CEO Appearance

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Abstract

Using an objective measure of executive facial attractiveness we find that shareholders value beauty. Specifically, more attractive executives are associated with a higher abnormal return around the announcement of their appointment as CEO. These findings are strongest for insider appointments and relatedly, more attractive facial features increase the likelihood of an executive winning a tournament and being selected as CEO. We also find that facial beauty is more important when there is a larger pool of qualified candidates with similar tangible skills and it is less important in firms where unique or technical skills are more valuable. Lastly, we find some evidence that females are held to a higher standard of beauty than males. These results indicate that beauty is an important executive trait that has significant labor market implications.

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Abstract

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"The CEOs of today are also more visible than their forebears and must be camera-ready at a moment's notice, .…" –Amanda Sanders – New York-based image consultant[1]

Introduction

Many executive characteristics such as experience, managerial talent, education, diversity of skills, sex and family connections are important considerations when selecting a CEO (Betrand (2009)). Is appearance also important, as the above quote suggests? Are the directors selecting the CEO and the shareholders they represent concerned with physical appearance? Prior economic research has documented that subjective assessments of beauty are correlated with happiness (Hamermesh and Abrevaya (2013)), having more confidence (Mobius and Roensblat (2006)), acquiring better education (Hatfield and Sprecher (1986)), being more competent (Graham, Harvey and Puri (2013)) and earning more (Hamermesh and Biddle (1994)). These findings suggest that appearance should matter when selecting a CEO. Graham, Harvey and Puri (2013) find that chosen CEOs are viewed by survey participants as being more competent and less likeable than similar non-CEO executives. However, it remains undetermined whether shareholders value physical appearance and whether their representatives, the directors, consider "beauty" in their selection of a CEO. Discussions during the most recent presidential election suggest that people consider appearance when electing their leader[2] and if appearance is an important characteristic in the selection of a national leader, it seems reasonable to expect it to be an important factor for the selection of a CEO. We explore this issue by examining whether beauty is considered in the directors' CEO selection decision and is associated with shareholders' reaction to the announcement of a new CEO.

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[1] See Wall Street Journal article "Want to be CEO? What's your BMI?" January 16, 2013.
[2] See Wall Street Journal article "Our Obsession with 'Looking Presidential'" September 1, 2011.

Because the prior studies on the effects of beauty in labor market outcomes rely on survey assessments of beauty, if beauty is in the "eye of the beholder" the findings in these studies, while interesting and informative, cannot be conclusive. To address this concern, we use an objective measure of beauty, rather than rely on the subjective assessments of survey participants. Specifically, we use as a baseline measure of facial attractiveness a scientifically based and practitioner proven "ideal" facial mask. We measure facial attractiveness by the degree of deviation from executives' facial features from this mask.

Our sample consists of 100 newly appointed CEOs between 2000 and 2009 in the largest 500 publicly traded companies, for which we could obtain reliable measurements of the deviations from 25 points on their face to the corresponding points on the ideal mask. We use the sum of these deviations as our measure of facial attractiveness. In other words, the smaller the total deviation the more attractive is the face relative to the objective standard. Using this measure of facial beauty, we find strong evidence that shareholders value facial appearance in their CEO. In the three days surrounding the announcement of the new CEO, a one standard deviation smaller size of our appearance measure (57.84mm) is associated with a .64 basis point increase in shareholder reaction. This finding is important for two reasons. First, it supports the notion that beauty matters to shareholders. Second, the objective measure we use captures a previously unmeasurable but important executive trait.

We also find that facial appearance matters more on the margin. For example, shareholders value facial appearance more when the CEO is selected internally and firms tend to select more attractive CEOs when unique skills are less important and there is a larger pool of qualified candidates. Thus, an executive's facial attractiveness can be a valuable trait and one which creates a useful competitive advantage over contemporaries in the managerial labor

market. There is prior research that suggests beauty can be helpful in a competitive market. Todorov, Mandisodza, Goren and Hall (2005) find that appearance provides congressional candidates with an advantage in elections and Hatfield and Sprecher (1986) report that beauty enhances the probability of men being selected for professional jobs.   We   also   find additional evidence consistent with the value of appearance in the managerial labor market. Specifically, we compare the facial attractiveness of the new CEOs in our sample with the facial attractiveness of the most likely candidates among the top firm executives who were not selected. The new CEOs exhibit significantly more attractive faces than the non-selected runner-ups. Even after controlling for other factors associated with the likelihood of being selected as an internal CEO, specifically being on the board and among the highest paid executives in the firm (Mobbs and Raheja (2012)), facial appearance is a significant determinant of whether or not an executive is appointed as CEO.

Finally, in our sample of non-CEO executives we test whether men and women are treated differently regarding their facial appearance in the managerial labor market. Since these executives are top executives in large publicly traded company, they all have been very successful in the labor market to be able to reach this point. However, we find that females have significantly smaller deviations from their benchmark mask than do males, implying that in this sample of successful managerial labor market participants the females are relatively more attractive than the males. This further suggests an additional component to the research on sexual bias in the labor market, that females are held to a higher standard of attractiveness than are males.

These findings make several important contributions to the literature. First, by using an objective measure rather than relying on a survey of subjective assessments of beauty, we

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document the importance of facial appearance in CEO selection and in creating shareholder value. By finding that this objective measure provides results consistent with earlier findings based on subjective assessments, we not only strengthen prior findings, but provide a systematic way to measure attractiveness that can contribute significantly to future research on this previously difficult to measure, but important individual characteristic. This can have significant implications for future research in labor economics.

Our findings also make a significant contribution to the corporate finance literature by increasing our understanding of the CEO selection process and uncovering a new and important component to understanding tournament outcomes. Most research in tournament theory focuses on employee incentives (Lazear and Rosen (1981)) and how those incentives affect corporate decisions or outcomes (e.g. Kale,J, Reis, E. and Venkateswaran, A. (2009), Kini, and Williams (2012), Raheja and Mobbs (2012)). Other studies examine determinants of tournament outcomes on CEO selection and find executive titles (Vancil (1987) and Naveen (2006)), compensation (Bognanno (2001)), ownership (Boyer and Ortiz-Molina (2008), and board membership (Raheja and Mobbs (2012)) are effective determinants of the likelihood of an executive being appointed CEO. Our findings reveal that executive facial beauty is another important determinant in predicting tournament outcomes.

Our finding that facial attractiveness is more important when there are similar candidates competing, but not as important during outside selections of a CEO or when firms require more technical skills provides additional insight into the role of beauty in the labor market. Hamermesh and Biddle (1994) find that greater wages for more attractive employees result from the positive effect of beauty on productivity rather than from employers' discriminating on

beauty. Our findings suggest that, while beauty is important, it is not of first order importance, rather it is an important second order characteristic.

Finally, the objectivity of the measure opens avenues for further research, not only in corporate finance, but in other fields of scientific research including but not limited to the medical studies of cosmetic and reconstructive surgery. The findings here are supportive of the economic value attributed to certain facial characteristics.

