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**Financial Analysis of**

**BSOFT and RAMCOCEM**

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**Abstract**

The project mainly aims at making recommendations about the financial health of BSOFT and RAMCOCEM. This is accomplished by analysing the spot and future prices of BSOFT and RAMCOCEM over a duration of 1 year from 1st November 2021 to 31st October 2022. Spot prices and future prices of BSOFT and RAMCOCEM over the past year have been analysed by calculating returns and risk adjusted returns on a daily, weekly and monthly basis and it has been found that negative expected return as well as high risk in trading for both underlying and futures market for both stocks. Hence from investor’s perspective it is advisable to invest in Risk free securities which are Treasury bills and Government Bonds as they can assure you a positive expected return with zero volatility. This report explains the financial health of BSOFT and RAMCOCEM by comparing the returns of the stock and futures instruments on various frequencies and makes a suggestion to refrain from trading in these stocks in either underlying or F&O segment due to high on an average risk of around 36%.

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6. Introduction
7. Nature of Business

Birla Soft is a consulting company which helps in building sustainable communities with the help of its expertise in domain, enterprise, and digital technology. It is a part of 160-year-old heritage of the CK Birla Group. The company helps its customers to run businesses in the field of banking, Capital Markets, Healthcare, Manufacturing, Media etc.

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Fig1.1: BSOFT Logo

The Ramco Cements Limited is a subsidiary of Ramco Group based in Chennai, India founded in. Ramco Cements produces Ready-Mix Concrete (RMC) and Dry Mortar products from its 5 Integrated Cement manufacturing units, 6 grinding units, and 1 Packing terminal across India. Ramco Cements also has a Research Centre (Ramco Research & Development Centre) in Chennai and operates wind farms in Tamil Nadu and Karnataka.

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Fig1.2: RAMCOCEM Logo

The Main business of Ramco Cements is in Cement manufacturing and catering to different construction companies according to their needs.

1. Ownership

The ownership of BirlaSOFT, is dominated by private companies with a massive 43% share in the holding of the company. Followed by the are the institutions and only 21% of the shares are diluted for the general publc holdings. Whereas for the Ramco Cements Limited, major stock holdings is with the institutions which account for almost 42% followed by public companies which have around 35% shares and only 8.8% shares are held by General public.

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Table1.1: Ownership data of BSOFT

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Table1.2: Ownership data of RAMCOCEM

1. Business Commencement Circumstances

Birla Soft is a part of the CK Birla group, which was run by BM Birla and GD Birla, is headquartered in the Birla Tower in Barakhamba Road. This company was started on 28 December 1990. The Ramco Cements Limited, formerly known as the Madras Cements Limited, was in 1961 by P A C Ramasamy Raja.

1. Industry of the Business

BirlaSoft is a consultancy which provides its services in various fields including banking, Capital Markets, Insurance, Media & Entertainment etc. Ramco Cements Ltd. On the other hand, deals mainly in the production of Portland Cement and also in the Wind Power generation.

1. Greatness of the Company

BirlaSoft is known to have a great expertise in Customer Relationship Management, Manufacturing Execution Systems and Product Lifecycle Management. Ramco Cements has 5 Integrated Cement manufacturing units, 6 grinding units, and 1 Packing terminal across India.

1. Underlying Stock Returns

For BSOFT, the daily and weekly returns are higher as compared to the negative monthly returns, as shown in Table 2.1. Also, the mean returns of daily, weekly, and monthly returns are negative which shows that there is a downward trend in the spot market for this stock. Since, our Mean returns for daily, weekly, and monthly returns are negative the return/risk ratio holds no significance.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Mean | -0.14772 | -0.61131 | -2.68307 |
| Max | 9.545702 | 10.24316 | 16.85325 |
| Min | -8.14825 | -12.5224 | -14.2872 |
| Stdev | 2.774072 | 5.573777 | 11.02848 |

Table2.1: Comparison of the Daily, Weekly and Monthly risk-unadjusted returns for BSOFT (Returns in %)

