PERFORMANCE EVALUATION OF GROWTH SCHEMES

Growth schemes or equity schemes of mutual funds primarily invest in the share markets. It will be important to mention here that stock markets give stable proceeds over the long term preferably if the money stays invested for five years or more and this is reflected in growth schemes. If we suppose that we are going to create astonishing returns in just a few months of investing then we are going to be disillusioned. If we initiate at the beginning of our jobs and career and keep putting in money at a steady rate, growth schemes have the ability to generate the best returns possible over the period of time. Investors should always choose dividend reinvestment option when they invest in such schemes as it gives compounding results. In case a person always intended to invest in the stock market but never had the time, patience and knowledge for doing the research and analysis part then these types of mutual funds are the ones for him (Source: http://www.pticindia.com/mutual-fund-schemes.html).

Within the growth schemes we have schemes which invest in those companies which are by and large alleged to be the best in their fields (large cap) and companies which are small in terms of scale of operation (mid cap) but have the potential to become blue chips. The mutual fund schemes can also focus on sectors or themes like gold or infrastructure. A significant thing to note is that the level of risk increases as specialization of the fund in a specific sector narrows. A sector may be doing well now and can get affected due to interest rates or political risks. Certain sectors are also seasonal in nature. Midcaps and small caps are more prone to interest rate fluctuations and competitive pressures. All this information gives a very vague idea regarding growth schemes hence a dedicated chapter like this one is required for their study in context to India. This Chapter is sub divided into the following sub sections:

7.1 Number of Growth Schemes.
7.2 AUM of Growth Schemes.
7.3 Percentage Contribution by growth schemes.
7.4 Results and Discussion.
   7.4.1 Average Annual NAV.
   7.4.2 Total Return.
7.4.3 Beta (β) of the Scheme.
7.4.4 R-Square of the Scheme.
7.4.5 Standard Deviation.
7.4.6 Sharpe’s Ratio.
7.4.7 Treynor’s Ratio.
7.4.8 Compound Annual Growth Rate.
7.4.9 Risk Adjusted CAGR.
7.4.10 Expense Ratio.
7.4.11 Modigliani risk-adjusted performance.
7.4.12 Jensen's Performance Index.
7.4.13 Information ratio.
7.4.14 Statistical testing of significant differences.

7.5 Conclusion.

7.1 NUMBER OF GROWTH SCHEMES

The most simple basis of comparing the growth of open ended and close ended schemes is the number of schemes floating in the market on 31st March of every year of the study period i.e. from 1st April 2000 upto 31st March 2010. The following Table 7.1 and Figure 7.1 shows the development of all growth schemes operating in the Indian market in terms of no. of schemes.

Table – 7.1

Growth Schemes in India in terms of no. of schemes (As on 31st March)

<table>
<thead>
<tr>
<th>Year</th>
<th>Open ended Schemes</th>
<th>Close ended Schemes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>91</td>
<td>19</td>
<td>110</td>
</tr>
<tr>
<td>2002</td>
<td>101</td>
<td>13</td>
<td>114</td>
</tr>
<tr>
<td>2003</td>
<td>115</td>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>2004</td>
<td>124</td>
<td>2</td>
<td>126</td>
</tr>
<tr>
<td>2005</td>
<td>149</td>
<td>2</td>
<td>151</td>
</tr>
<tr>
<td>2006</td>
<td>190</td>
<td>4</td>
<td>194</td>
</tr>
<tr>
<td>2007</td>
<td>206</td>
<td>21</td>
<td>227</td>
</tr>
<tr>
<td>2008</td>
<td>221</td>
<td>49</td>
<td>270</td>
</tr>
<tr>
<td>2009</td>
<td>244</td>
<td>47</td>
<td>291</td>
</tr>
<tr>
<td>2010</td>
<td>267</td>
<td>38</td>
<td>305</td>
</tr>
</tbody>
</table>

Source- www.amfiindia.com
Growth scheme’s open ended types in India have seen almost a three times growth in the last decade in terms of number of schemes floating in the market on 31st March of every year. And in case of close ended the growth was two times. Open ended have never even once seen a fall in their number during this. This means that it was at its best in the last year of the decade i.e. on 31st March 2010 at 267 schemes. It started from 91 on 31st March 2001. Open ended schemes are more popular in all types of mutual funds as they are easier to trade in. In case of close ended schemes the number of them floating in the market was the least on 31st March of 2004 and 2005 at only 2. It started with 19 (31st March 2001) and was at 38 at the end of the study (31st March 2010). With regard to total number of growth schemes floating in the market the performance was best on 31st March 2010 at 305.