The remainder of the paper is as follows. Section I describes the attractiveness measure. Section II reports descriptive statistics. Our primary findings are reported in Section III. Section IV concludes.

I. Objective Beauty Measure

Prior economic studies on beauty rely on subjective measures and are therefore limited to the survey participants. For this study we make use of an objective measure of beauty that is free from survey participants' biases and can be systematically applied in future research. The measure we use is not unique to our study. In fact, several other fields of science have examined and found evidence for the development of a subjective measure of beauty. For example, scientists in the field of psychology have for years studied what people find attractive or aesthetically pleasing. Throughout this research, which dates as far back as Fechner (1871), scientists have documented consistent evidence of strong preferences for objects or appearances in proportions of 1.618:1, often referred to as the golden ratio, or phi. The presence of phi as a measure of aesthetic appeal is well known in art (*The Sacrament of the Last Supper* by Salvador Dali), music (*Sonneries de la Rose+Croix* by Erik Satie), architecture (Egyption pyramids),

design (shape of postcards), nature (geometry of crystals), mathematics (shape of pentagon). The value of phi (φ), derived as: quantities a and b are in the Golden Ratio φ if:

$$\frac{a+b}{a} = \frac{a}{b} = \varphi \Rightarrow \varphi^2 - \varphi - 1 = 0 \Rightarrow \varphi = \frac{1+\sqrt{5}}{2} = 1.618034$$

While, the preference for the golden ratio, over others such as unity, is still being studied (Davis and Jahnke (1991)), more recent practitioner reports reveal additional support for the use of the golden ratio, specifically as an objective standard of beauty for the human face. The American Society of Plastic Surgeons published an article, Bashour (2006), in the journal of *Plastic and Reconstructive Surgery* on the use of the golden ratio as an objective measure useful in reconstructing facial features to enhance appearance.

A recent development in this research linking facial attractiveness to the golden ratio is the phi-mask developed by Dr. Stephen Marquardt. Marquardt (2002) develops a proprietary facial mask based on the golden ratio for the purpose of cosmetic surgery. For example, the ratio of the length of the face to the length of the nose to the chin is 1.618:1 on the phi mask. In a June 2007 article in DiscoverMagazine.com entitled "The Math Behind the Beauty: A Plastic Surgeon Computes the Perfect Face," Bruno Maddox writes about Dr. Marquardts innovation:

> Yet herein lay a paradox. The fact that aesthetic perfection was the last thing on his patients' minds meant that Marquardt had to think about it all the time, far more than if he'd been just another surgeon slinging collagen up in Beverly Hills. People didn't come to him wanting a cleft in their chin; they came to him wanting a chin, and they generally left it up to Marquardt to decide what the thing was actually going to look like.
>
> Which was harder than it sounds. Often Marquardt would walk out of surgery thinking he'd gotten someone's chin exactly right, only to find weeks later, when the bandages came off, that the thing didn't work on an aesthetic level.

He goes on to explain that Dr. Marquardt began collecting photographs of faces around the world considered to be beautiful and found that the Golden Ratio was prominently displayed in two dimensions. Based on these observations, Marquardt developed a female and male mask. In an interview with the Journal of Clinical Orthodontics, Marquardt says "The simplest configuration that describes the Golden Ratio in two dimensions is an acute Golden Triangle with sides of 1.618 and a base of 1,or an obtuse Golden Triangle with a base of 1.618 and sides of 1. Together these elements form a Golden regular pentagon, and the regular pentagon itself, if duplicated, inverted, and superimposed on itself, forms the Golden Decagon – a regular vertex radial decagon." This is the essence of the Marquardt Phi Mask patented as a male and female version and displayed in Figures 1 and 2, respectively.

Since its creation there have been several studies evaluating the use of the mask as an objective measure of facial beauty. For example, Bashour (2006a, 2006b) finds that deviation from the phi mask explains 25 to 75 percent (depending on methodology) of the variation in attractiveness judgments formed by Internet and direct survey judges for thirty seven male, thirty five female, and thirty one composite faces. Using forty cases, Kim (2007) also finds the phi mask to be a useful analytical tool for facial surgery.

We use this mask and deviations from it as an objective measure of beauty and study the importance of facial beauty in financial economic analysis. This measure is unique because in addition to being an objective measure, it is computational and thus can be applied systematically across numerous samples for future research and it is used in practice, which further validates its usefulness as an objective measure of facial beauty.

II. Data

Given the Graham et al. (2010) finding that the results associated with the facial attributes of CEOs are stronger in larger firms, we focus our study on the largest publicly traded firms. Specifically, we examine new CEO appointments in the S&P 500 firms from 2000 to 2009. We identify CEO transitions within ExecuComp for the 500 largest firms ranked by market capitalization. We exclude transitions due to mergers or acquisitions or when the new CEO is an interim CEO. Next we search for news articles using Factiva prior to the CEO transition to identify the exact date that the new CEO was announced. We concentrate on the announcement date of the new CEO rather than the announcement of the departure of the current CEO or the start date of the new CEO. While these dates are often the same, many times they are not and when they differ we concentrate only on the announcement date of the successor. We also focus on the appointment announcement, rather than the first day in office because if CEO appearance is important to shareholders we expect to see this reaction as soon as shareholders receive the information about the new CEO. The first days on the job may reveal additional information about the CEO's ability depending on their actions during those days. However, the news release of the new CEO's appointment is less likely to contain information other than their past performance and, for our purposes, their appearance. For each new CEO, we also identify other characteristics associated with the CEO turnover. For example, we identify whether the former CEO is leaving voluntarily or if he/she is being forced out.

A. Appearance score – Phi Mask

Our measure of facial appearance is based on Marquardt's phi mask, which provides an objective measure of beauty or appearance. We measure facial attractiveness by deviations from the nodes of the phi mask. Specifically, for each sample CEO we compare a facial photo of the CEO taken as near to the CEO announcement date as possible. Fitting the photo with the phi

mask requires the image to be straight on, not a profile, with little or no smile. We hired a research assistant skilled in graphic design to align each CEO's facial image with that of the phi mask and then measure the deviations of 25 nodes on the phi mask (see Figure 1.) to the corresponding nodes on the CEO's face. The sum of these 25 deviations represents our measure of CEO facial attractiveness with larger deviations being less attractive. Given the image restrictions required to compare with the phi mask we are not able to obtain appropriate photos for the entire sample. We searched for the 351 new CEOs announced by the largest 500 firms, excluding those due to mergers and acquisitions and interim CEOs. Of these we found 100 adequate images to compare with the phi mask.

B. Pre-CEO Executive Speaking Experience

Because CEOs represent the firm when they address the public, the media and shareholders, we measure prior experience speaking for a company for each new CEO to determine whether shareholders value this experience. Furthermore, prior speaking experience can be related to the executive's beauty, if prior employers prefer to put their better looking executives in front of the camera. We search press releases for speaking occurrences during the three years prior to an individual being announced as CEO. We limit the search to firm-initiated press releases to rule out occurrences of personal or other non-company related media hits. Specifically, we search for the executives name and employer at the time and the words "said" or "stated" near the executive's name.

