, and twelve months. The wealth relative is
ascertained to understand IPO performance against the markets. The short-run analysis
of IPOs will help analyze the pricing of IPOs in the Indian context. The study helps in
minimizing underpricing by the other upcoming firms. The analysis will further strengthen the existing literature by contributing to computing returns not only on the listing day but over a year during various economic reforms.

The study's objective is to ascertain the performance of IPOs and determine the presence of under or overpricing. Further, the study also explores IPO performance against benchmarking index using the wealth relative model. The article is divided into five sections. Section-1 covers the introduction part. Section-2 reviews the literature on IPOs and their performance in Western and Indian markets. Section-3 presents the research methodology, followed by Section-4 which gives data construction and analysis. Section 5 concludes and defines limitations and future scope.

2.0 Literature Review

IPO performance has been a question too many researchers have contributed, and a plethora of literature is available on pricing issues with varied time frames. The initial study by Ritter (1984) studied 5000 IPOs issued in American Stock Exchange from 1960 to 1982 and observed that there is underpricing and initial day return is to the extent of 18%. The study further explored that over 15 months time period, the investors who obtained shares from the company and sold at the first day’s closing period availed 48%, while this declined to 16% over the life of fifteen months of the asset. The eminent studies (Buckland et al., 1981; Levis, 1993; Loughran et al., 1994) reported significant underpricing to 8.5% to 17% in many countries. Similarly, Alvarez & Ganalez (2005) witnessed underpricing to the extent of 14.16% in the Spanish market during 1987-1997. Omran (2005) reported underpricing to the extent of 27% in Egyptian markets during 1994-1998. A similar phenomenon was observed in Brazil and Chile, to 47% to 24% (Aggarwal et al., 1993). Sohail & Rehman (2009) observed underpricing around 37% to 42% in 20 days from listing day. Chambers & Dimson (2009) observed underpricing in the UK market to the extent of 19% for the study period of 1989 to 2007.

The study by Perera & Khulendran (2012) observed underpricing to the extent of 25.47% in the Australian market. In contrast, it is 9.16% in New Zealand (Perera & Khulendran (2012), 3.14% in the Norwegian market (Falck, 2013), 43.10% in Nigerian markets (Adjasi et al., 2011), 35.81% in Malaysian during 2000-2011 (Abubakar & Uzaki, 2012). Studies have documented that underpricing of IPOs in emerging markets like India is higher than in developed markets due to volatility (Loughran et al., 1994). Hence most developing and underdeveloped markets have witnessed underpricing over the period. The study by Sohail & Nasr (2007) reported underpricing up to 35.66% in Pakistani markets. Hassan & Quayes (2008) identified a similar trend in the Bangladeshi
market where underpricing is 108% & 119% on listing and 21st day of launch respectively. Like event was noted in Sri Lanka by Samarakoon (2010) by documenting 33.50% underpricing of initial offerings. A study by Kayani & Amjad (2011) reported 39.87% underpricing in Pakistani capital markets by considering 59 IPOs offered during 2000-2011 period.

India has two different stories than the rest of the world. Madhusoodanan & Thiripalraju (1997) carried out a study to understand the presence of underpricing in Indian markets. Authors found high underpricing as compared to developed nations. Nandha and Sawyer (2002) ascertained the phenomenon from 381 issues and reported 10% of underpricing among the new issues, followed by 78% by Krishnamurthi & Kumar (2002) with 386 offerings. Ghosh (2005) reported 96% of underpricing by considering 1842 IPOs issued from 1993 to 2001. Chaturvediet al. (2006) evaluated 50 IPOs issued in India and reported underpricing. Gopalaswamy et al., (2008) and Garg et al., (2008) also reported positive listing day returns indicating underpricing of offerings. Deb (2009) also detected underpricing to a degree of 33% in the short run. Mishra (2012) studied the IPOs issued in the Indian context and reported 14% listing day returns indicating underpricing. The study by Sahoo & Rajib (2010) considered 92 IPOs issued during the 2002-06 period and documented underpricing to the extent of 46.55%. Shah & Mehta (2015) studied 113 offerings of India issued from 2010 to 2014 and reported underpricing with 7.19% of MAAR. Manu & Saini (2020) found that, during 2017 offered companies, 70% were underpriced and vanished in the long term. A similar observation was made by Hawaldar et al., (2018) concluding books built are underpriced than the fixed ones. Ambily et al., (2016) inferred that IPOs issued during 2013 were underpriced to the extent of 114% and decreased significantly in 2014 to 53.62%, and least in 2015, i.e., 21.42%. Babu & D’Souza (2021) studied 52 IPOs issued during 2018-2020 on the NSE market and reported that 13.52% of return on listing day and 14.52% on 3rd trading day generated wealth to investors.

