COMM 486H FALL 2015

CEO ATTRACTIVENESS AND ITS AFFECT ON SHARE PRICE

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TEAM MEMBERS

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Specializing in both Finance and Real Estate, Logan brings together quantitative analysis skills learned from classes with a background in qualitative reasoning created from school, and built on this past summer as a real estate investment analyst in Vancouver. Additionally, his background in both building and presenting ideas will be especially beneficial for presenting our findings.

DYLAN [redacted]

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INTRODUCTION

As we prepared to carry out yet another study in the exciting world of asset management, we began by asking ourselves a few important questions: Are there any profitable investment strategies that haven't already been exhausted? Specifically, through research or direct action from academia, money managers, and investment funds alike? Are there any cause and effect relationships out there that truly fascinate us, and are relatively unexplored?

During a discussion with Adlai Fisher, well known for his research on the market crash of 1987 and volatility co-movement, we learned of the notion that CEO's who spend too much time working on their golf swings tend to have lower operating performance, and ultimately, a lower share price than their counterparts. Part of this is certainly due to the CEO's lower degree of involvement and effort spent towards improving the fundamental value of their respective companies, however, another aspect of it is due to the public's perception. Simply put, when the public see's a CEO spending too much time on the golf course, they lose faith in his or her ability to increase the stock price, and thus, they divest.

This discussion sparked an idea, and motivated us to take on a similar study. Looking at behavioural finance and the factors that affect investments, could other, often extraneous, public perceptions also drive share price? Could the perceived attractiveness of a CEO influence share price, and ultimately returns?

Seeing as this topic is relatively unexplored, refreshingly different, and highly fascinating, we decided to take on the challenge, and find out whether or not CEO attractiveness does in fact, influence share price.

PREVIOUS LITERATURE

Two economists, Joseph Halford and Hung-Chia
Hsu, from the University of Wisconsin conducted a study, which shined some light on the belief that the attractiveness of a CEO has the potential to create shareholder wealth, by increasing stock price. The Study used a Facial Attractiveness Index from 'Anaface.com', to objectively rate each CEO's attractiveness on the basis of facial symmetry. Their sample was based on 677 different CEO's from S&P 500 companies, and concluded that "more attractive CEO's seem to gain a 'first-impression' advantage in stock prices", and have a positive relationship with stock price during tv news/appearances, but no relationship when the CEO does not appear on television for the public to see.

HYPOTHESIS

We doubt that the attractiveness of a CEO is always directly correlated with stock price, however, believe it is likely that the public may place greater confidence in the words of an attractive CEO vs. those of lesser attractiveness. This increase in confidence may influence share price, and lead to larger returns. Specifically, we believe our findings will prove consistent with that of Halford and Hsu, and that the largest boost in stock price will occur when an old CEO is replaced with a new, more attractive CEO, or after the CEO makes public appearances. For this reason, we look specifically at returns following the announcement date of a change in CEO, as this is a large public announcement that features a picture of the new CEO. Furthermore, male and female investors tend to have different strategies and perceptions during investing, which we believe may result in differing results for companies with male CEO's vs. companies with female CEO's, thus we are interested in which gender will generate the larger returns.

DEFINITION OF THE PROPOSED INVESTMENT UNIVERSE

- *Time period:* We've used data from a two year period following a CEO change, in which a further CEO turnover did not occur
- *Stock universe:* We collected a sample of 37 CEO's from companies listed on the S&P 500 exchange
- *Return frequency:* We have conducted the study with **monthly mean returns,** for a total of 24 months (2 years)
- *Anticipate issues of selection bias:* We run the potential issue of improper attractiveness ratings for CEOs. Using images of CEOs pulled from the internet, and manually placing the markers to measure facial symmetry on AnaFace.com leaves room for error due to the variability in photo style, as well as human error placing the markers on AnaFace.com.

DATA REQUIRED

We require seven main pieces of data:

- CEO headshots,
- Their corresponding attractiveness ratings,
- Appropriate stock tickers,
- The date of the new CEO announcements,
- The corresponding monthly returns for a total of 24 months,
- Corresponding monthly market returns for a total of 24 months, and
- Corresponding monthly risk-free returns for a total of 24 months.