C. Shareholder reaction

The selection of a new CEO is one of the most important decisions in the life of a firm, thus it is important to understand the factors associated with this decision because it has such significant implications on the future performance of the firm and shareholder wealth. In fact,

Weisbach (1988) finds that shareholders respond positively, on average, to the news of a CEO transition. Prior research has also documented the post-selection performance of new CEOs. For example, Denis and Denis (1995) and Huson, Maletesta and Parrino (2004) examine firm performance following a CEO transition to better understand the factors that went into their selection as CEO. Both of these studies also examine shareholder reactions to the announcement of CEO turnover events and find a small positive effect, similar to Weisbach (1988), especially for forced CEO transitions. In addition, Huson et al. find a positive association between the shareholder reaction and subsequent changes in accounting performance. However, not all studies find a positive shareholder reaction. Khanna and Poulsen (1995), for example, find no positive reaction to the replacement of managers of firms filing for bankruptcy. They argue that boards are using the terminated CEOs as scapegoats to preserve their reputation as monitors. Thus, directors, who are making the CEO dismissal decision, are concerned with how their CEO selection is viewed by shareholders. Given this powerful concern, there is little research into the traits of the CEO being selected beyond whether they are an insider or an outsider.

When boards select a CEO what characteristics do they consider? Several recent papers examine various proxies for CEO talent and success once they are in the CEO position. For example Malmendier and Tate (2008) and Ferris, Jayaraman and Sabherwal (2012) examine managerial confidence, Malmendier and Tate (2009) and Falato, Li and Milbourn (2010) use external recognition by the media to identify CEOs widely viewed as talented. Other research has examined sex, family connections and experience (Betrand (2009)). Allgood and Farrell (2003) examine the "fit" of the CEO with the firm to evaluate the CEO selection decision. However, despite the large body of economic literature on the value of beauty in labor market

success there is little research into whether beauty is an important determinant in the selection of a new CEO.

Because the primary goal of this study is to determine whether facial appearance matters to shareholders we examine shareholder reaction to the first news release appointing the executive to be the CEO. To evaluate whether or not shareholders value the newly appointed CEO, we conduct an event study for the three-day window surrounding the announcement date. We compute the expected return using the market model estimated in the -250 to -10 days prior to the new CEO announcement using the CRSP value weighted return as a proxy for the market. We then compute the abnormal return as the difference between the observed return on the day and the predicted return from the market model. The abnormal return is accumulated from days t-1 to t+1 to generate the 3-day cumulative abnormal return (CAR) for each observation for all of the 351 announcements of newly appointed CEOs.

Table 1 Panel A reports the descriptive statistics for the new CEOs throughout our sample period. The mean 3-day CAR is .28%, which is similar to studies of CEO departure announcements (e.g. Huson eta l. (2004)). For example, Denis and Denis (1995) find announcement returns of .1% and 1.5% for voluntary and forced CEO departure announcements, respectively, and Huson et al. (2004) find voluntary announcement returns of .26% and forced announcement returns of 2.15%. The mean (median) deviation from the phi-mask, our primary measure of new CEO appearance, is 206.97 (199.26). The average new CEO appears in almost five press releases prior to becoming CEO. Twenty-four percent of the new CEOs are from outside the firm. Almost, one in five have prior CEO experience and 13% replace a forcefully removed CEO.

Due to the stringent requirements for the CEO pictures to measure the deviations from the phi-mask, thereby, limiting our facial appearance measure to 100 CEOs, we compare these same characteristics for the sub-sample of CEOs with a mask deviation measure to the sub-sample of CEOs without a mask deviation measure. The last two columns in Table 1 Panel A report the difference in the means and the p-value associated with the t-test of the differences. These columns show that the two sub-samples of CEOs are not statistically different across most of the characteristics. They differ only in their proportion of females and proportion following a forced CEO departure. There are three female CEOs in our facial appearance sample and none in the sample without facial measurements. Eighteen percent of the CEOs in the facial appearance sample followed a forced CEO departure, whereas 10% of the non-facial appearance sample followed a forced CEO departure. Perhaps more importantly, there is no significant difference in the personal characteristics of the new CEO, in terms of their prior experience, their likelihood of being over confident, their age, the number or press releases or whether or not they are an outsider.

Table 1 Panel B reports the distribution of the primary sample of new CEOs with facial appearance measurements across the Fama-French defined industry groups. The events are distributed across several industries, with the Insurance industry having the most with 10% of the sample.

Is facial appearance a proxy for other known CEO characteristics? In Table 2, we report univariate tests for differences in mean and median appearance across various sub-samples. It is possible that better looking CEOs are also overconfident and shareholders may be reacting to the news of an overconfident CEO rather than simply a better looking CEO. Mobius and Rosenblat (2006) find evidence that physically attractive workers are also more confident. The effects of

extreme confidence, or overconfidence among CEOs has been well documented and it is possible that beauty is simply another way of measuring overconfidence. We measure overconfidence using several different methods following Malmendier and Tate (2005).[3] We identify an executive as overconfident if at any time in their career they exhibit any of the behaviors used by Malmedier and Tate to characterize an executive as overconfident. In Table 2 Panel A, we divide our sample of new CEOs with appearance measurements available into those who are overconfident and those who are not. Neither the mean or median level of appearance are statistically different across these two sub-samples. Thus, CEO facial appearance and CEO overconfidence appear to be unrelated, which suggests that appearance is a different dimension that shareholders may consider separate from whether or not the CEO candidate exhibits traits of overconfidence.

Next, in Table 2 Panel B, we separate the new CEO sample into those replacing a CEO who was forcefully removed versus those replacing a CEO who voluntarily retired. Here we do find a slight difference across the two sub-samples. Specifically, the mean facial deviations are significantly larger for new CEOs replacing former CEOs who were forcefully removed from office, though the sample medians are not significantly different across the two groups. The significant difference in the mean facial appearance suggests that new CEO facial appearance is less important following a forced CEO departure than when selecting a replacement for a planned voluntary departure. This is consistent with facial beauty being important, but perhaps of second-order importance. When the board has time to carefully search for a successor, they are more likely to consider the marginal value of facial appearance. Likewise, shareholders are more likely to weight appearance more heavily during a planned succession when there is much less

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[3] Specifically, we use the holder 67, long-holder, net buyer or net buyer 5 method to identify overconfidence.

uncertainty than that which accompanies a forced CEO departure. In the midst of a forced CEO departure firm performance is most likely to be poor and there is likely to be greater uncertainty surrounding firm operations. In this environment, facial appearance or beauty is less important than quickly finding a skilled replacement.

Lastly, we consider whether greater experience with the press, as measured by the number of press releases the executives are responsible for prior to being appointed as CEO, is related to their facial beauty. Better looking executives may be given more opportunities to make press releases for their companies and thus, any shareholder reaction attributed to the new CEOs facial appearance could actually be due to their experience with the press. In Table 2, Panel C, we examine the top and bottom quartiles of a new CEO's quantity of press releases prior to being appointed. We find no statistical differences in the means or medians of deviations across these two subsamples, which suggest that our measure of CEO facial beauty is capturing something other than experience with the press.