**Figure – 7.1**

*Growth Schemes in India in terms of no. of schemes*

(As on 31st March)

---

7.2 **AUM OF GROWTH SCHEMES**

Assets Under Management or AUM is the basic criteria for judging the reliability of any mutual fund. Larger the corpus, more are the chances of its stability. The following Table
7.2 and Figure 7.2 depicts the progress of all the growth schemes of India in terms of total Assets Under Management (AUM) during the period of the study on 31st March of every year. Assets Under Management of both open-ended and close ended has been given with the total of both.

Table – 7.2

Growth Schemes in India in terms of AUM (‘Cr)

(As on 31st March)

<table>
<thead>
<tr>
<th>Year</th>
<th>Open ended Schemes</th>
<th>Close ended Schemes</th>
<th>Total</th>
<th>% of Total AUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>8769</td>
<td>4714</td>
<td>13483</td>
<td>15</td>
</tr>
<tr>
<td>2002</td>
<td>8981</td>
<td>4871</td>
<td>13852</td>
<td>14</td>
</tr>
<tr>
<td>2003</td>
<td>8041</td>
<td>1846</td>
<td>9887</td>
<td>12</td>
</tr>
<tr>
<td>2004</td>
<td>22154</td>
<td>1459</td>
<td>23613</td>
<td>17</td>
</tr>
<tr>
<td>2005</td>
<td>35106</td>
<td>1651</td>
<td>36757</td>
<td>25</td>
</tr>
<tr>
<td>2006</td>
<td>86407</td>
<td>6460</td>
<td>92867</td>
<td>40</td>
</tr>
<tr>
<td>2007</td>
<td>96357</td>
<td>17029</td>
<td>113386</td>
<td>35</td>
</tr>
<tr>
<td>2008</td>
<td>123058</td>
<td>33664</td>
<td>156722</td>
<td>31</td>
</tr>
<tr>
<td>2009</td>
<td>79162</td>
<td>16549</td>
<td>95711</td>
<td>23</td>
</tr>
<tr>
<td>2010</td>
<td>154667</td>
<td>19157</td>
<td>173824</td>
<td>28</td>
</tr>
</tbody>
</table>

Source- www.amfiindia.com

In case of open ended type the schemes had a total AUM of `8769 crores on 31st March 2001 and at the end of the study it was `154667 crores. This shows the growth in the investor’s interest in these schemes over the period of time. Even close ended schemes have flourished but not at the same scale as the open ended types due to the clause of lock in period attached with them. The increase in them has been of `14443 crores i.e. from `4714 crores on 31st March 2000 to `19157 crores on 31st March 2010. When we look at the Figures of the total AUM the same growth story seems to be repeating. The total AUM of
growth schemes has increased from ` 13483 crores (31st March 2001) to ` 173824 crores (31st March 2010). All this can be clearly seen in Figure 7.2.

**Figure - 7.2**

*Growth Schemes in India in terms of AUM (` Cr)*

(As on 31st March)

---

### 7.3 PERCENTAGE CONTRIBUTION

Contribution of all the growth schemes towards the total AUM of the Indian mutual funds industry in percentage form is another parameter for comparing the growth schemes with other types of schemes. Figure 7.3 below shows the same. The Figures mentioned are on 31st March of every starting from 2001 up to 2010. As regard the percentage contribution is concerned it has only increased tremendously from a significant percentage of 15% to a more significant proportion of 28%. The minimum contribution was in the year 2003 at 12% and the maximum was in the year 2006 at 40%. Hence growth schemes have the capacity to
capture such high levels of market share. This proves the importance of growth schemes in the stock markets of India.

**Figure - 7.3**

*Growth schemes as % of total AUM of Indian Mutual Fund Industry*

(As on 31st March)

7.4 RESULTS AND DISCUSSION

7.4.1 Average annual NAV

There are a lot of growth schemes currently floating in the market but for this specific study following have been short listed as a representative sample of the Indian mutual fund industry. Table 7.3 gives the basic features of the same. Features like options available, date of inception, minimum investment required, category of the fund, investment objective, NAV of the schemes in the beginning of the study and the end of the study are mentioned.

After a brief introduction to the characteristics of the selected growth schemes for the study in Table 7.3, the funds have been compared on the basis of their average annual NAVs and their growth over and above the previous year values in Table 7.4. Values of dividend and growth options of all the schemes have been revealed separately.
### Performance Evaluation of Growth Schemes