Madhusoodanan & Thirilraju (1997) studied short-term and long-term underpricing in Indian markets. They concluded that IPOs are highly underpriced in the short-term while disappearing in the long term. Pandey & Vaidyanathan (2009) asserted that out of IPO issues, those issued over BSE are studied more than NSE as it is one of the oldest stock exchanges in India. There is a scope identified to study IPOs issued on BSE. The earlier research depicted underpricing with listing gains that are carried away till three years post listing (Heerden & Alagidede, 2012; Sohail & Rehman, 2009; Gopalaswamy et al., 2008;Sahoo & Rajib, 2010; Babu & D’Souza, 2021). However in the recent years such phenomenon was found to be absent. Timely study by Archana & Srilashkmi (2019) employed raw return and MAER to measure the performance of 239
IPO’s issued during 2016-18. The study considered factors like pricing method, issue size, and offer price and reported a positive relationship between offer price and initial listing returns. The study also explored no relation between the IPO performance and offer size and pricing methods. The study concluded with the presence of underpricing in India with a positive significant relationship between listing performance and the issue size, pricing methods, sectoral composition, and price of the issue. However, recent study (Hawaldar et al., 2018) which studied over 464 new issues in the Indian market and reported IPO’s are less underpriced. Further, the study observed that book-built IPO’s carry negative average abnormal returns till five years while fixed price IPO’s carry till one and half years and thereafter the returns are positive. The study by Purohit, (2017) reported that listing day returns are very much sector specific and lasts shorter. In the long run, gains are absent.

In recent years, there has been no evidence of any study depicting understandable return, trends in creating wealth and pricing of new issues in the Indian market (Vani, 2021). Hence there exists a scope for further study of IPO performance in Indian context. Hence the present study contributes to the niche area through short-term underpricing during 2014-2020.

3.0 Objectives of the Study

The article analyses IPOs initial and short-run performance in the Indian market context. Hence the following objectives are outlined:

- To analyse short-run performance of IPOs
- To ascertain the listing day performance of offerings on BSE
- To analyse IPO performance against the market index

3.1 Research Methodology

Data considered in this article consists of all companies that have offered their equities to the general public from 1st January 2014 to 31st December 2020. Against this criterion, the sample accurately represents the population consisting of 144 companies (Table 1) that came out with IPOs on the official Bombay Stock Exchange of India. The secondary data is extracted from www.bse.com and used for analysis. A time period of listing day, one week, one month, three, six, and twelve months are considered for evaluation (Pruthy & Kumar, 2013; Dhamija & Arora, 2017). The reason for considering varied time is, markets may take some time to settle the prices to their equilibrium (Ljungqvist et al., 2006; Mumtaz et al., 2016).
Table 1: Number of IPOs Issued during 2014-2020

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Year</th>
<th>No. of IPO</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2014</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2015</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>2016</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>2017</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>2018</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>6</td>
<td>2019</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>2020</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>144</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: www.chittorgarh.com

The authors have adopted standard ways of measuring price performance and underpricing. The raw return, MAER, and wealth relative model for various time frames are measured as discussed below.

Raw return for the varied time period is computed considering offer issue price, “n” day closing prices. The following equation is followed:

\[
RR_n = \frac{P_t - Pip}{Pip} \quad \ldots \ldots (1)
\]

where in RR\(_n\) is the raw return at the close of “n” day/s

Pt = Price of the scrip on “t” day

Pip = Price at which investor has bought the scrip

To compute the market return, the market index value on issue day and “n” day/s later is noted. The following equation was applied:

\[
MR_n = \frac{M_t - M_{tp}}{M_{tp}} \quad \ldots \ldots (2)
\]

where in MR\(_n\) = Return of the index at the closing day “n”

Mt = Market index on value on “t” day

Mtp = Market index value on offered issued day

In order to compute the pure scrip performance, market adjusted excess return is computed using below equation:

\[
MAER = RR_n - MR_n \quad \ldots \ldots (3)
\]

Wealth relative model is used to ascertain the performance of IPOs against the market for each of the years respectively using the below formulae:

\[
WR = \frac{1 + \frac{1}{N} \sum_{i=1}^{N} RR_n}{1 + \frac{1}{N} \sum_{i=1}^{N} MR_n} \quad \ldots \ldots (4)
\]

where in WR = Wealth relative

N = Total number of IPOs issued in the respective year

RR\(_n\) = IPO return for the scrip in a year
MRn = Market return during the period

The wealth relative of more than one indicates that IPO has performed better than the market during the study period. In contrast, less than one indicates underperformance as compared to the market.