III. Primary Results

A. Shareholder Reaction

In Table 3 we report the mean and median 3-day CARs for each of the appearance deciles. The lowest decile of mask deviation represents the most attractive appearing new CEOs and the highest decile represents the least attractive new CEOs. There is some evidence of a positive relation between the appearance measure and shareholder reaction to the news of the appointment. The trend in Figure 3 is definitely decreasing with phi-mask deviations, indicating a lower shareholder reaction to the announcement of new CEOs with greater deviations from the key facial nodes of the phi-mask. However, the trend is not monotonic, as some of the higher

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deciles (i.e. 7 and 8) in mask deviations have positive mean 3-day CARs. However, the highest decile does have the lowest 3-day CAR and the lowest decile of phi-mask deviations has the highest 3-day CAR. These observations are consistent with extreme deviations, large and small, yielding the strongest shareholder reactions.

In Table 4 we examine the determinants of shareholders' reactions to the news of the new CEO appointments in a multivariate analysis. The dependent variable is the 3-day CAR surrounding the announcement of a newly appointed CEO and all models include year fixed effects. The standard errors are robust and clustered by the Fama-French-49 defined industry definitions. In Model 1 of Table 4, the only explanatory variable is the sum of the deviations and it is negative and significantly related to shareholders' 3-day CAR. From Table 1, the standard deviation of the sum of phi-mask deviations is 57.84 mm. A decrease (improvement in looks) of one standard deviation of the appearance measure (57.84mm) is associated with a .64 percentage point (57.84x0.00011x100%) increase in shareholder reaction. Thus, appearance is a significant characteristics considered by shareholders.

In Model 2, we include the number of press release statements the new CEO was responsible for in the three years prior to being announced as CEO. We find evidence that this visibility measure is also significantly related to shareholders' reaction. The coefficient estimate is positive and significant at the five percent level. A one standard deviation increase in the number of press releases (8.21) is associated with a .57 percentage point (8.21x0.0007x100%) increase in shareholder reaction. We note that while this association is consistent with shareholders valuing experience of publicly representing a firm, it is also consistent with shareholders likely being more familiar with these candidates and thus having less uncertainty in their ability at their appointment announcement. Finally, it is also consistent with more attractive

candidates being more likely chosen to speak to the press. However, the evidence discussed previously in Table 2 Panel C, does not support this latter possibility. Furthermore, even after controlling for the number of press releases, the coefficient estimate for the phi-mask deviations remains essentially unchanged from that in Model 1. Thus, the overall evidence is consistent with these two variables capturing two different CEO characteristics valued by shareholders.

Huson et al. (2004) and Denis and Denis (1995) find that the new CEO's origin is important to shareholders. Specifically, shareholders' respond more favorably when the replacement is an outsider. In Model 3, we include an indicator variable that equals one if the new CEO is hired from outside the firm and zero otherwise. We also, include an interaction between this variable and our attractiveness measure to determine if appearance matters when conditioning on the origin of the new CEO. The coefficient estimate for the outsider indicator variable is negative, but insignificant. The coefficient estimate on our attractiveness measure is still negative and significant at the one percent level. However, the magnitude of the economic effect is slightly larger in this specification. This coefficient estimate is now conditioning on the new CEO being from within the firm and implies that a one standard deviation in the phi-mask measure is associated with a .93 percentage point higher shareholder reaction to the news of their appointment as CEO. Conversely, because the coefficient estimate for the interaction between our measure of attractiveness and the outsider indicator is positive and significant, when the new CEO is an outsider, looks are less important. In fact, in an unreported F-test, the sum of the coefficient on the sum of the phi-mask deviations and the coefficient of the interaction term reveals the estimate is not significantly different from zero. Thus, this evidence suggests that appearance matters the most for the selection of inside candidates. One possible explanation for this finding is that when the firm is selecting an outside CEO replacement, it is because there are

serious problems with the firm and the board is trying to find a CEO who can bring in new ideas and implement new strategies. These concerns likely far outweigh the value shareholders place on the attractiveness of their next CEO.

In Model 4 we include the number of press releases and its interaction with the outsider-indicator variable. The results for the phi-mask deviations measure of CEO beauty are consistent with the earlier models. However, the association between the number of press releases and shareholder reaction is strongest when the new CEO is an outsider. Specifically, the coefficient for the number of press releases is positive, but not statistically significant. Only the coefficient on the interaction between the number of press releases and the outsider-indicator is significant. Thus, for new CEOs from within the firm the number of press releases is not important to shareholders, perhaps because they have already capitalized this information into the stock price anticipating the executive's appointment as CEO. Conversely, the positive and significant coefficient on the interaction of the number of press releases with the outsider indicator implies that shareholders value greater speaking experience when the new CEO is from outside the firm. Greater visibility from prior speaking experience likely reduces the uncertainty associated with an outside candidate and less uncertainty can translate into greater shareholder confidence in the new appointee.

In models 5, 6 and 7, we separately consider other new CEO characteristics, in addition to our two primary measures of attractiveness and public speaking experiences. Specifically, in Model 5 we include an indicator for new CEOs with prior CEO experience. In Model 6, we include an indicator variable that is one if the CEO is deemed to be overconfident following the holder-67, long-holder, net buyer or net buyer-5 measures from Malmendier and Tate (2005). We find no evidence of these characteristics being associated with shareholders' reaction to the

news of their appointment as CEO. Furthermore, our measures of new CEO attractiveness and prior public visibility remain significant in all of the models. In Model 8, we include an indicator variable that equals one if the new CEO is female and we find some evidence that shareholders respond more favorably to female CEOs, though the coefficient estimate is only significant at the 10% level. Finally, in Model 9 we include all of the CEO characteristics. Consistent with the earlier models, we find evidence that shareholders value more attractive new CEOs, especially when the new CEO is from within the firm, and new CEOs with greater prior visibility, especially when the new CEO is from outside of the firm.

In summary, the evidence in Table 4 reveals important new discoveries into the functionality of labor markets. Generally, the findings imply that CEO appearance is an important attribute for shareholders. Specifically, facial attractiveness is of particular importance when the new CEO is selected from within the firm, perhaps following a tournament. We will explore this possibility further in the next section. Furthermore, because this measure is an objective measure the inferences are not limited to the particular CEOs in our sample or to a particular group of survey participants' views toward appearance. Also, the findings reveal that experience representing the firm publicly can be an important trait for advancement. These findings offer important new insights into the role of appearance in promotion and expectations about leadership ability.

B. Tournaments and Facial Appearance

The previous findings reveal that CEO facial appearance matters to shareholders. Since boards are the shareholders' representatives, CEO facial appearance should matter to directors when they are selecting new CEOs. This implies that facial appearance has implications for an

executive's progress through the labor market. In this section, we explore this hypothesis by examining the appearance of the executives in the firms with new CEOs who were not selected to be the next CEO. For the non-CEO executive sample, we only consider executives in the firms which appointed a new CEO who were in the firm during the appointment year and the year prior. We also only consider executives younger than 65 and either on the board or ranked in the top three in pay. These criteria are consistent with prior studies on the most likely candidates in internal CEO tournaments (e.g. Mobbs and Raheja, 2012).