#### Table 7.3

**Key features of the Selected Growth Schemes**

- **G** – growth option
- **D** – dividend option

<table>
<thead>
<tr>
<th>Scheme Name</th>
<th>Options Available</th>
<th>Date Of Inception</th>
<th>Min Investment</th>
<th>Investment Objective</th>
<th>NAV on 1st April 2000 D</th>
<th>NAV on 31st March 2010 G</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDFC Growth Plan</td>
<td>-Dividend -Growth</td>
<td>Sept 2000*</td>
<td>5000</td>
<td>Aims to generate long term capital appreciation from a portfolio that is invested predominantly in equity and equity related instruments.</td>
<td>9.94*</td>
<td>74.51</td>
</tr>
<tr>
<td>ICICI Prudential Growth Plan</td>
<td>-Dividend -Growth</td>
<td>June 1998</td>
<td>5000</td>
<td>A focus on strong growth stories, largely in the mid-cap space. A reasonable exposure is also maintained in the large-cap space to provide liquidity.</td>
<td>18.10</td>
<td>125.02</td>
</tr>
<tr>
<td>Reliance Growth Plan</td>
<td>-Dividend -Growth</td>
<td>Oct 1995</td>
<td>5000</td>
<td>Aims to generate long term capital appreciation from a portfolio that is invested predominantly in equity and equity related securities.</td>
<td>28.64</td>
<td>439.2</td>
</tr>
<tr>
<td>SBI Magnum Equity</td>
<td>-Dividend -Growth</td>
<td>Nov 1990</td>
<td>1000</td>
<td>Aims to achieve long-term capital appreciation from a portfolio of equity and equity-related instruments.</td>
<td>26.39</td>
<td>39.77</td>
</tr>
<tr>
<td>UTI Equity Plan</td>
<td>-Dividend -Growth</td>
<td>May 1992</td>
<td>5000</td>
<td>To achieve capital appreciation through investments in equities &amp; equity related instruments, convertible debentures, derivatives in India &amp; overseas markets.</td>
<td>13.14</td>
<td>48.35</td>
</tr>
</tbody>
</table>

Source: www.mutualfundsindia.com
## Performance Evaluation of Growth Schemes

### Table – 7.4

**Comparative Table for Annual Average NAV of the schemes**

<table>
<thead>
<tr>
<th>Year</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Prudential Growth Scheme</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G</td>
<td>%</td>
<td>D</td>
<td>%</td>
<td>G</td>
</tr>
<tr>
<td>2002-03</td>
<td>8.42</td>
<td>15.03</td>
<td>8.42</td>
<td>15.03</td>
<td>18.76</td>
</tr>
<tr>
<td>2003-04</td>
<td>14.04</td>
<td>66.75</td>
<td>28.97</td>
<td>54.42</td>
<td>54.79</td>
</tr>
<tr>
<td>2005-06</td>
<td>30.25</td>
<td>50.35</td>
<td>57.36</td>
<td>54.11</td>
<td>167.19</td>
</tr>
<tr>
<td>2006-07</td>
<td>42.84</td>
<td>41.62</td>
<td>22.22</td>
<td>30.55</td>
<td>237.47</td>
</tr>
<tr>
<td>2007-08</td>
<td>62.61</td>
<td>46.15</td>
<td>110.59</td>
<td>31.20</td>
<td>349.94</td>
</tr>
<tr>
<td>2009-10</td>
<td>63.58</td>
<td>26.48</td>
<td>366.23</td>
<td>35.38</td>
<td>49.56</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000.*
Previous Table shows the values of average annual NAV and its growth percentage for the study period starting from 1st April 2000 upto 31st March 2010 of the selected growth schemes. The highest NAV recorded by a private sector scheme was 366.23 by Reliance Growth Scheme (growth option) in the year 2009-10. And in case of public sector sponsored scheme it was just 41.54 by UTI Equity Plan (growth plan) in the year 2009-10. If the minimum average annual NAVs are considered then both private and public sector sponsored growth schemes are almost at par as HDFC growth plan (growth and dividend option) recorded the least value of 7.32 and SBI Magnum Equity plan (growth and dividend option) recorded 8.23. In terms of percentage growth in the value of average annual NAV over the previous year Reliance growth scheme (growth option) again topped by achieving a growth of 91.91% in the year 2003-04. Whereas on the other hand the maximum growth posted by a public sector sponsored growth scheme was 53.66% by UTI Equity plan (dividend option) in the same year. If we look at the most negative growth percentage then SBI Magnum growth Plan (growth plan) is leading which recorded a growth of -42.37% in the year 2001-02 during which all other plans had also seen negative growth. During the economic slowdown of 2001-02, HDFC growth plan (growth option – 11.70) was the least effected and during the economy crash of 2008-09 UTI Equity plan (dividend option -6.23) was the least affected. To end with it can be summarized that private sector growth mutual funds have performed better in terms of NAV and its percentage growth.

7.4.2 Total Return

Total Returns here are the difference between the net asset value (NAV) of two separate dates divided by the NAV of the preceding date.