Similar to BSOFT, RAMCOCEM daily and weekly returns are higher as compared to the negative monthly return (refer Table 2.2). The table also shows negative mean on daily, weekly, and monthly returns; thus, the company is performing poorly.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Mean | -0.15246 | -0.64259 | -2.80843 |
| Max | 5.349668 | 8.153271 | 15.24026 |
| min | -9.25699 | -9.50128 | -13.4449 |
| stdev | 1.953766 | 4.111187 | 8.852251 |

Table2.2: Comparison of the Daily, Weekly and Monthly risk-unadjusted returns for RAMCOCEM (Returns in %)

1. Underlying Stock Risk Adjusted Returns

For both BSOFT and RAMCOCEM, we see that average daily, weekly, and monthly returns are negative (refer table 3.1 and 3.2). Therefore, return/risk ratio has no significance.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Mean | -0.19348 | -0.65793 | -2.72759 |
| max | 9.510402 | 10.20776 | 16.81775 |
| min | -8.19705 | -12.5597 | -14.3248 |
| Stdev | 2.774792 | 5.575234 | 11.03154 |

Table3.1: Comparison of the Daily, Weekly and Monthly risk-adjusted returns for BSOFT (Returns in %)

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Mean | -0.19824 | -0.68899 | -2.85303 |
| Max | 5.311968 | 8.098771 | 15.18886 |
| min | -9.30679 | -9.53888 | -13.4813 |
| stdev | 1.953213 | 4.109639 | 8.849296 |

Table3.2: Comparison of the Daily, Weekly and Monthly risk-adjusted returns for RAMCOCEM (Returns in %)

1. Economic Interpretation of risk adjusted and risk unadjusted returns

Figures 4.1-4.3 are the plots for daily, weekly, and monthly returns of

BSOFT respectively and Figures 4.4-4.6 are the plots for daily, weekly, and monthly returns RAMCOCEM stock respectively.

Fig4.1: Daily Returns BSOFT

Fig4.2: Weekly returns BSOFT

Fig4.3: Monthly Returns BSOFT

Fig4.4: Daily Returns RAMCOCEM

Fig4.5: Weekly returns RAMCOCEM

Fig4.6: Monthly Returns RAMCOCEM

1. **Equity Futures**
   1. Commencement of Equity Futures

BSOFT enter the Futures and Options segment in October 2021 with a lot size of 1300 in near, next, and far month contracts, whereas RAMCOCEM commenced in the futures and options segment in May 2017 with 850 contracts.

* 1. Lot Size and Contract Specifications

BSOFT is currently trading in the F&O segment with a lot size of 2000 with a 2206 in NEAR,601 in NEXT and 15 in FAR month. RAMCOCEM on the other hand is trading with a lot size of 850 and with 801 in NEAR, 798.2 in NEXT and 804 in the FAR month

* 1. Greatness of Equity Futures

Both the stocks have been a part of the F&O segment for a long time.

1. **Near Month Returns**

In futures or options trading the near month is the current month that is being traded which is the next month that is going to expire.

6.1 Risk-Unadjusted Returns

From the Table 6.1, we can see that daily and weekly returns of BSOFT are better as compared to negative monthly returns. We can also see that mean returns are for daily, weekly, and monthly returns are negative, the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, which states that monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.82007 | -18.5185 | -16.8873 |
| Maximum | 9.794889 | 15.34876 | 18.57765 |
| Mean | 0.14431 | -0.60859 | -2.76516 |
| Standard Deviation | 2.945875 | 6.34402 | 12.85289 |

Table 6.1: Comparison of the Daily, Weekly and Monthly risk unadjusted Near Month returns of BSOFT (Returns in %)

Similarly, for RAMCOCEM, Table 6.2 states that daily and weekly returns are better as compared to negative monthly returns. We can see that mean returns for daily, weekly, and monthly are negative, hence the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, this states that Monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.89889 | -12.8701 | -13.2386 |
| Maximum | 4.380534 | 10.2193 | 16.79969 |
| Mean | -0.15489 | -0.65197 | -2.91112 |
| Standard Deviation | 2.093643 | 4.72962 | 9.935266 |

