**DISCUSSION**

**Interpret the results of the regression provided by the data analytics regression tool for at least 1 stock (Bonus if comments are provided for the 5 stocks).**

**Interpretation**

First Stock (NVD)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SUMMARY OUTPUT | |  |  |  |  |  |
|  |  |  |  |  |  |  |
| *Regression Statistics* | |  |  |  |  |  |
| Multiple R | 0,045794901 |  |  |  |  |  |
| R Square | 0,002097173 |  |  |  |  |  |
| Adjusted R Square | -0,001785717 |  |  |  |  |  |
| Standard Error | 0,026036338 |  |  |  |  |  |
| Observations | 259 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *df* | *SS* | *MS* | *F* | *Significance F* |  |
| Regression | 1 | 0,000366133 | 0,000366133 | 0,540106 | 0,463058816 |  |
| Residual | 257 | 0,174217966 | 0,000677891 |  |  |  |
| Total | 258 | 0,174584099 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| **Intercept (Alpha)** | **0,001659974** | 0,001640333 | 1,011973596 | 0,312502 | -0,001570231 | 0,004890179 |
| **NVDA -Rf (Beta)** | **0,020761773** | 0,028250419 | 0,734919135 | **0,463059** | -0,034870011 | 0,076393557 |
|  |  |  |  | **P value > 0.05, statistically insignificant.** | | |

**COMMENT**

Coefficient estimates (Beta): For every unit increase in NVD stock return there is an increase of 0.021 on the Market return.

P value: since the p value is greater than 0.05 thus there is no statistically significant between the NVD stock and the Market return.

R SQUARE: 0.21% of the total variation of the market return can be explained by the NVD stocks.

Stock 2 (EW)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SUMMARY OUTPUT |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| *Regression Statistics* | |  |  |  |  |  |
| Multiple R | 0,01405155 |  |  |  |  |  |
| R Square | 0,00019745 |  |  |  |  |  |
| Adjusted R Square | -0,0036928 |  |  |  |  |  |
| Standard Error | 0,02606111 |  |  |  |  |  |
| Observations | 259 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *df* | *SS* | *MS* | *F* | *Significance F* |  |
| Regression | 1 | 3,44709E-05 | 3,45E-05 | 0,050754 | 0,821936059 |  |
| Residual | 257 | 0,174549628 | 0,000679 |  |  |  |
| Total | 258 | 0,174584099 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| **Intercept (Alpha)** | **0,00180287** | 0,001638422 | 1,100372 | 0,2722 | -0,001423569 | 0,005029316 |
| **EW -rf (Beta)** | **0,00888619** | 0,039444096 | 0,225286 | **0,821936** | -0,068788603 | 0,086560985 |

**Comment**

Coefficient estimates (Beta): For every unit increase in EW stock return there is an increase of 0.00889 on the Market return.

P value: since the p value is greater than 0.05 thus there is no statistically significant between the EW stock and the Market return.

R SQUARE: 0.019% of the total variation of the market return can be explained by the EW stocks.

Stock 3 (EA Stock)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SUMMARY OUTPUT |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| *Regression Statistics* | |  |  |  |  |  |
| Multiple R | 0,055728456 |  |  |  |  |  |
| R Square | 0,003105661 |  |  |  |  |  |
| Adjusted R Square | -0,000773306 |  |  |  |  |  |
| Standard Error | 0,026023179 |  |  |  |  |  |
| Observations | 259 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *df* | *SS* | *MS* | *F* | *Significance F* |  |
| Regression | 1 | 0,0005422 | 0,000542 | 0,800641345 | 0,37173892 |  |
| Residual | 257 | 0,1740419 | 0,000677 |  |  |  |
| Total | 258 | 0,1745841 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| **Intercept (Alpha)** | **0,001670001** | 0,00163074 | 1,024075 | 0,306762862 | -0,001541316 | 0,004881 |
| **ea-rf (Beta)** | **0,035064857** | 0,039188 | 0,894786 | **0,37173892** | -0,042105616 | 0,112235 |

**Comment**

Coefficient estimates (Beta): For every unit increase in EA stock there is an increase of 0.035 on the Market return.

P value: since the p value is greater than 0.05 thus there is no statistically significant between the EA stock and the Market return.

R SQUARE: 0.31% of the total variation of the market return can be explained by the EA stocks.

Stock 4 (FB stock)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SUMMARY OUTPUT |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| *Regression Statistics* | |  |  |  |  |  |
| Multiple R | 0,038679452 |  |  |  |  |  |
| R Square | 0,0014961 |  |  |  |  |  |
| Adjusted R Square | -0,002389129 |  |  |  |  |  |
| Standard Error | 0,026044179 |  |  |  |  |  |
| Observations | 259 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *df* | *SS* | *MS* | *F* | *Significance F* |  |
| Regression | 1 | 0,000261 | 0,000261 | 0,385073806 | 0,535450146 |  |
| Residual | 257 | 0,174323 | 0,000678 |  |  |  |
| Total | 258 | 0,174584 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| **Intercept (Alpha)** | **0,001761879** | 0,001626 | 1,08366 | 0,279531192 | -0,001439825 | 0,004963583 |
| **fb-rf (Beta)** | **0,026292542** | 0,04237 | 0,620543 | **0,535450146** | -0,057144459 | 0,109729543 |

**Commen**t

Coefficient estimates (Beta): For every unit increase in FB stock return there is an increase of 0.0263 on the Market return.