Table –7.5

*Comparative Table for Total Return (%)*

<table>
<thead>
<tr>
<th>BSE</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G</td>
<td>D</td>
<td>G</td>
<td>D</td>
<td>G</td>
</tr>
<tr>
<td>247.02</td>
<td>649.60</td>
<td>193.56</td>
<td>301.48</td>
<td>4.36</td>
<td>1050.64</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000;
Performance Evaluation of Growth Schemes

Here the two dates being considered are 1st April 2000 and 31st March 2010. BSE index has been taken as the benchmark. In Table 7.5 total return earned by the chosen growth schemes are mentioned. In terms of total returns Reliance Growth Scheme (growth option) has performed exceptionally well by posting a return percentage of 1050.64%. No other mutual fund is anywhere near to such an excellent performance. The second best total return is by HDFC growth option at 649.60%. All the growth options have given much better results than the BSE (247.02%) accept that of SBI Magnum Equity plan (50.70%). The least performing dividend option amongst all chosen growth plans is by ICICI Prudential at a total return of only 4.36%. But overall performance of private sector growth plans growth options is so good that it is fact enough to adjudge them as the best in terms of total return.

7.4.3 Beta (β) of the Schemes

Beta shows a mutual fund’s volatility and is supposed to give some sense of the extent of change in the NAV with the change in market. In simple words Beta shows the relationship between the market and the mutual fund. Table 7.6 reveals the Beta value of fund returns of the chosen growth schemes as on 31st March 2010 calculated on the basis of daily returns of the last ten years.

Table –7.6
Comparative Table for Beta (β)

<table>
<thead>
<tr>
<th></th>
<th>G – growth option</th>
<th>D – dividend option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HDFC Growth Scheme</strong></td>
<td><strong>ICICI Pru. Growth</strong></td>
<td><strong>Reliance Growth Scheme</strong></td>
</tr>
<tr>
<td>G</td>
<td>0.755</td>
<td>0.840</td>
</tr>
<tr>
<td>D</td>
<td>0.712</td>
<td>0.847</td>
</tr>
</tbody>
</table>

* Introduced on 20/09/2000

Reliance growth schemes a private sector mutual fund has the least Beta value of 0.705 (growth option) and 0.708 (dividend option). Which shows that it’s more efficient as compared to other funds when it comes to handling market risk. In case of public sector sponsored growth schemes UTI Equity Plan (dividend option) has the least Beta value of
0.736. Looking at the Beta values of other schemes also it can be accomplished that private sector growth schemes are better at dealing with market fluctuations.

### 7.4.4 R-Square of the Schemes

R-square value (Table 7.7) of any variable gives the proportion of it which is affected by a specific factor. Here R-square means that portion of change in NAV which is affected by the change in the market. Market here refers to BSE Index.

![Table 7.7
Comparative Table for R - Square](image)

<table>
<thead>
<tr>
<th>G – growth option</th>
<th>D – dividend option</th>
<th>(As on 31st March 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDFC Growth Scheme*</td>
<td>ICICI Pru. Growth</td>
<td>Reliance Growth Scheme</td>
</tr>
<tr>
<td>G</td>
<td>D</td>
<td>G</td>
</tr>
<tr>
<td>0.393</td>
<td>0.391</td>
<td>0.472</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000

The least R-square value is that of SBI Magnum Equity scheme (0.260), which shows that only 26% of modifications in the value of NAV of this plan is due to the fluctuations in the BSE index. The highest R-square value is of ICICI growth plan (growth option) at 0.472. This means that 47% of the change in its NAV is due to the market factor. Even the R-square values of the other private sector schemes are on a higher side as compared to public sector sponsored funds. By all this it can be concluded that market ups and downs play a major role in the NAV alterations of private sector growth schemes hence can be said to be having adequately diversified portfolio that can easily contain market variability.

### 7.4.5 Standard Deviation

Standard deviation is the variation in NAV of any scheme from its average NAV. A higher value of standard deviations means more deviation from its average rate of return. Table 7.8 gives a picture of the standard deviation in percentage form, of all the selected growth schemes as on 31st March 2010. Standard deviation of BSE index which is the benchmark has also been mentioned for better interpretation of results.
The maximum standard deviation is of SBI Magnum Equity Plan (growth option 2.51% and dividend option 2.50%). Therefore it can be stated that this plan is the most unpredictable in terms of its NAV. The NAV of SBI Magnum equity plan can vary upto 2.51% of its average. This percentage change may be positive or negative depending upon the market condition.

