Summary of market anomalies

**Sample hypothesis:**

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| --- | --- |
| **Calendar Period** | **Hypothesis** |
| **June Returns** | Ho: June returns – Non June Returns = 0  Ha: June returns – Non June Returns ≠ 0 |
| **August Returns** | Ho: August returns – Non August Returns = 0  Ha: August returns – Non August Returns ≠ 0 |
| **Wednesday Returns** | Ho: Wednesday returns – Non Wednesday Returns = 0  Ha: Wednesday returns – Non Wednesday Returns ≠ 0 |
| **Thursday Returns** | Ho: Thursday returns – Non Thursday Returns = 0  Ha: Thursday returns – Non Thursday Returns ≠ 0 |

Significance level: 10%

June SMB, June HML, and Thursday SMB

May Market, Tuesday Market

SMB factor in January

SMB on Fridays, Mondays have anomalies.

Holidays: Boxing days higher returns. Halloween higher SMB. Veterans lower HML.

SMB jan and Friday higher returns.

**Returns on the first Friday of the month vs the last Friday of the month** - We tested to see if there was a statistically significant difference between returns on the first Friday of the month vs the last Friday of the month.The result was returns on the first Friday were statistically significantly higher

**Returns around Christmas** - We tested to see if there was a statistically significant difference between the mean returns on trading days between 12/20 and 12/30 and mean return during the rest of the year. The result was returns in the period of time around Christmas were statistically significantly higher.

Market performs better during spring than other seasons (HML)

market performs worse during summer than other seasons (MKT\_RF)

From the years 1990 to 1995, our null hypothesis is that the SMB of January is the same as all the other months of the year. These test show that the significant years were the early 1990’s.

Findings of no significance are also informative.

* **Economic downturn anomalies. No significance**
  + - 1 represented years 1990 – 2002
    - 0 represented years 2003 – 2015
* **Election year anomalies**. No significance.
  + 1 represented years when there was a presidential election - 1992, 1996, 2000, 2004, 2008, 2012
  + 0 represented years when there was not a presidential election
* **Summer Olympic year anomalies**: 90-15. data set for only the month of August (as Olympics generally take place during 2½ weeks during that month). No significance.

**Ho:** The returns for March are equal to the other months

**Ha:** The returns for March are not equal to the other months

**Ho:** The returns for Thursday are equal to the other days

**Ha:** The returns for Thursday are not equal to the other months

July returns don’t present any anomalies.

Mondays/Thursdays returns don’t present any anomalies.

**January vs June Returns** - We tested to see if there was a statistically significant difference between the mean returns in January vs June, or Winter vs Summer. The result was not significantly statistically different.