Table 6.2: Comparison of the Daily, Weekly and Monthly risk unadjusted Near Month returns of RAMCOCEM (Return in %)

6.2 Risk-Adjusted Returns

From the Table 6.3, we can see that daily and weekly returns of BSOFT are better as compared to negative monthly returns. We can also see that mean returns are for daily, weekly, and monthly returns are negative, the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, which states that monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.85737 | -18.5561 | -16.9249 |
| Maximum | 9.759589 | 15.29746 | 18.54215 |
| Mean | -0.19015 | -0.65521 | -2.8105 |
| Standard Deviation | 2.94654 | 6.345423 | 12.85664 |

Table 6.3: Comparison of the Daily, Weekly and Monthly risk adjusted Near Month returns of BSOFT (Return in %)

Similarly, for RAMCOCEM, Table 6.4 states that daily and weekly returns are better as compared to negative monthly returns. We can see that mean returns for daily, weekly, and monthly are negative, hence the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, this states that Monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.94869 | -12.9077 | -13.2877 |
| Maximum | 4.331634 | 10.1635 | 16.74369 |
| Mean | -0.20073 | -0.69858 | -2.95646 |
| Standard Deviation | 2.092956 | 4.728425 | 9.932259 |

Table 6.4: Comparison of the Daily, Weekly and Monthly risk adjusted Near Month returns of RAMCOCEM (Return in %)

6.3 Economic interpretation of risk adjusted and unadjusted near month returns

From Section 6.1 and 6.2 we can say that both the risk-adjusted and unadjusted returns are negative for BSOFT as well as RAMCOCEM. This states that both RAMCOCEM and BSOFT are not profitable and have an elevated risk to fall, which can cause huge losses for an Investor. Figures 6.1-6.6 show the Near month returns of BSOFT. Figures 6.7-6.12 show the Near month returns of RAMCOCEM.

Figure 6.1: Near Month returns in daily frequency (Unadjusted)

Figure 6.2: Near Month returns in daily frequency (Adjusted)

Figure 6.3: Near Month returns in weekly frequency (Unadjusted)

Figure 6.4: Near Month returns in weekly frequency (Adjusted)

Figure 6.5: Near Month returns in monthly frequency (Unadjusted)

Figure 6.6: Near Month returns in monthly frequency (Adjusted)

Figure 6.7: Near Month returns in daily frequency (Unadjusted)

Figure 6.8: Near Month returns in daily frequency (Adjusted)

Figure 6.9: Near Month returns in weekly frequency (Unadjusted)

Figure 6.10: Near Month returns in weekly frequency (Adjusted)

Figure 6.11: Near Month returns in Monthly frequency (Unadjusted)

Figure 6.12: Near Month returns in Monthly frequency (Adjusted)

1. **Middle Month Returns**

The futures contracts which have an expiry date of 2 month are called next month or Middle month contracts

7.1 Risk-Unadjusted Returns

From Table 7.1, we can see that daily and weekly returns of BSOFT are better as compared to negative monthly returns. We can also see that mean returns are for daily, weekly, and monthly returns are negative, the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, which states that monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.9147287 | -18.586623 | -16.8269231 |
| Maximum | 9.8131352 | 13.971397 | 18.4166266 |
| Mean | -0.1452897 | -0.6163169 | -2.79296035 |
| Standard Deviation | 2.9420317 | 6.2738693 | 12.8707469 |

Table 7.1: Comparison of the Daily, Weekly and Monthly risk-unadjusted Middle Month returns of BSOFT (Returns in %)

Similarly, for RAMCOCEM, Table 7.2 states that daily and weekly returns are better as compared to negative monthly returns. We can see that mean returns for daily, weekly, and monthly are negative, hence the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, this states that Monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.95631 | -13.6443 | -14.2397 |
| Maximum | 4.240807 | 10.45304 | 16.41945 |
| Mean | -0.15847 | -0.66383 | -3.01003 |
| Standard Deviation | 2.110382 | 4.832903 | 10.00668 |