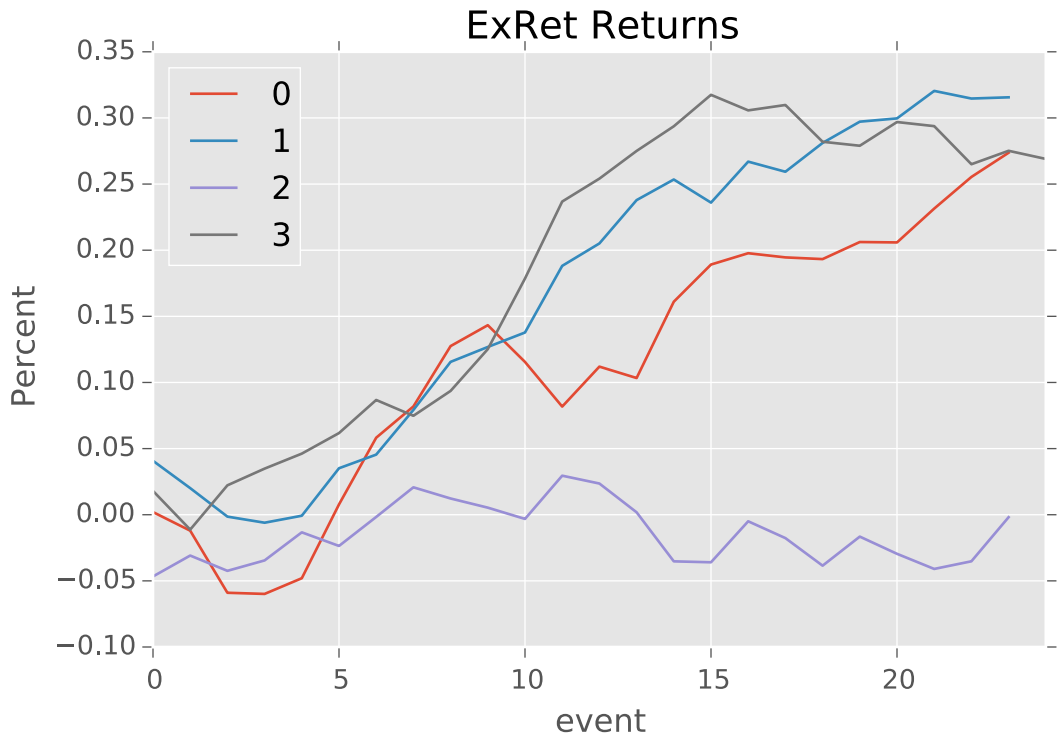
THE STRATEGY

Our plan is to choose 40 S&P 500 companies, which have had CEO changes at some point after 2005, to "level the playing field", by minimizing large discrepancies in market conditions. We will then use the Facial Attractiveness Index from Anaface.com, the tool used in the Halford and Hsu's study, to objectively rate the attractiveness of each new CEO. The starting time for our model begins the day the new CEO is announced, **not** the day the new CEO takes over, as there is often an interim period between the two. Our decisions behind the use of the announcement date is due to the fact that the announcement is typically very public, and includes a photograph of the new CEO. This gives a large audience the chance to visualize the new CEO, which will then play into their ability to determine attractiveness. We will then gather mean monthly returns for each of the 40 companies for 24 months (2 years) following the day the new CEO is announced. These monthly returns will be sorted on the basis of the new CEO's attractiveness rating, by quartile, and we will contrast our results in the following three ways to in attempts to isolate our results from other variables:

- Monthly returns in excess of the monthly risk free return,
- Monthly returns in excess of the monthly market return, and
- Monthly returns of new male CEO's vs. monthly returns of new female CEO's