### Table – 7.8

**Comparative Table for Standard Deviation (%)**

<table>
<thead>
<tr>
<th>BSE</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G – growth option</td>
<td>D – dividend option</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.71 1.62</td>
<td>1.81 2.06</td>
<td>1.64 2.00</td>
<td>2.51 2.50</td>
<td>1.91 2.01</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000*

Index of BSE has varied upto 1.47% in the period of study. Standard deviations of all the public sector sponsored schemes are on a higher side as compared to their counterpart private growth plans. The maximum from the private sector side is by ICICI Prudential growth plan (dividend option) at 2.06% and the least is by HDFC Growth Scheme dividend option at 1.62%. By this it can be summarized that NAVs of private sector growth schemes are more knowable.

### 7.4.6 Sharpe’s Ratio

Higher the ratio better is the capacity of the fund to deal with total risk. Here the Sharpe’s ratio of BSE Sensitivity Index has also been mentioned so that comparisons with a benchmark can also be done. Table 7.9 shows Sharpe’s ratio of selected growth schemes.

Since the Sharpe’s ratio of all the funds is coming out to be negative hence the least negative would be considered better. The Sharpe’s ratio of the BSE is 4.34 this means that there was a possibility of better management of total risk if the funds were at the efficiency level similar to that of the index. Looking at the values in the table it can be said that public sector sponsored growth schemes are better at dealing with total risk attached with mutual funds as compared to their competitors.
Amongst them SBI Magnum Equity plan is giving the least negative Sharpe’s ratio of -2.55 (growth option) and -2.56 (dividend option). Even UTI Equity plan which is another public sector sponsored fund under consideration is performing well in terms of this parameter. The least by a private sector growth scheme is by ICICI Prudential Growth Plan (dividend option) at -3.10. Hence it can be summarized that in regards to Sharpe’s ratio public sector sponsored growth plans are ahead of private sector funds.

7.4.7 Treynor’s Ratio

Treynor’s ratio, which is a ratio of return generated by the fund over and above risk free rate of return, during a given period and at a specific level of market risk, is shown in Table 7.10.

### Table 7.10

**Comparative Table for Treynor’s Ratio**

<table>
<thead>
<tr>
<th>BSE</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.23</td>
<td>G D</td>
<td>G D</td>
<td>G D</td>
<td>G D</td>
<td>G D</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000*
Higher Treynor’s ratio is a good performance indicator. Treynor’s ratio of BSE has also been mentioned for comparison. All the growth plans which are being studied seem to be almost at par in terms of this ratio. All are giving negative results in the rage of -7 to -9 indicating thereby that the schemes provided inadequate returns as against the risk involved in the investments. Reliance growth plan (dividend option = -9.01 and growth option = -8.96) is giving maximum Treynor’s ratio. This shows that it is giving the least risk adjusted returns. The minimum Treynor’s ratio is of SBI Magnum equity plan (growth option = -7.39 and dividend option= -7.42) which means that returns of this fund are upto an extent risk attuned. The ratio posted by the benchmark index i.e. BSE is exceptionally good (8.23) and hence unparalleled. One thing which needs to be mentioned here is that all the above plans are almost at par and have given very unfortunate results in case of this specific parameter.

7.4.8 CAGR

Although CAGR sounds technical, its significance is not complicated. It is the growth rate of a value expressed on an annualized basis. Such value can be the performance of a company in terms of an investment or a portfolio or return. This also takes into consideration the effect of compounding. Table 7.11 shows the CAGR of the selected growth schemes calculated on the basis of average annual return of the years 2000-2001 upto 2009-2010.

**Table – 7.11**

*Comparative Table of CAGR (%)*

<table>
<thead>
<tr>
<th></th>
<th>BSE</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G</strong> – growth option</td>
<td><strong>D</strong> – dividend option</td>
<td>(As on 31\textsuperscript{st} March 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAGR</td>
<td>22.57</td>
<td>G</td>
<td>D</td>
<td>G</td>
<td>D</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31.83</td>
<td>18.04</td>
<td>25.59</td>
<td>8.63</td>
<td>43.55</td>
</tr>
<tr>
<td>t values</td>
<td>8.12</td>
<td>10.84</td>
<td>7.02</td>
<td>8.41</td>
<td>3.12</td>
<td>10.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.84</td>
<td>7.02</td>
<td>8.41</td>
<td>3.12</td>
<td>10.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000*
The intention of the growth plans being an increase in the value of fund, their CAGR seems to be satisfactorily at higher levels as compared to other types of mutual fund schemes. Reliance Growth Plan (private sector) growth option has achieved the maximum CAGR of 43.55% which is almost double the CAGR of the benchmark (BSE SENSEX at 22.57%). Therefore it can be suggested that it is worth holding the fund of this particular AMC. Under the dividend option also private sector growth schemes are best (HDFC growth option at 18.04%). In case of public sector sponsored growth plans the highest CAGR is 20.10% by UTI Growth Scheme growth option. In case of growth mutual funds also private sector schemes have outperformed public sector sponsored funds under this parameter. Here the level of significance has been taken to 0.05 and accordingly calculated values have been compared with tabulated values (1.833 for \( n - 1 = 9 \) years). All the calculated values divided by 100 are coming out to be less than tabulated values. Doing this the results show that null hypothesis is rejected in case of all the schemes under consideration. Hence it can be concluded that average annual returns of all the schemes for all the 10 years of the study have varied significantly.