4.0 Data Construction and Analysis

The methodology outlines 144 IPOs that are selected for the study. These companies came out with the first sale of shares to the general public during 2014–2020. Out of the population, 47 companies represented manufacturing while 97 were from the service sector, as depicted in Figure 1.

Figure 1: Sector-Wise Classification of IPOs

The detailed analysis of the study is presented below:

Table 2: Listing Day Performance

<table>
<thead>
<tr>
<th>Sample size (N)</th>
<th>Characteristics</th>
<th>Raw returns (%)</th>
<th>MAER (%)</th>
<th>Annualized raw returns (%)</th>
<th>Annualized MAER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>Mean</td>
<td>18.09</td>
<td>18.07</td>
<td>690.36</td>
<td>688.83</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>151.94</td>
<td>152.00</td>
<td>6932.47</td>
<td>6934.96</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-21.58</td>
<td>-23.34</td>
<td>-997.56</td>
<td>-1120.32</td>
</tr>
<tr>
<td></td>
<td>Positive returns</td>
<td>30.81</td>
<td>30.66</td>
<td>1170.74</td>
<td>1165.31</td>
</tr>
<tr>
<td></td>
<td>Negative returns</td>
<td>7.34</td>
<td>7.11</td>
<td>270.4</td>
<td>264.11</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution
The analysis presented in Table 2 reveals that the listing day yield is computed by deducting the listing day price with the offer price. The table indicates that investors yielded a mean of 18.09% of return. The maximum yield was 151.94%, while the least was -21.58%. The mean positive return was found to be 30.81%, and the negative was 7.34%.

In all, the Table indicates that the investors have gained higher than market returns in a short period. It also indicates the presence of underpricing in the Indian context to the extent of 18.09% for seven years. A noticeable observation is a marginal difference between raw return and market-adjusted excess return. This is attributed to the SEBI’s listing rules, i.e., listing delay of not more than 30 days. Our findings are in line with Loughran and Ritter (2002).

Table 3: One Week Performance

<table>
<thead>
<tr>
<th>Sample size (N)</th>
<th>Characteristics</th>
<th>Raw returns (%)</th>
<th>MAER (%)</th>
<th>Annualized raw returns (%)</th>
<th>Annualized MAER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>Mean</td>
<td>18.67</td>
<td>18.59</td>
<td>694.95</td>
<td>691.09</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>190.70</td>
<td>190.18</td>
<td>7733.94</td>
<td>7712.79</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-33.91</td>
<td>-32.54</td>
<td>-1674.21</td>
<td>-1752.04</td>
</tr>
<tr>
<td></td>
<td>Positive returns</td>
<td>36.22</td>
<td>36.07</td>
<td>1349.21</td>
<td>1342.89</td>
</tr>
<tr>
<td></td>
<td>Negative returns</td>
<td>8.91</td>
<td>8.89</td>
<td>333.18</td>
<td>333.16</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution

Table 3 depicts the analysis of post one week of listing. It can be observed that mean return is marginally increased as compared to listing day returns, i.e., 18.09% to 18.67%. There is also an increase in maximum return, i.e., 190.70% and a minimum of -33.91%. It can be observed that most underpriced scrips have gained during the next one week of the period, improving the yield percentage.