In Table 5, Panel A, we report the mean and median phi-mask deviations for all 239 competitors in firms that selected an internal CEO. These include 83 newly selected CEOs from our sample and 156 runner-ups in these firms who were not selected as CEO. The mean and median phi-mask deviations are significantly greater, both at less than the one percent level, for the runner-ups. Thus, based on this objective measure, executives selected to be the CEO are significantly more attractive than those candidates not selected. This is consistent with facial beauty being an important executive trait consider by directors when selecting a new CEO from within the firm.

Because the runner-up sample is almost twice as large as the new CEO sample, it affords the opportunity to conduct additional tests. While these executives are not chosen to be the CEO within our sample period, the fact that they reached the level of being a top executive in an S&P 500 firm indicates they have been very successful in the executive labor market. In addition, this larger sample of executives consists of more female executives than does the new CEO sample. This greater variation in sex among these successful executives gives us the ability to examine an important question in labor economics. Specifically, we can examine whether females are judged differently from males based on their facial beauty. Hamermesh and Biddle (1994) using a

subjective measure, find evidence that beauty has similar effects on earnings for males and females. We want to see whether beauty, as measured objectively by deviations from the phi-mask benchmark, has similar effects on the career success of males and females. Under the assumption that males and females in the general population exhibit similar degrees of variation in their facial features we can compare the relative deviations from the objective benchmark of males and females, to see if sex matters when evaluating facial beauty. In other words, do males and females in our pool of top executives exhibit similar degrees of deviations from the phi-masks benchmarks? When calculating the attractiveness measures for females, a female phi-mask is used as the benchmark (see Figure 2). The phi-mask deviations are computed by summing up deviations from the 25 nodes as with the male mask.

In Table 5, Panel B, we report the phi-mask deviations for all of the runners-up, including those in firms that chose an outside CEO. There are 162 male runner-ups and 13 female runner-ups. The mean and median phi-mask deviations of the female executives are significantly smaller than those for the males. These differences suggest that females at this point on the corporate ladder have a greater degree of attractiveness relative to their male counterparts. In other words, to the degree that facial appearance is important for upward progression through the labor market the difference in Table 5 panel B suggests that females are held to a higher standard of attractiveness than are males, since their mean deviations from the objective standard of the phi-mask are much lower than that for males at similar stages in the executive labor market.[4]

Tournaments among executives are an important source of incentives for executives (Lazear and Rsen (1981), Kale, Reis and Venkateswaran (2009), Kini and Williams (2012) Mobbs and Raheja (2012), etc.), thus understanding the factors that determine the tournament

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[4] We thank Renée Adams for suggesting this test.

outcome are important to understanding how to best use this incentive structure. We examine the importance of executive facial beauty in being selected to be the next CEO by combing the sample of executives selected to be the next CEO in our sample and the corresponding executives who were not selected.

In Table 6, we use probit regression models to explore determinants of an executive winning the CEO tournament. The dependent variable is one if the executive is appointed as CEO and zero otherwise. The standard errors are robust and clustered by firm. Mobbs and Raheja (2012) show that executive board membership and compensation are important determinants in the selection of an inside CEO candidate. In Model 1, we include these two known determinants and find, consistent with Mobbs and Raheja (2012), that both board membership and compensation rank are significantly related to a greater likelihood of being selected to be the next CEO. Also, noteworthy is that these two variables alone explain over 40 percent of the variation in the likelihood of being selected to be the next CEO. We lose some observations due to compensation data not being available for all executives. In Model 2 we include our measure of attractiveness, the phi-mask deviations, in addition to these two executive characteristics. The coefficient estimate for the phi-mask deviations is negative and significant at less than the one percent level while the coefficient estimates for board membership and compensation rank remain significant. Thus, facial attractiveness offers additional explanatory power in determining an executive's likelihood of winning the CEO tournament and becoming the next CEO: the pseudo-R^2 of Model 2 is over 70%.

In Model 3 we use the level of compensation, transformed by taking the natural logarithm, rather than the executive compensation rank. The results are similar to those in Model 2. In Model 4, we include executive ownership measured as a percentage of the shares

outstanding, excluding options. When this variable is missing within ExecuComp we assume it is zero. Greater ownership is associated with an increase in the likelihood of an executive being appointed as CEO, consistent with prior studies (e.g. Boeyer and Ortiz-Molina (2008)). However, again we find a negative and significant coefficient estimate for the phi-mask deviations. Thus, after controlling for known determinants of tournament winners, we find strong evidence that facial beauty is another significant determinant of an executive's likelihood of winning the CEO-selection tournament.

From an economic perspective the probability of an executive in this sample becoming the next CEO is 22.6% when holding all variables in Model 2 at their mean. We note that we are only considering the sample of firms that end their internal CEO succession tournament within our sample and for which we have valid pictures for the selected CEO. Among this sample, if the executive is a director he/she has a 75.2% chance of being selected. An increase in attractiveness, reflecting a one standard deviation decrease in the phi-mask deviation, is associated with an increase of 14.5 percentage points, or a 64% (.145/.226) increase in the likelihood of being selected as the next CEO. Thus, facial beauty has a significant statistical and economic impact on tournament succession outcomes. These findings are consistent with earlier works on appearance by Todorov, Mandisodza, Goren and Hall (2005), who find that facial appearance can predict winners in congressional elections.

C. Which Firms Select More Attractive CEOs?

Whether being more attractive provides a significant advantage over other competitors in the tournament depends on the importance of beauty in the industry. To the degree that facial appearance is an important trait in a particular industry then people who are more attractive will

be in greater demand in these industries and thus will be attracted to positions within the industry. Conversely, in industries where physical appearance is less important relative to other talents or skills, and thus less rewarded, there will be fewer attractive executives seeking jobs in these industries. Thus, if beauty provides a marginal advantage over other executives, then executives with greater beauty have incentives to pursue careers where their beauty creates an advantage over other similarly qualified executives.

We test this sorting hypothesis by analyzing the firm and industry characteristics where the best looking CEOs are employed. Specifically, Table 7 reports results of probit model regression analysis of the determinants of firms selecting the more attractive CEOs among our sample of new CEO-firms. The dependent variable in each model is one if the selected CEO's phi-mask deviation is in the bottom quartile of all of the new CEOs in our sample (i.e. the top quartile in beauty). In each model we control for firm size using the natural logarithm of total assets and we report robust standard errors clustered by Fama-French 49 industry classification.

Table 7 Model 1 includes controls for the most recent two years of industry adjusted operating performance (ROA) and firm size. We find no evidence that past performance determines whether or not a firm selects a better looking CEO. However, the coefficient estimate for firm size is positive and significant, suggesting that larger firms are more likely to hire a better looking CEO. One possibility for this is that larger firms naturally have more visibility which makes them attractive positions for CEOs and thus they likely have a larger pool of potential candidates both from within and without the firm. Being able to be more selective can make appearance more important on the margin when selecting a new CEO.