Table 7.2: Comparison of the Daily, Weekly and Monthly risk-unadjusted Middle Month returns of RAMCOCEM (Returns in %)

7.2 Risk-Adjusted Returns

From Table 7.3, we can see that daily and weekly returns of BSOFT are better as compared to negative monthly returns. We can also see that mean returns are for daily, weekly, and monthly returns are negative, the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, which states that monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.95203 | -18.624223 | -16.8645 |
| Maximum | 9.777835 | 13.920097 | 18.38113 |
| Mean | -0.19113 | -0.6629322 | -2.8383 |
| Standard Deviation | 2.942689 | 6.2752482 | 12.87443 |

Table 7.3: Comparison of the Daily, Weekly and Monthly risk-adjusted Middle Month returns of BSOFT (Return in %)

Similarly, for RAMCOCEM, Table 7.4 states that daily and weekly returns are better as compared to negative monthly returns. We can see that mean returns for daily, weekly, and monthly are negative, hence the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, this states that Monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -9.00611 | -13.6819 | -14.2888 |
| Maximum | 4.184507 | 10.39724 | 16.36345 |
| Mean | -0.21057 | -0.71045 | -3.05536 |
| Standard Deviation | 2.107082 | 4.83171 | 10.00375 |

Table 7.4: Comparison of the Daily, Weekly and Monthly risk-adjusted Middle Month returns of RAMCOCEM (Return in %)

7.3 Economic interpretation of risk adjusted and unadjusted middle month returns

From Section 7.1 and 7.2 we can say that both the risk-adjusted and unadjusted returns are negative for BSOFT as well as RAMCOCEM. This states that both RAMCOCEM and BSOFT are not profitable and have an elevated risk to fall, which can cause huge losses for an Investor. Figures 7.1-7.6 show the Middle month returns of BSOFT. Figures 7.7-7.12 show the Middle month returns of RAMCOCEM.

Figure 7.1: Middle Month returns in daily frequency (Unadjusted)

Figure 7.2: Middle Month returns in daily frequency (Adjusted)

Figure 7.3: Middle Month returns in weekly frequency (Unadjusted)

Figure 7.4: Middle Month returns in weekly frequency (Adjusted)

Figure 7.5: Middle Month returns in monthly frequency (Unadjusted)

Figure 7.6: Middle Month returns in weekly frequency (Adjusted)

Figure 7.7: Middle Month returns in daily frequency (Unadjusted)

Figure 7.8: Middle Month returns in daily frequency (Adjusted)

Figure 7.9: Middle Month returns in weekly frequency (Unadjusted)

Figure 7.10: Middle Month returns in weekly frequency (Adjusted)

Figure 7.11: Middle Month returns in monthly frequency (Unadjusted)

Figure 7.12: Middle Month returns in monthly frequency (Adjusted)

1. **Far Month Returns**

The Futures contracts that have an expiry date of 3months are called as FAR Month contracts

8.1 Risk-Unadjusted returns

From the Table 8.1, we can see that daily and weekly returns of BSOFT are better as compared to negative monthly returns. We can also see that mean returns are for daily, weekly, and monthly returns are negative, the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, which states that monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.33785 | -18.5526 | -17.1302 |
| Maximum | 9.247428 | 15.28176 | 18.27131 |
| Mean | -0.13815 | -0.59474 | -2.77771 |
| Standard Deviation | 3.037674 | 6.330258 | 12.76134 |

Table 8.1: Comparison of the Daily, Weekly and Monthly risk-unadjusted Far Month returns of BSOFT (Returns in %)

Similarly, for RAMCOCEM, Table 8.2 states that daily and weekly returns are better as compared to negative monthly returns. We can see that mean returns for daily, weekly, and monthly are negative, hence the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, this states that Monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -9.9936 | -13.3003 | -13.312 |
| Maximum | 7.20064 | 8.717072 | 11.45038 |
| Mean | -0.15165 | -0.68813 | -2.85436 |
| Standard Deviation | 2.596675 | 4.729113 | 9.018843 |