Table 4: One Month Performance

<table>
<thead>
<tr>
<th>Sample size (N)</th>
<th>Characteristics</th>
<th>Raw returns (%)</th>
<th>MAER (%)</th>
<th>Annualized raw returns (%)</th>
<th>Annualized MAER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>Mean</td>
<td>18.15</td>
<td>18.07</td>
<td>659.35</td>
<td>655.94</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>183.39</td>
<td>182.97</td>
<td>7336.50</td>
<td>7310.31</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-31.00</td>
<td>-32.12</td>
<td>-2145.92</td>
<td>-2056.24</td>
</tr>
<tr>
<td></td>
<td>Positive returns</td>
<td>35.23</td>
<td>34.47</td>
<td>1277.52</td>
<td>1249.73</td>
</tr>
<tr>
<td></td>
<td>Negative returns</td>
<td>12.06</td>
<td>12.75</td>
<td>434.35</td>
<td>460.39</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution
Table 4 depicts that the mean raw return has decreased marginally from listing day to one month. The mean return post one month of a listing is observed to be 18.15%. The market-adjusted excess return was found to be 18.07%. However, the maximum return has increased to 183%, decreasing the minimum return to -31%.

Table 5: Three Months Performance

<table>
<thead>
<tr>
<th>Sample size</th>
<th>Characteristics</th>
<th>Raw returns (%)</th>
<th>MAER (%)</th>
<th>Annualized raw returns (%)</th>
<th>Annualized MAER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>27.58</td>
<td>27.69</td>
<td>991.18</td>
<td>996.66</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>366.60</td>
<td>366.49</td>
<td>12164.45</td>
<td>12160.74</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-63.62</td>
<td>-64.07</td>
<td>-2298.19</td>
<td>-2296.36</td>
</tr>
<tr>
<td></td>
<td>Positive returns</td>
<td>52.92</td>
<td>53.72</td>
<td>1917.51</td>
<td>1947.74</td>
</tr>
<tr>
<td></td>
<td>Negative returns</td>
<td>14.66</td>
<td>14.43</td>
<td>552.70</td>
<td>542.36</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution

The mean raw return has increased over a period of three months as inferred from Table 5 the mean return is increased to 27.58% increasing maximum return to 366.60% and minimum of -63.62%. There is an increase in positive return as compared to earlier period. This indicates that the investors who held the scrips up to three months have also been benefited. The annualized return is over 990% indicating higher returns than the market.

Table 6: Six Months Performance

<table>
<thead>
<tr>
<th>Sample size</th>
<th>Characteristics</th>
<th>Raw returns (%)</th>
<th>MAER (%)</th>
<th>Annualized raw returns (%)</th>
<th>Annualized MAER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>36.48</td>
<td>37.30</td>
<td>1353.41</td>
<td>1378.23</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>342.73</td>
<td>342.90</td>
<td>12509.59</td>
<td>12515.80</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-107.47</td>
<td>-70.50</td>
<td>-3268.88</td>
<td>-2144.43</td>
</tr>
<tr>
<td></td>
<td>Positive returns</td>
<td>70.08</td>
<td>68.72</td>
<td>2591.92</td>
<td>2510.17</td>
</tr>
<tr>
<td></td>
<td>Negative returns</td>
<td>19.53</td>
<td>18.29</td>
<td>710.77</td>
<td>677.50</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution

Table 6 represents the IPO performance from the issue date to the six months on the BSE index. Post IPO for six months, the average raw return is 36.48%, with a maximum gain of 342.73% and a minimum of -107.47%. There is an increase in positive
and negative returns compared to earlier period returns. The annualized returns are also increased comparatively to listing and one-month returns.

**Table 7: Twelve Months Performance**

<table>
<thead>
<tr>
<th>Sample size</th>
<th>Characteristics</th>
<th>Raw returns (%)</th>
<th>MAER (%)</th>
<th>Annualized raw returns (%)</th>
<th>Annualized MAER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>Mean</td>
<td>48.83</td>
<td>48.82</td>
<td>1843.88</td>
<td>1842.95</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>800.24</td>
<td>800.45</td>
<td>36510.99</td>
<td>36520.58</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-90.80</td>
<td>-89.96</td>
<td>-2761.74</td>
<td>-2765.09</td>
</tr>
<tr>
<td></td>
<td>Positive returns</td>
<td>86.83</td>
<td>86.77</td>
<td>3240.28</td>
<td>3237.73</td>
</tr>
<tr>
<td></td>
<td>Negative returns</td>
<td>32.13</td>
<td>32.04</td>
<td>1131.07</td>
<td>1128.53</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution

The study results in Table 7 reveal that if an investor holds the security for a year, a mean return of 48.83% is yielded. A maximum of 800% and a minimum of -90.80% is witnessed during the period. This also infers that the companies have performed well post twelve months, increasing raw return and MAER. A significant increase in annualized raw return is also witnessed. A noticeable observation is that, in one year period, i.e., from the listing day to one year, the return has increased 2.69 times, i.e., from 18.09% to 48.83%. There has been an uptrend in return during the study period.