In firms or industries where relationships are a more important aspect of firm operations, beauty is likely to play a more important role. This can be the case for several different types of

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industries. However, in industries where operational management skills are highly valued, the marginal benefit to beauty is much less. For example, in manufacturing industries the importance of managing operations is much greater than any benefit gained from being more attractive. This does not mean that beauty is unimportant within the industry, but when comparing across industries it is likely to matter less in manufacturing than in other industries. In model 2, we include an indicator that equals one if the firm is in the manufacturing industry (SIC:2000-3999). The coefficient estimate is negative and significant at the 5% level, suggesting that firms in the manufacturing industries are less likely to appoint a new CEO in the top quartile of beauty based on the objective measure we use here. This is consistent with the facial appearance being relatively less important in manufacturing industries.

If beauty or appearance is second order to other tangible skills, then in industries where the skills required to be successful are more homogeneous, having better appearance can be more advantageous in setting one candidate apart from the other skilled candidates. From the hiring firm's perspective, when the pool of qualified candidates is larger, employers may, either intentionally or unintentionally, use appearance as a final criterion for selecting a CEO from a large pool of qualified candidates. To test this possible, in Model 3 we include an industry homogeneity index following Parrino (1997).[5] The coefficient estimate for the index is positive and significant, suggesting that firms in more homogeneous industries are more likely to appoint a more attractive CEO. This is consistent with facial beauty being an important distinguishing

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[5] For each sample Fama-French 49 industry-year, we calculate an equally weighted return index using the prior twenty years of monthly returns and a random sample of 50 firms. Next, the monthly return for each firm in the industry index is regressed on the monthly return of the index and the equally weighted market return from CRSP. The industry homogeneity index is the average of the partial correlation coefficient on the industry return index across all firms in each industry.

characteristic when the pool of potential candidates has similar skills and, thus, causes firms to look to additional criterion for selecting a CEO.

In Model 4 we control for the number of employees to test a related hypothesis. When a firm has more employees they are likely to have more candidates from which to choose when appointing a CEO and thus may tend to rely more on facial appearance. The coefficient estimate for the number of employees is positive, but it is not significant at traditional levels. One short coming of this measure is that a larger number of employees does not necessarily imply a greater number of qualified executives capable of being the CEO, especially if the skills required for leading the company differ greatly from the skills required by most of the operating employees.

Since the results in Model 3 suggest that beauty is more important when the skills required to run the company are more homogenous, the converse of this argument suggests that when firm CEOS need specialized skills, beauty might be less important. Thus, firms requiring specialized skills for the CEO may be less likely to select a very attractive CEO. Firms with high levels of research and development (R&D) likely require very technical skills for their CEOs. Since this requirement considerably narrows the search for qualified candidates, it can also result in facial appearance or beauty being a less important factor. In Model 5 we use the industry-adjusted level of R&D intensity to control for firms that require CEOs with more technical or specialized skills. The coefficient estimate on R&D intensity is negative and significant at less than the one percent level, which is consistent with beauty being less important when technical skills are more valued.

Finally, we include all controls in Model 6. We continue to find evidence that firms in more homogenous industries and industries with low technical skill requirements are more likely to hire more attractive CEOs. In summary, the results in Table 7 indicate that an objectively

measured greater degree of beauty is important for firms requiring a more general set of skills, rather than those requiring a more specialized skill set. When firms are seeking a CEO with general skills, they likely have a larger pool of qualified candidates available to select from. Given a greater candidate pool, firms may consider additional characteristic such as facial beauty when making their final CEO selection, resulting in these firms having CEOs who are more attractive. Thus, our evidence suggests employer bias or beauty discrimination is more likely to occur in industries where the required CEO skills are less unique. Perhaps, it is in these industries that beauty can best contribute to one's productivity advantage (Hamermesh and Biddle (1994)).

IV. Conclusions

As media-related technology continues to advance, appearance will continue to increase in importance. We study the role of facial attractiveness in corporate finance by utilizing for the first time an objective and mathematically-based measure of facial beauty. We use the phi-mask -- based on over one-hundred years of scientific research showing the aesthetically pleasing aspects of the golden ratio, utilized in practice, and easily applied to future research -- to measure the facial attractiveness of newly selected CEOs and their closest competitors who were not selected as CEO.

We find evidence that beauty does matter to shareholders, especially for planned CEO transitions when there is more time to consider differences among candidates. Likewise, we find beauty is more important in firms where the pool of potential candidates is large and there is greater homogeneity in the skill sets of the candidates. However, in firms requiring a greater degree of technical skills, beauty is less important. Thus, beauty is important, but only on the

margin. We also find that CEOs are more attractive than those not selected, which suggests facial beauty can be advantageous in a competitive tournament in determining labor market outcomes. Finally, we find some evidence that women are held to a higher standard of beauty than are men, which provides additional insight into the research on sexual bias or discrimination in the labor market.

In summary, facial beauty does matter to shareholders and, thus, to directors when selecting CEOs. The results also suggest, more generally, that facial beauty is a distinguishing trait important in labor market advancement. The findings in this study provide new ways to objectively measure beauty while opening up several avenues to test multiple economic theories of beauty involving future research in the fields of finance, economics, psychology and numerous other fields of study.

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Figure 1. Male Phi-Mask
This is the male phi-mask and the 25 nodes that we measured deviations from to the corresponding points on the executive's face.
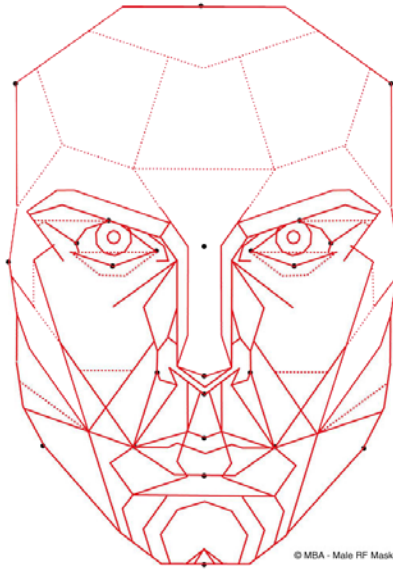