Table 8.2: Comparison of the Daily, Weekly and Monthly risk-unadjusted Far Month returns of RAMCOCEM (Returns in %)

8.2 Risk-Adjusted returns

From the Table 8.3, we can see that daily and weekly returns of BSOFT are better as compared to negative monthly returns. We can also see that mean returns are for daily, weekly, and monthly returns are negative, the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, which states that monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -8.3751 | -18.5902 | -17.1678 |
| Maximum | 9.2121 | 15.2305 | 18.2358 |
| Mean | -0.1839 | -0.6411 | -2.8500 |
| Standard Deviation | 3.0383 | 6.3354 | 12.5398 |

Table 8.3: Comparison of the Daily, Weekly and Monthly risk-adjusted Far Month returns of BSOFT (Returns in %)

Similarly, for RAMCOCEM, Table 8.4 states that daily and weekly returns are better as compared to negative monthly returns. We can see that mean returns for daily, weekly, and monthly are negative, hence the return/risk has no significance.

We can see that Standard Deviation of monthly returns is higher as compared to daily and weekly returns, this states that Monthly returns are more volatile.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Daily | Weekly | Monthly |
| Minimum | -10.0434 | -13.3379 | -13.3493 |
| Maximum | 7.14994 | 8.677272 | 11.39438 |
| Mean | -0.1975 | -0.73474 | -2.89969 |
| Standard Deviation | 2.596153 | 4.728048 | 9.015582 |

Table 8.4: Comparison of the Daily, Weekly and Monthly risk-adjusted Far Month returns of RAMCOCEM (Returns in %)

8.3 Economic interpretation of risk adjusted and unadjusted far month returns

From Section 8.1 and 8.2 we can say that both the risk-adjusted and unadjusted returns are negative for BSOFT as well as RAMCOCEM. This states that both RAMCOCEM and BSOFT are not profitable and have an elevated risk to fall, which can cause huge losses for an Investor. Figures 8.1-8.6 show the Far month returns of BSOFT. Figures 8.7-8.12 show the Far month returns of RAMCOCEM.

Figure 8.1: Far Month returns in daily frequency (Unadjusted)

Figure 8.2: Far Month returns in daily frequency (Adjusted)

Figure 8.3: Far Month returns in weekly frequency (Unadjusted)

Figure 8.4: Far Month returns in weekly frequency (Adjusted)

Figure 8.5: Far Month returns in Monthly frequency (Unadjusted)

Figure 8.6: Far Month returns in monthly frequency (Adjusted)

Figure 8.7: Far Month returns in daily frequency (Unadjusted)

Figure 8.8: Far Month returns in daily frequency (Adjusted)

Figure 8.9: Far Month returns in weekly frequency (Unadjusted)

Figure 8.10: Far Month returns in weekly frequency (Adjusted)

Figure 8.11: Far Month returns in monthly frequency (Unadjusted)

Figure 8.12: Far Month returns in monthly frequency (Adjusted)

**9. Comparison of Spot and Future Returns**

9.1 Underlying Asset vs Near Equity Futures (Risk-Adjusted)

9.1.1 Daily Frequency

As it can be seen from Table 9.1, that Equity Futures (Far Month) of BSOFT perform better as compared to underlying stock and other Equity Futures on daily frequency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Underlying Stock | Futures (Near Month) | Futures (Middle Month) | Futures (Far Month) |
| Minimum | -8.19705 | -8.85737 | -8.95203 | -8.3751 |
| Maximum | 9.510402 | 9.759589 | 9.777835 | 9.2121 |
| Mean | -0.19348 | -0.19015 | -0.19113 | -0.1839 |
| Standard deviation | 2.774792 | 2.94654 | 2.942689 | 3.0383 |

Table 9.1: Comparison of the Daily risk-adjusted returns of Underlying Stock and Near Month, Middle Month, and Far Month of BSOFT (Returns in %)