**7.4.9 Risk Adjusted CAGR**

Table 7.12 shows the risk adjusted compound annual growth rate of the selected growth schemes calculated on the basis of the daily NAV starting from 1\(^{st}\) April 2000 upto 31\(^{st}\) March 2010. The same has been calculated for the benchmark index i.e. SENSEX also.

**Table 7.12**

*Comparative Table of Risk Adjusted CAGR (%)*

<table>
<thead>
<tr>
<th>BSE</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth Scheme</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.48</td>
<td>( G ) 22.60</td>
<td>( D ) 13.53</td>
<td>( G ) 18.17</td>
<td>( D ) 6.30</td>
<td>( G ) 25.69</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000*
The regular measure used for describing a growth rate is the compound annualized growth rate or CAGR and if risk factor is attached with it is known as Risk Adjusted CAGR which is an improved version of the simple CAGR. The Risk Adjusted CAGR of the benchmark index SENSEX is coming out to be 16.48%. Reliance Growth scheme growth option has performed exceptionally well by giving a Risk Adjusted CAGR of 25.69% which is even higher than the benchmark under consideration. It is important to mention here that it is a private sector fund. On the other hand the best from the public sector sponsored category UTI Growth Scheme growth option made its investments grow at the rate of 15.08% during the period of the study although of its risk attribute. The least compound growth after making adjustments for the risk (6.30%) was seen by ICICI Prudential Growth scheme dividend option. On the basis of all this it can be concluded that private sector is better off than the public sector sponsored because except the Risk Adjusted CAGR value of ICICI Prudential Growth scheme dividend option all the other values from private sector side are higher as compared to their counterparts.

7.4.10 Expense Ratio

It’s a well known fact that there are no free lunches in money matters. This holds true in case of mutual fund investments also. Mutual funds too charge a fee for making your money grow. All such expenses and charges can be evaluated under a single category called expense ratio. In the Table 7.13 Average Expense Ratios of the selected growth schemes have been given on the basis of the data for the period starting from 1st April 2000 upto 31st March 2010.

**Table – 7.13**

<table>
<thead>
<tr>
<th>SCHEME NAME</th>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth Scheme</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>2.20</td>
<td>2.25</td>
<td>1.76</td>
<td>2.38</td>
<td>1.39</td>
</tr>
<tr>
<td>Maximum</td>
<td>2.25</td>
<td>2.50</td>
<td>1.88</td>
<td>2.51</td>
<td>1.80</td>
</tr>
<tr>
<td>Minimum</td>
<td>2.13</td>
<td>2.11</td>
<td>1.56</td>
<td>2.11</td>
<td>1.07</td>
</tr>
</tbody>
</table>

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The maximum and the minimum expense ratio during the study period have also been mentioned for better analysis of the figures. Data above shows that the least expense ratio of a growth schemes during the study period is of UTI Equity Scheme. It spent only 1.07% of its returns earned on operational expenses in a specific year. Under the average expense ratio there is a close tie between the public sector sponsored growth schemes and the private sector growth schemes. Since the minimum average position is taken over by UTI Equity Schemes (1.39%), the maximum average expense ratio position is held by another public sector sponsored fund SBI Magnum Equity scheme (2.38%). Two of the Private sector growth schemes HDFC Growth Scheme (2.20%) and ICICI Growth Schemes (2.25%) are also giving somewhat nearby average expense ratios to the maximum value. In case of highest maximum expense ratio in the decade starting from 1st April 2000 upto 31st March 2010. SBI Magnum Equity Scheme again holds the spot with 2.51%. Here it can be accomplished that two representative public sector sponsored schemes are giving different results and therefore there category cannot be adjudged as better than the private sector schemes. And since HDFC Growth Scheme and ICICI growth Schemes are giving similar results as SBI Magnum Equity Scheme and Reliance Growth Scheme is giving results similar to UTI Equity Scheme, it can be said in a nutshell that private sector and public sector sponsored growth schemes are at par in case of expense ratio.