Figure 2. Female Phi-Mask
This is the female phi-mask and the 25 nodes that we measured deviations from to the corresponding points on the executive's face.
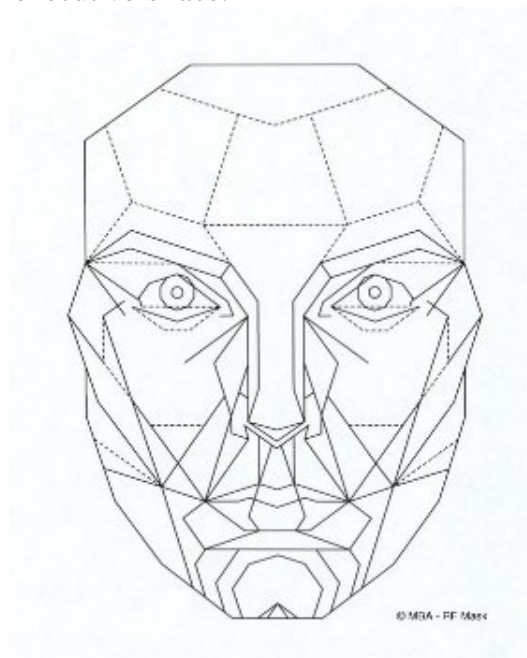
Figure 3. Three Day Cumulative Abnormal Returns around the announcement of a new CEO Appointment by Phi-Mask Deviation Decile
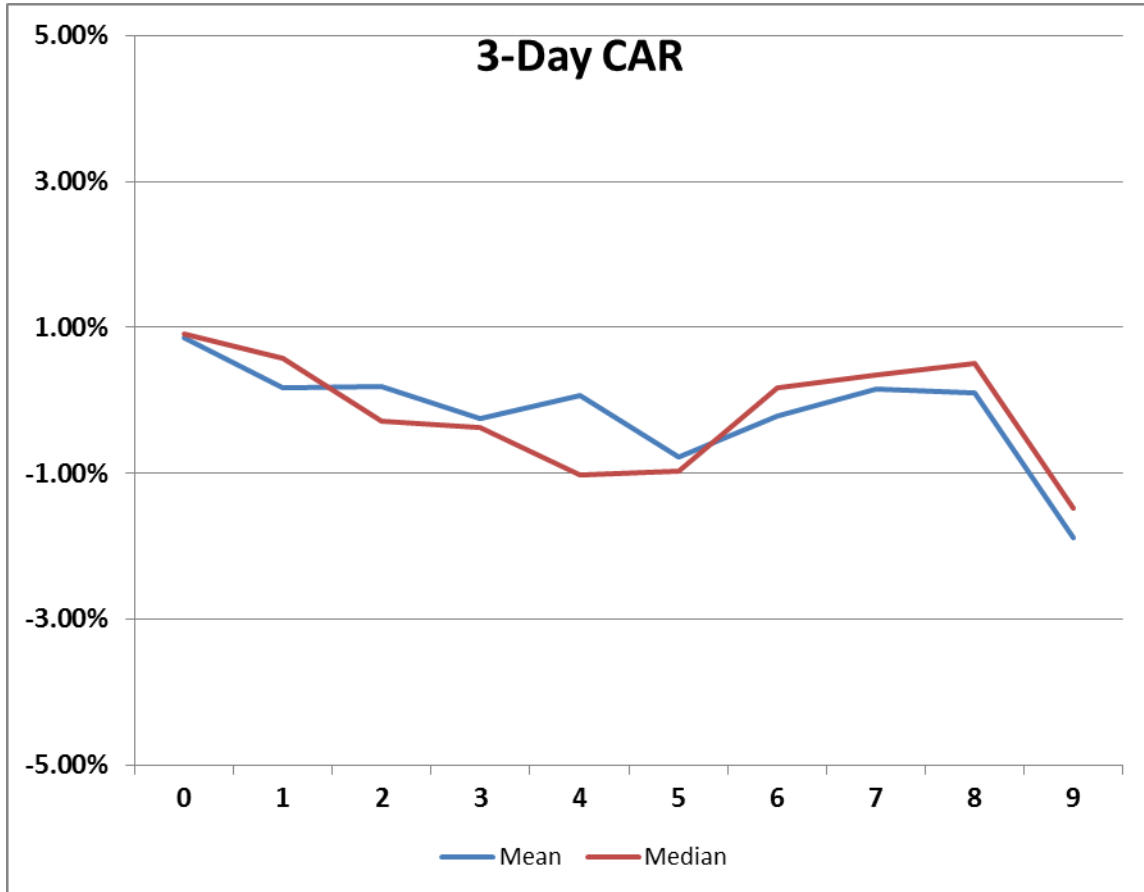
Table 1. New CEO Characteristics

This table reports descriptive statistics for 351 newly appointed CEOs during our sample period from 2000 to 2008 and for the 100 new CEOs for which we are able to measure deviations from 25 nodes of the phi-mask to the actual node on the executives face and the 251 we are not able to calculate Phi-Mask deviations. Panel A reports characteristics of the new CEO. The 3-day cumulative abnormal return (CAR) for the [-2,2] day window around the announcement of a new CEO appointment is the abnormal return computed for each day in the event window by subtracting the expected return (market model) from the actual return. The market model is estimated using the value-weighted CRSP index as a proxy for the market returns over days [-201,-10]. Sum of Mask Deviations is the sum of the deviations from twenty-five nodes on the phi-mask to the actual point on the CEO's face as measured in Adobe PhotoShop. Number of Press Release Statements is the number of times the executive is quoted in a press release in the three years prior to being appointed as CEO. Outsider equals one if the new CEO is not a current employee of the firm. Prior CEO Experience equals one if the new CEO has been as CEO at least once before and zero otherwise. Age is the age of the CEO at appointment. Overconfident CEO is an indicator that equals one if the CEO is ever classified as over confident using the holder 67, long-holder, net buyer or net buyer 5 method following Malmendier and Tate (2005) and zero otherwise. Female equals one if the new CEO is female and zero if male. Panel B reports the distribution of the new CEOs across the Fama-French Industries. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively

	Full Sample				CEOs with Mask				CEOs without Mask				(With - Without)	
Panel A: New CEO Characteristics	N	Mean	Median	Standard Deviation	N	Mean	Median	Standard Deviation	N	Mean	Median	Standard Deviation	Mean	p-value
3-day CAR	351	0.0028	0.0003	0.0534	100	-0.0016	-0.0011	0.0350	251	0.0045	0.0019	0.0591	-0.0062	*(0.33)*
Sum of Mask Deviations	100	206.97	199.26	57.84	100	206.97	199.26	57.84						
Number of Press Release Statements	349	4.86	1.00	8.21	100	4.90	1.00	9.31	249	4.84	2.00	7.75	0.0606	*(0.95)*
Outsider	351	0.24	0.00	0.43	100	0.21	0.00	0.41	251	0.25	0.00	0.43	-0.041	*(0.42)*
Prior CEO Experience	351	0.19	0.00	0.39	100	0.15	0.00	0.36	251	0.21	0.00	0.41	-0.0572	*(0.23)*
Age	346	50.50	51.00	6.13	100	50.21	51.00	5.79	246	50.62	50.00	6.27	-0.4079	*(0.58)*
Over Confident CEO	351	0.40	0.00	0.49	100	0.41	0.00	0.49	251	0.39	0.00	0.49	0.0156	*(0.79)*
Female	351	0.01	0.00	0.09	100	0.03	0.00	0.17	251	0.00	0.00	0.00	0.03***	*(0.01)*
Followed forced CEO departure	351	0.13	0.00	0.33	100	0.18	0.00	0.39	251	0.10	0.00	0.31	0.0764*	*(0.05)*