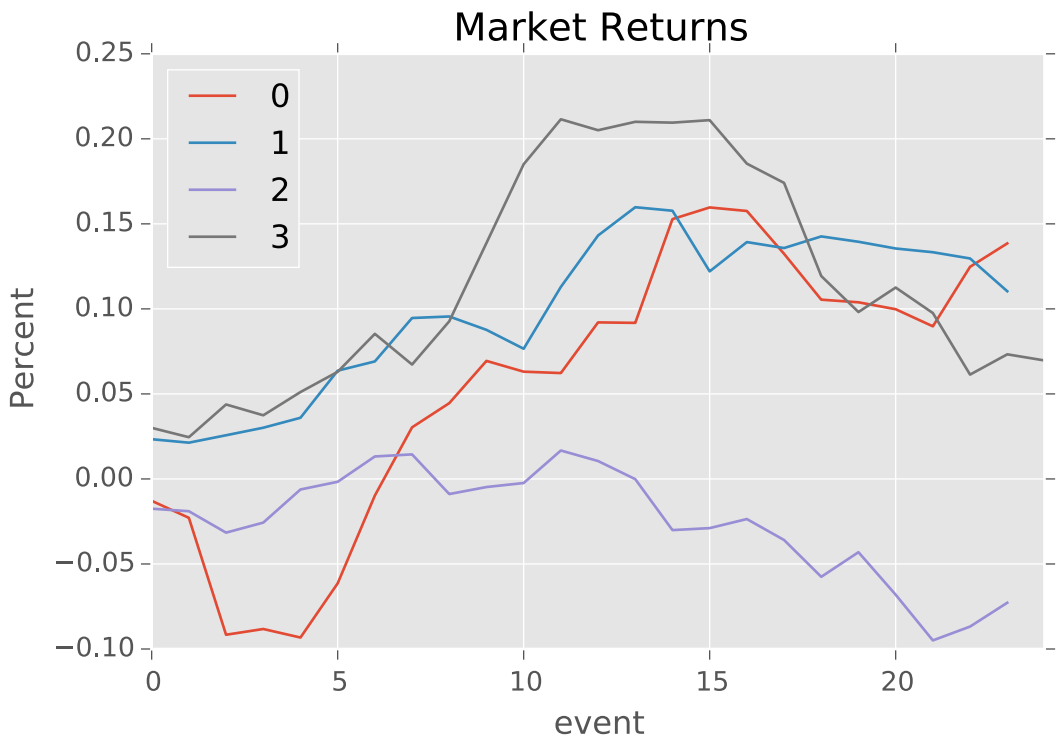
We understand that there are still an abundance of other factors that contribute to share price, well beyond a CEO's looks. Nevertheless, we are carrying out this study to determine for ourselves, if the findings from Joseph Halford and Hung-Chia Hsu, from the University of Wisconsin, are reasonable. It is our hope that our findings will prove consistent with their study, and CEO's in the highest attractiveness quartile will have higher average returns than those in lower quartiles. Ultimately, this would increase our confidence in the belief that CEO attractiveness can influence share price, and that it could potentially be used as a unique, yet profitable investment strategy.

FINDINGS



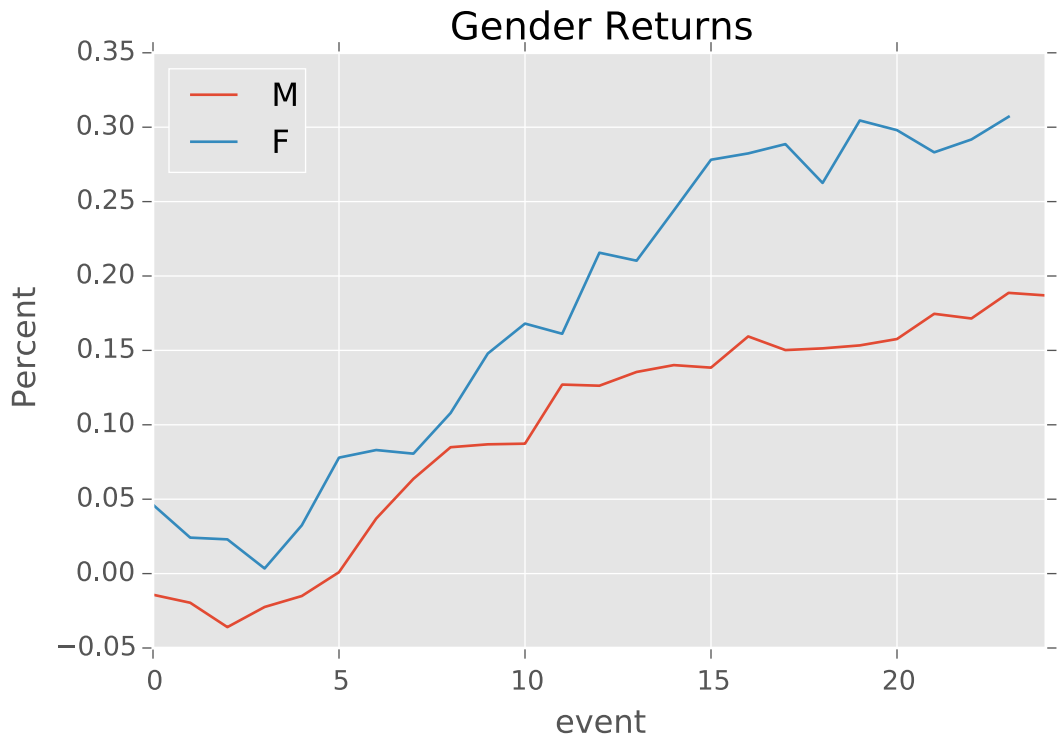
In our first scenario, we isolated the monthly returns over the 24-month period from *monthly risk free returns* corresponding to the same time period for each CEO. This was done in attempts to get rid of the "noise" resulting from different states of the economy at different times, causing differing risk free rates. For example, the CEO of Xilinx, Moshe Gavrielov, was announced to take over on January 7, 2008, whereas Apple CEO, Tim Cook, was announced to take over on August 24, 2011. The risk free rate on January 7, 2008 (pre-Lehman day) was 0.21%, whereas it was only 0.01%, on July 1, 2009. This graph represents the return on $1 invested at the time of the announcement.