**Table 8: Performance of IPOs Over Market Return**

<table>
<thead>
<tr>
<th>Year</th>
<th>Raw return (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IPOs return</td>
</tr>
<tr>
<td>2014</td>
<td>26.22</td>
</tr>
<tr>
<td>2015</td>
<td>8.78</td>
</tr>
<tr>
<td>2016</td>
<td>14.09</td>
</tr>
<tr>
<td>2017</td>
<td>20.63</td>
</tr>
<tr>
<td>2018</td>
<td>7.53</td>
</tr>
<tr>
<td>2019</td>
<td>20.47</td>
</tr>
<tr>
<td>2020</td>
<td>41.74</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution

Year-on-year analysis of the result is presented in Table 8. It can be witnessed that IPOs yield has been highest, i.e., 41.74% in 2021 while at least 7.53% in 2018. This
can be attributed to money flow in markets by domestic and foreign institutional investors during 2020 (www.ibef.org, economic survey, 2020-21). The returns were lowest in 2017 because of policy reforms, i.e., the introduction of Goods and Services Tax. This led to a decrease in GDP by 0.5% compared to last year (www.prsindia.org). Also, the world output growth was declined from 3.8% in 2017 to 3.6% in 2018. It has also affected developing countries like India by decreasing the industrial output and slowing down the economy (www.indiabudget.gov.in).

The performance of bundle of IPOs issued year-on-year is presented in Table 9.

<table>
<thead>
<tr>
<th>Year</th>
<th>Wealth relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1.05</td>
</tr>
<tr>
<td>2015</td>
<td>1.00</td>
</tr>
<tr>
<td>2016</td>
<td>1.01</td>
</tr>
<tr>
<td>2017</td>
<td>1.01</td>
</tr>
<tr>
<td>2018</td>
<td>1.00</td>
</tr>
<tr>
<td>2019</td>
<td>1.01</td>
</tr>
<tr>
<td>2020</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Source: Researchers’ own contribution

The performance evaluation using the wealth relative model is depicted in Table 9 infers that the short-term performance of 144 IPOs is more than one indicating the issues have outperformed the market in all the years. In short, the return generated by IPOs is higher than the market return over one year. Our studies are consistent with Pruthy & Kumar (2013). The returns and wealth relative are in tandem with the positive values obtained in the market-adjusted excess return.

5.0 Conclusion

The study considers the raw return and MAER of 144 companies that offered equities for the first time in the Indian BSE stock exchange. The performance was measured against BSE SENSEX as a standard measure. The raw and market-adjusted excess return over a time frame of listing day, one week, one month, three, six, and twelve months is analysed. The short-run analysis reveals that the IPOs are underpriced to the extent of 18.09%. The analysis further explores that return is higher when the
securities are held for a longer time, i.e., twelve months. However, whenever there is slack in the economy, it is better to sell off else expect minimum returns.

Overall, the study not only portrays a picture of IPO performance over a period but also indicates that returns are economically performance-dependent. The study's conclusion sheds light and adds value to the body of knowledge that the timing of issue and market conditions is essential for optimum returns. In Indian markets, IPOs are underpriced to attract investors.

5.1 Implications of the study

The research adds value to the existing body of literature to enrich the profitability of investors with lesser risk and optimum returns. It will be helpful to short-term investors who would like to sell in the short term or on listing day. The study advises holding the scrips received during IPO allotment for more than six months to reap optimum returns. The investor can also reap the benefits depending on the country's economic conditions.

5.2 Limitations of the study

The short term analysis of IPOs performance has following limitations:

- The study has considered IPOs issued during 2014-2020 on BSE only.
- An analysis is limited to short term using stated tools of analysis.

5.3 Scope for further research

Depending on the above limitations, further exploration can be carried out on the below-mentioned aspects:

- The study can be extended to NSE and time frame can be extended to second, third, and fifth year.
- To bring rigor in the study, analytical tools like regression, event study methodology, AAR, CAR etc. can be employed.

References


**Weblinks**

- www.ibef.org/economy/economic-survey-2020-21
- www.ibef.org/economy/economic-survey-2020-21