7.4.11 Modigliani Risk-Adjusted Performance

It is an extension of Sharpe’s Ratio. But it has the significant advantage of being in units of percent return unlike Sharpe Ratio which is an abstract making it dramatically more intuitive to interpret.

\[
\begin{array}{cccccc}
\text{HDFC Growth Scheme}\,* & \text{ICICI Pru. Growth Scheme} & \text{Reliance Growth Scheme} & \text{SBI Magnum Equity Scheme} & \text{UTI Equity Scheme} \\
G & D & G & D & G & D & G & D & G & D \\
1.173 & 0.833 & 1.231 & 1.837 & 0.731 & 1.721 & 2.660 & 2.641 & 1.464 & 1.750 \\
\end{array}
\]

*Introduced on 20/09/2000
Table 7.14 given below gives the values of $M^2$ for the selected growth schemes as on 31st March 2010. Higher the $M^2$ value the better is the performance of the fund. From the above table it is clearly visible that SBI Magnum Equity Scheme has given exceptionally good results as compared to its competitive schemes. SBI Magnum Equity Scheme a public sector growth scheme has recorded a $M^2$ value of more than 2%. The least $M^2$ value is of HDFC Growth Scheme dividend option (0.833%). The $M^2$ measure is equivalent to the return the fund would have achieved if it had the same risk as the market index. Hence it can be summarized that public sector sponsored funds are performing better than the private sector funds when both are given same levels of risk.

7.4.12 Jensen’s Measure Alpha

Jensen's alpha was first used as a measure in the evaluation of mutual funds by Michael Jensen in 1968. This gives a return which is supposed to be 'risk adjusted', which means it takes account of the relative riskiness of the asset. After all, riskier assets will have higher expected returns than less risky assets. Table 7.15 below gives the alpha values of all the selected growth schemes as on 31st March 2010

**Table – 7.15**

**Comparative Table of Jensen’s Measure**

<table>
<thead>
<tr>
<th>HDFC Growth Scheme*</th>
<th>ICICI Pru. Growth Scheme</th>
<th>Reliance Growth Scheme</th>
<th>SBI Magnum Equity Scheme</th>
<th>UTI Equity Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>$G$</td>
<td>$G$</td>
<td>$G$</td>
<td>$G$</td>
<td>$G$</td>
</tr>
<tr>
<td></td>
<td>$D$</td>
<td>$D$</td>
<td>$D$</td>
<td>$D$</td>
</tr>
<tr>
<td>-1.528</td>
<td>-1.007</td>
<td>-1.828</td>
<td>-0.885</td>
<td>-1.512</td>
</tr>
<tr>
<td>-1.841</td>
<td>-1.011</td>
<td>-1.874</td>
<td>-0.909</td>
<td>-1.674</td>
</tr>
</tbody>
</table>

*Introduced on 20/09/2000

It can be analyzed from the table values above that alpha of all the schemes is coming out to be negative. A positive Alpha means that a portfolio has beaten the market, while a negative value indicates underperformance. Therefore in this case fund with the least negative alpha will be considered best amongst equals. Here SBI Magnum Equity Scheme is giving the least negative value hence can be adjudged as the fund which is performing better.
than the market benchmark index (BSE SENSEX). The growth scheme which is giving lower returns than the market is Reliance Growth Schemes (dividend option = -1.874). The above discussion can be concluded by saying that Public sector sponsored growth schemes are better off than their private sector counterparts in terms of Jensen’s measure alpha.

7.4.13 Information Ratio

The Information Ratio is the ratio of the alpha component of total returns to the standard deviation of these excess alpha returns. The alpha component is the return that is attributable to the manager’s skill or luck, and is the residual after taking out the risk free return and the beta components from the total returns. Following table 7.16 gives the information ratio of the selected growth schemes as on 31st March 2010.

*Table 7.16
Comparative Table of Information Ratio

<table>
<thead>
<tr>
<th>Scheme</th>
<th>G – growth option</th>
<th>D – dividend option</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDFC Growth Scheme*</td>
<td>G</td>
<td>D</td>
</tr>
<tr>
<td>ICICI Pru. Growth Scheme</td>
<td>-0.655</td>
<td>-0.543</td>
</tr>
<tr>
<td>Reliance Growth Scheme</td>
<td>-0.993</td>
<td>-0.989</td>
</tr>
<tr>
<td>SBI Magnum Equity Scheme</td>
<td>-0.547</td>
<td>-0.534</td>
</tr>
<tr>
<td>UTI Equity Scheme</td>
<td>-1.130</td>
<td>-1.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.661</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.597</td>
</tr>
</tbody>
</table>

* Introduced on 20/09/2000

Higher the information ratio, higher is the active return of the portfolio at a given level of risk. Since all the IRs in the above table are negative the best will be the least negative one i.e. -0.534 of Reliance growth scheme dividend option and the least performing results are of SBI Magnum equity Scheme (dividend option = -1.100 and growth option = -1.130). On this basis it can be concluded that expected active return of the fund managers of the private sector growth schemes are more according to the levels of risk.