As it can be seen from Table 9.2, that Equity Futures (Far Month) of RAMCOCEM perform better as compared to underlying stock and other Equity Futures on daily frequency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Underlying Stock | Futures (Near Month) | Futures (Middle Month) | Futures (Far Month) |
| Minimum | -9.30679 | -8.94869 | -9.00611 | -10.0434 |
| Maximum | 5.311968 | 4.331634 | 4.184507 | 7.14994 |
| Mean | -0.19824 | -0.20073 | -0.21057 | -0.1975 |
| Standard Deviation | 1.953213 | 2.092956 | 2.107082 | 2.596153 |

Table 9.2: Comparison of the Daily risk-adjusted returns of Underlying Stock and Near Month, Middle Month, and Far Month of RAMCOCEM (Returns in %)

9.1.2 Weekly Frequency

As it can be seen from Table 9.3, that Equity Futures (Far Month) of BSOFT perform better as compared to underlying stock and other Equity Futures on weekly frequency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Underlying Stock | Futures (Near Month) | Futures (Middle Month) | Futures (Far Month) |
| Minimum | -0.65793 | -18.5561 | -18.624223 | -18.5902 |
| Maximum | 10.20776 | 15.29746 | 13.920097 | 15.2305 |
| Mean | -0.65793 | -0.65521 | -0.6629322 | -0.6411 |
| Standard deviation | 5.575234 | 6.345423 | 6.2752482 | 6.3354 |

Table 9.3: Comparison of the Weekly risk-adjusted returns of Underlying Stock and Near Month of BSOFT (Returns in %)

As it can be seen from Table 9.4, that Underlying Stock of RAMCOCEM perform better as compared to other Equity Futures on weekly frequency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Underlying Stock | Futures (Near Month) | Futures (Middle Month) | Futures (Far Month) |
| Minimum | -9.53888 | -12.9077 | -13.6819 | -13.3379 |
| Maximum | 8.098771 | 10.1635 | 10.39724 | 8.677272 |
| Mean | -0.68899 | -0.69858 | -0.71045 | -0.73474 |
| Standard Deviation | 4.109639 | 4.728425 | 4.83171 | 4.728048 |

Table 9.4: Comparison of the Weekly risk-adjusted returns of Underlying Stock and Near Month of RAMCOCEM (Returns in %)

9.1.3 Monthly Frequency

As it can be seen from Table 9.5, that for BSOFT, underlying stock performed better as compared to Equity Futures on monthly frequency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Underlying Stock | Futures (Near Month) | Futures (Middle Month) | Futures (Far Month) |
| Minimum | -14.3248 | -16.9249 | -16.8645 | -17.1678 |
| Maximum | 16.81775 | 18.54215 | 18.38113 | 18.2358 |
| Mean | -2.72759 | -2.8105 | -2.8383 | -2.8500 |
| Standard deviation | 11.03154 | 12.85664 | 12.87443 | 12.5398 |

Table 9.5: Comparison of the Monthly risk-adjusted returns of Underlying Stock and Near Month of BSOFT (Returns in %)

As it can be seen from Table 9.6, that for RAMCOCEM, underlying stock performed better as compared to Equity Futures on monthly frequency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Underlying Stock | Futures (Near Month) | Futures (Middle Month) | Futures (Far Month) |
| Minimum | -13.4813 | -13.2877 | -14.2888 | -13.3493 |
| Maximum | 15.18886 | 16.74369 | 16.36345 | 11.39438 |
| Mean | -2.85303 | -2.95646 | -3.05536 | -2.89969 |
| Standard Deviation | 8.849296 | 9.932259 | 10.00375 | 9.015582 |

Table 9.6: Comparison of the Monthly risk-adjusted returns of Underlying Stock and Near Month of RAMCOCEM (Returns in %)

9.2 Liquidity Position

From Table 9.7, for BSOFT we can see that Liquidity position of Equity Future (Near Month) is higher as compared to underlying stock and other futures contracts as the Open interest average of Futures (Near Month) is higher.