- Consistent with our expectations, the most attractive CEO's, within the **highest quartile** (3), had the **highest monthly returns** overall, with the exception of a few dips around month 7 and 17.
- Inconsistent with out expectation, the **second highest quartile** (2) of attractive CEO's actually had the **worst** monthly returns overall, with a relatively flat returns over the entire 24 month period
- Consistent with out expectations, the lowest two quartiles of attractiveness (1 & 0) had monthly returns accordingly, with quartile 1 greater than those in quartile 0 overall.



In our second scenario, we isolated the monthly returns over the 24-month period from *monthly returns on the market*, corresponding to the same time period for each CEO. This was done in attempts to compare our quartile returns to the market, thus determining if we could out perform the market with this strategy. Again, our results are based on $1 invested at the time of the CEO announcement. This method also allowed us to account for more "noise" in the market. For example, the market return for March of 2008 was 6.53% (pre-Lehman day), whereas it was -6.42% for August of 2009. This leads to huge biases in results for a subject's returns examined over 2008 and 2009, vs. that of a CEO examined over 2009 and 2010.

- For the most part, the most attractive CEO's in the highest quartile (3) had the highest monthly returns, aside from a dip around month 7, and from month 17 on.
- Again, the **second quartile** (2) of attractive CEO's proved inconsistent with our expectations, as they had the **worst** monthly returns overall, with decreasing returns overall
- Consistent with out expectations, the lowest two quartiles of attractiveness (1 & 0) had monthly returns accordingly, with quartile 1 greater than those in quartile 0 overall.



In this last scenario we contrasted the average monthly returns over the 24 month time period from all firms with a male CEO, to that of all the firms in our sample with a female CEO. We did this to determine if male and female investors perceive attractiveness differently, or if one gender takes the attractiveness of the CEO into consideration more than the other.

- We discovered that female CEO's generated greater monthly returns than new male CEO's. This may be because male investors are more easily influenced by the good-looks of a female CEO, than female investors by attractive male CEO's.

POSSIBLE BIAS & ROOM FOR ERROR

1. *Ratings* – In order to rate facial symmetry using the Attractiveness Index from Anaface.com, you have to manually place markers on specific points of a person's face. Through the use of differing photos with different angles and distances for every CEO, (they didn't all get their headshot taken by the same photographer) combined with human error placing the markers, there is a large room for error. In order to avoid this to the best of our ability, we set a standard for photos to be used, in which the CEO had to be facing the camera head on, and had Essex place the markers himself for all 40 CEO's, to maintain a level of consistency in the rating process.

2. *Sample size* – 40 CEO's is a very small sample size, likely being too small to gain an accurate representation of the population. After collecting data, our sample decreased to 37 CEOs to account for outliers and give us a better return. Had we been able to obtain the 677 CEO sample from Joseph Halford and Hung-Chia Hsu, it may have drastically increased the likelihood of obtaining a realistic representation of the population.

3. *Time Period* – A 24-month time period, post CEO announcement, is a relatively short amount of time to base our study on. A lot of other factors may have been at play effecting returns for each company within such a small time frame, such as lawsuits, new or defective product lines, acquisitions, budget cuts, new projects, etc. A much larger time period, such as 120 months would rid the effect of other short term factors on returns.

4. *Return Frequency* – Monthly returns are much easier to work with than daily returns, however, are inherently less accurate. Had we used daily returns, we may have been able to generate more accurate results, specifically closer to the date of announcement.

5. *Gender performances* – The difference between average female CEO returns and male CEO returns is likely due to far more than just a difference in investor responses/perceptions of male and female attractiveness. Perhaps female CEO's are better at generating higher annual revenues than male CEOs, or better at taking on smarter projects, all in all, leading to better stock returns than males. As well, there are only 22 female CEOs currently on the S&P 500, so while it is interesting to see the returns based on gender, there is a large bias in the number of CEOs in each category.

CONCLUSION

We took on a refreshingly different topic that truly fascinated us, and hopefully fascinates you. Our results proved consistent with our expectations in all areas, aside from one reoccurring contradiction with the second quartile of CEO attractiveness. Overall, our results supported the idea that public perception plays an important role when it comes to stock price. We discovered that, for the most part, more attractive CEO's generate larger returns than their less attractive peers, and that female CEO's generate greater returns than male CEO's. We acknowledge that there is an array of other factors involved, however, if a company has strong fundamentals and optimistic prospects for the future, adding an attractive CEO to the mix certainly doesn't hurt.

FINAL
REPORT

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