7.4.14 Statistical testing of difference between average NAVs of selected Growth Schemes

The data for the growth schemes was tested separately for growth and dividend option. To begin with the choice of the five schemes has been justified by trying to know
whether there is significant difference between the average NAVs of their growth schemes or not. For this ANOVA was applied on the following hypothesis:

\[ H_0 : \text{There is no significant difference between the mean of average NAVs of the five growth schemes selected.} \]

For testing the null hypothesis the results and interpretation of ANOVA test are discussed below:

\(\text{Table – 7.17}\)

\(\text{ANOVA Results for Mean of NAVs of Growth Schemes}\)

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROWTH</strong> (Growth)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>140978.476</td>
<td>4</td>
<td>35244.619</td>
<td>8.493</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>186735.331</td>
<td>45</td>
<td>4149.674</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>327713.807</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GROWTH</strong> (Dividend)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2807.164</td>
<td>4</td>
<td>701.791</td>
<td>6.566</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>4809.441</td>
<td>45</td>
<td>106.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7616.605</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7.17 shows the results of the one way ANOVA analysis and tells us if there is any significant difference between the group means under consideration. In this case the level of significance comes out to be 0.000 which is much less than the 0.005 and hence the null hypothesis which states that there is no significant difference between average NAVs of the five growth schemes, is rejected.
Now to check whether there is significant difference between average NAVs of the selected public sector growth schemes and private sector growth schemes, $t$–test has been used. The hypothesis set for testing is mentioned below:

$H_0$: There is no significant difference between the mean of average of average NAVs of the public sector sponsored and private sector sponsored growth schemes.

The results of this test are discussed below.

*Table – 7.1*  


<table>
<thead>
<tr>
<th>COMPANY</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROWTH (Growth) Private</td>
<td>30</td>
<td>83.0150</td>
<td>98.19541</td>
<td>17.92795</td>
</tr>
<tr>
<td>Public</td>
<td>20</td>
<td>21.2700</td>
<td>11.08971</td>
<td>2.47973</td>
</tr>
<tr>
<td>GROWTH (Dividend) Private</td>
<td>30</td>
<td>23.3680</td>
<td>14.15761</td>
<td>2.58481</td>
</tr>
<tr>
<td>Public</td>
<td>20</td>
<td>19.9300</td>
<td>9.35292</td>
<td>2.09138</td>
</tr>
</tbody>
</table>

From the above table it is clearly visible that the values of mean and standard deviation are different for public and private growth schemes. But the significance of this difference is equally important. Hence to understand whether this difference is significant or not $t$–test results are mentioned in the table given below.
**Table 7.19**  
*Results of Independent Samples t-Test*

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>Growth (Growth)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>15.124</td>
<td>.000</td>
<td>2.791</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>3.412</td>
<td>30.103</td>
<td>.002</td>
</tr>
<tr>
<td>Growth (Dividend)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.776</td>
<td>.189</td>
<td>.954</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>1.034</td>
<td>48.000</td>
<td>.306</td>
</tr>
</tbody>
</table>
Levene’s test is used to decide whether equal variance be assumed or unequal variance be assumed. If p value is $< 0.05$ the evidence suggests that the variances are unequal. Here the p value of Levene’s test is 0.000 for growth option and 0.189 for dividend option. So we use the unequal variance line for the t – test for the means of growth option and equal variance line for the t test for the means of dividend option. The value of t test is 0.345 for dividend option and 0.002 for growth option. Thereby it leads to the rejection of null hypothesis ($H_0$) which states there is no significant difference between the mean of NAVs of public sector sponsored and private sector as far as growth schemes are concerned in case of growth option and acceptance in case of dividend option.

Hence it can be concluded that performance of public sector sponsored growth schemes growth option and private sector growth schemes growth option differ significantly in terms of their average NAVs.

### 7.5 CONCLUSION

Growth schemes are responsible for $1/3^{rd}$ of the AUM of the whole industry. This means that they reflect the performance of the industry upto an extent. Hence it will not be wrong if it is said that growth in the growth schemes mean a growth of this industry. Growth schemes are giving better results as compared to their benchmark i.e. BSE SENSEX under numerous parameters. Hence it can be summed up that mutual funds have the ability to surpass the performance of the sensitivity index of the Indian economy also. This chapter can be summarized by saying that Reliance Growth Scheme has performed better as compared to other selected growth plans in 7 out of 14 parameters i.e.

- Average annual NAV.
- Percentage growth in NAV.
- Total Return.
- Beta.
- Compound Annual Growth Rate (CAGR).
- Risk Adjusted CAGR.
- Information Ratio

SBI comes next by giving best results in case of R-Square, Sharpe’s Ratio, Treynor’s Ratio, M – Square and Jensen’s Alpha

On the whole private sectors funds have performed much better than the public sector sponsored funds.