P value: since the p value is greater than 0.05 thus there is no statistically significant between the FB stock and the Market return.

R SQUARE: 0.14% of the total variation of the market return can be explained by the FB stocks

Stock 5 (MNST Stock)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| *Regression Statistics* | |  |  |  |  |  |
| Multiple R | 0,096787408 |  |  |  |  |  |
| R Square | 0,009367802 |  |  |  |  |  |
| Adjusted R Square | 0,005513202 |  |  |  |  |  |
| Standard Error | 0,025941316 |  |  |  |  |  |
| Observations | 259 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *df* | *SS* | *MS* | *F* | *Significance F* |  |
| Regression | 1 | 0,001635469 | 0,001635 | 2,43029172 | 0,120241 |  |
| Residual | 257 | 0,172948629 | 0,000673 |  |  |  |
| Total | 258 | 0,174584099 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| **Intercept (Alpha)** | **0,001657221** | 0,001617104 | 1,024808 | 0,30641736 | -0,00153 | 0,004841683 |
| **mnst -rf (Beta)** | **0,057097825** | 0,036626073 | 1,558939 | **0,1202413** | -0,01503 | 0,129223261 |

**Comment**

Coefficient estimates (Beta): For every unit increase in MNST stock there is an increase of 0.0571 on the Market return.

P value: since the p value is greater than 0.05 thus there is no statistically significant between the MNST stock and the Market return.

R SQUARE: 0.936% of the total variation of the market return can be explained by the MNST stocks

* **Imagine one of your clients already invested in a well-diversified portfolio. Can you recommend that they would invest in or short one of your 5 stocks and why? PART IV, on your own**.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SUMMARY OUTPUT | |  |  |  |  |  |
|  |  |  |  |  |  |  |
| *Regression Statistics* | |  |  |  |  |  |
| Multiple R | 0,106178 |  |  |  |  |  |
| R Square | 0,01127377 |  |  |  |  |  |
| Adjusted R Square | -0,0082663 |  |  |  |  |  |
| Standard Error | 0,02612042 |  |  |  |  |  |
| Observations | 259 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *df* | *SS* | *MS* | *F* | *Significance F* |  |
| Regression | 5 | 0,001968 | 0,000394 | 0,576957 | 0,71764608 |  |
| Residual | 253 | 0,172616 | 0,000682 |  |  |  |
| Total | 258 | 0,174584 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| **Intercept (Alpha)** | **0,00153686** | 0,00166 | 0,926064 | 0,355295 | -0,001731455 | 0,004805 |
| **NVDA -Rf (Beta1)** | **0,00894504** | 0,032354 | 0,276472 | **0,782411** | -0,05477289 | 0,072663 |
| **EW -rf (Beta2)** | **-0,0109148** | 0,042335 | -0,25782 | **0,796755** | -0,094288634 | 0,072459 |
| **ea-rf (Beta3)** | **0,02155974** | 0,043392 | 0,496863 | **0,619717** | -0,063895259 | 0,107015 |
| **fb-rf (Beta4)** | **0,00067366** | 0,048719 | 0,013828 | **0,988979** | -0,095272867 | 0,09662 |
| **mnst -rf (Beta5)** | **0,05281344** | 0,039008 | 1,353924 | **0,176969** | -0,024007707 | 0,129635 |

**Comment**

In respective of the statistically significant, the investor can invest in MNST stocks because the beta estimate is higher than the rest of the stocks, for every increase in the MNST stocks return there is an increase of 0.05281 in the Market return, so therefore whenever MNST stocks return increase, the market return will increase with 5.281%. So, there is tendency of making more profit in investing in MNST stocks compared to other stocks.

* Explain how you could use that information today from an investor’s perspective.

|  |  |  |
| --- | --- | --- |
|  | Monthly Alpha - 5 Year | Beta |
| NVDA.O | 43,91584179 | 1,389018 |
| EW | 10,81596858 | 1,046255 |
| EA. O | 5,283152073 | 0,905616 |
| FB. O | 3,962505335 | 1,26783 |
| MNST.O | 2,154530062 | 1,090856 |

**Comment**

Considering the alpha and beta values as an investor the predicted return for the next years to come will be of most important, earning more profit with free risk rates is one of the most investors idea, considering the alpha and beta values above investor will surely invest in the NVDA.O stocks because the predicted return of the stocks will increase more than the other stocks. So, the values can be used for forecasting more years of the return and study its trend.