|  |  |
| --- | --- |
| Metric | Open Interest Average |
| Underlying Stock | 2960540.985 |
| Futures (Near Month) | 4107706.637 |
| Futures (Middle Month) | 993320.7965 |
| Futures (Far Month) | 44171.6814 |

Table 9.7: Liquidity position of Underlying Stock, Futures Near, Middle, and Far Month

Similarly, for RAMCOCEM, we can say from Table 9.8 that Liquidity position of Equity Future (Near Month) is higher as compared to underlying stock and other futures contracts as the Open interest average of Futures (Near Month) is higher.

|  |  |
| --- | --- |
| Metric | Open Interest Average |
| Underlying Stock | 462769.4091 |
| Futures (Near Month) | 2509719.027 |
| Futures (Middle Month) | 487114.1509 |
| Futures (Far Month) | 32228.53982 |

Table 9.8: Liquidity position of Underlying Stock, Futures Near, Middle, and Far Month

**10. Contango or Backwardation of futures Instrument**

a) BSOFT

It can be seen from figure given below that in NOV ’21, DEC ’21, MAR ’21 Future prices are smaller than the Spot market price hence The futures instrument is following Backwardation here and in rest of the period i.e., from APR ’22 to OCT ’22 The futures instrument exhibits Contango.

Figure 10.1- BSOFT Graph between Spot market price and Futures price

b) RAMCOCEM

It can be seen from the figure given below that in DEC ’21, JUL ’22 and AUG ’22 The futures instrument Exhibit Backwardation i.e., Spot market price are greater than the futures instrument price while in rest of the period i.e., from JAN ’22 till JUN ’22 The futures instrument exhibits CONTANGO i.e., futures price is greater than the spot market price

Figure 10.2- Spot vs Futures Graph (RAMCOCEM)

**11. Best Frequency For Trading**

a) BSOFT

By analyzing various data of both underlying as well as futures it is evident that the best frequency for trading would be daily frequency and that too speculation as the we are getting negative Expected returns in all the three frequency i.e. daily weekly as well as monthly on an average daily trading has mean returns of -0.1% which goes to 2.8% on an average to monthly trading, So the trend that is observed is like expected rate of increases as we are increasing the period of frequency i.e. from daily to monthly. Now we can also see from the data that as we are moving from daily to monthly the annualized risk associated with the underlying as well as the futures security decreases i.e., from 46% to 38% on an average Hence for trading purpose daily trading would be ideal for security.

b) RAMCOCEM

By analyzing various data of both underlying as well as the futures it is evident that as we are going toward daily to monthly frequency the mean expected returns are going from -0.15% to -2.9% on an average for both futures as well as underlying security, as we are going from daily to monthly the annualized risk gets reduced from an average of 34% to 30%, Hence we can conclude that for trading purpose we can stick to daily trading in both underlying as well as futures.

**12. Conclusion**

a) BSOFT

As we have completed our analysis it is evident that both underlying as well as futures security are having negative mean returns in all the frequency i.e. daily weekly and monthly while in government bonds which are considered to be risk free avail us an expected return of 0.046% which is positive and greater than the expected return of underlying security , Hence from investor’s perspective it is advisable to invest in Risk free securities which are Treasury bills and Government Bonds as they can assure you a positive expected return with zero volatility, While there is negative expected return as well as high risk of around 36% on an average in both underlying as well as futures security.

b)RAMCOCEM

Similar to BSOFT it is evident from the analysis that the expected returns in both underlying as well as futures security are coming as negative for all trading frequencies during the period of analysis Hence as per investor’s perspective it is advisable to invest in risk free security for fixed capital gain.

**13. References**

* 3 month treasury bill source- https://in.investing.com/rates-bonds/india-3-month-bond-yield-historical-data
* Underlying security data - <https://finance.yahoo.com/quote/BSOFT.NS/>
* <https://finance.yahoo.com/quote/RAMCOCEM.NS/>
* Equity futures data- <https://www1.nseindia.com/index_nse.htm>