Panel B: Fama-French Industry Distribution

Mean Mask Deviations by Fama-French Industry:	Number of Turnover Announcements		Mean Sum of Deviations	
Industry	All Turnover	Forced	All Turnover	Forced
Food Products	4	2	292.88	404.35
Beer & Liquor	2	0	249.08	
Tobacco Products	1	0	184.82	
Printing and Publishing	1	0	179.59	
Consumer Goods	4	1	271.81	451.04
Apparel	1	1	179.35	179.35
Medical Equipment	1	0	186.63	
Pharmaceutical Products	3	1	224.55	206.65
Steel Works Etc	1	0	128.65	
Machinery	1	0	160.13	
Electrical Equipment	1	0	188.60	
Automobiles and Trucks	1	0	191.18	
Aircraft	1	1	161.86	161.86
Defense	1	0	199.98	
Petroleum and Natural Gas	4	0	169.20	
Utilities	7	0	195.08	
Commincation	5	1	198.39	196.54
Personal Services	1	0	204.52	
Business Services	1	0	207.48	
Computer Hardware	4	1	267.53	329.18
Computer Software	6	2	182.76	183.67
Electronic Equipment	7	1	208.29	235.02
Measuring and Control Equipment	2	0	239.19	
Business Supplies (Paper)	2	0	180.22	
Transportation	4	1	164.87	175.62
Wholesale	2	0	182.29	
Retail	10	3	207.32	193.32
Restaurants, Hotels, Motels	4	1	199.59	197.63
Banking	6	1	193.53	167.51
Insurance	9	1	203.03	154.47
Trading (Finance)	3	0	237.14	
Total	100	18		

Table 2. Visual Appearances of the Chosen CEO: Phi Mask Deviations

This table reports the visual appearances through the sum of total deviations from key reference points on the Phi- Mask. Sum of Mask Deviations is the sum of the deviations from twenty-five nodes on the phi-mask to the actual point on the CEO's face as measured using Adobe PhotoShop. Overconfident CEO is an indicator that equals one if the CEO is ever classified as over confident using the holder 67, long-holder, net buyer or net buyer 5 method following Malmendier and Tate (2005) and zero otherwise. *p*-values are from two-tailed tests based on a t-test of the difference of the means and rank sum test for the difference in the medians. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively

Panel A: Facial Deviations from Phi-Mask: Overconfident CEOs

	N	Mean	Median
Sum of Deviations	100	207.0	199.3
Overconfident	41	211.0	207.5
Non-Overconfident	59	204.1	190.0
Difference		6.9	17.5
p-value		(0.56)	(0.36)

Panel B: Facial Deviations from Phi-Mask: Following voluntary or forced CEO departure

	N	Mean	Median
Voluntary	82	201.05	201.84
Forced	18	233.94	197.09
Difference		-32.89**	4.76
p-value		(.03)	(.72)

Panel C: Facial Deviations from Phi-Mask: Press releases prior becoming CEO

	N	Mean	Median
75th Percentile Press Releases	26	201.57	196.31
25th Percentile Press Releases	36	206.96	201.84
Difference		-5.39	-5.53
p-value		(.69)	(.84)

Table 3. 3-Day Cumulative Abnormal Return around Announcement of New CEO

This table reports the 3-Day cumulative abnormal return the new CEO announcements by Mask deviation decile.

Mask Deviation Deciles:		3-Day CAR				
Decile	N	Mean	Median	Maximum	Minumum	Forced
0	10	0.87%	0.92%	5.89%	-6.19%	0.1
1	10	0.18%	0.58%	3.87%	-5.71%	0.4
2	10	0.19%	-0.28%	9.51%	-5.77%	0.2
3	10	-0.25%	-0.37%	2.53%	-1.69%	0.1
4	10	0.07%	-1.02%	10.78%	-4.32%	0.2
5	11	-0.77%	-0.97%	4.95%	-9.57%	0.1
6	10	-0.21%	0.17%	12.21%	-6.28%	0.1
7	10	0.15%	0.35%	4.73%	-5.99%	0.1
8	9	0.10%	0.51%	3.29%	-3.89%	0.1
9	10	-1.89%	-1.48%	0.22%	-5.71%	0.4

Table 4. Shareholder reaction to CEO appointment announcement

This table reports regression results of the 3-day cumulative abnormal return (CAR) for the [-1,1] day window around the announcement of a new CEO appointment for the 100 CEOs for which we have phi-Mask deviations. We estimate the market model using the value-weighted CRSP index as a proxy for the market returns over days [-201,-10]. The abnormal return is computed for each day in the event window by subtracting the expected return (market model) from the actual return. Sum of Mask Deviations is the sum of the deviations from the twenty-five nodes on the phi-Mask to the actual point on the CEO's face as measured using Adobe PhotoShop. Number of Press Release Statements is the number of times the executive is quoted in a press release in the three years prior to being appointed as CEO. Outsider equals one if the new CEO is not a current employee of the firm. Prior CEO Experience equals one if the new CEO has been a CEO at least once before and zero otherwise. Age is the age of the CEO at appointment. Overconfident CEO is an indicator that equals one if the CEO is ever classified as over confident using the holder 67, long-holder, net buyer or net buyer 5 method following Malmendier and Tate (2005) and zero otherwise. Female equals one if the new CEO is female and zero if male. All models include year fixed effects. Standard errors are robust and clustered by the Fama-French 48 defined industries. p-values are in parentheses beneath each coefficient estimate. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively.

Dependent variable: 3-Day CAR	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Sum of Mask Deviations	-0.0001**	-0.00011**	-0.00016***	-0.00016***	-0.00011**	-0.0001*	-0.0001**	-0.00013**	-0.00016**
	(0.02)	(0.02)	(<.01)	(<.01)	(0.02)	(0.05)	(0.02)	(0.01)	(0.02)
Number of Press Release Statements		0.0007**		0.00041	0.00066**	0.0007**	0.00072**	0.00075**	0.00039
		(0.04)		(0.15)	(0.04)	(0.04)	(0.04)	(0.04)	(0.13)
Outsider			-0.02718	-0.0326					-0.03
			(0.17)	(0.11)					(0.19)
Sum of Mask Deviations X Outsider			0.00015*	0.00014**					0.0001
			(0.06)	(0.04)					(0.23)
Number of Press Release Statements X Outsider				0.00125*					0.001*
				(0.05)					(0.05)
Prior CEO Experience					0.00645				0.00799
					(0.61)				(0.61)
Age						0.000583			0.00041
						(0.40)			(0.55)
Over Confident CEO							-0.00023		0.00054
							(0.98)		(0.95)
Female								0.016*	0.015
								(0.06)	(0.33)
Constant	0.02*	0.017	0.03**	0.028**	0.017	-0.014	0.017	0.02*	0.007
	(0.08)	(0.13)	(0.01)	(0.03)	(0.14)	(0.74)	(0.15)	(0.08)	(0.87)
Adjusted - R^2	6.21%	8.75%	5.97%	8.91%	8.14%	8.67%	7.72%	8.28%	5.56%

Table 5. Appearance of Runner-Ups

This table reports results comparing the attractiveness of the selected CEOs to the attractiveness of the most likely candidates who were not selected. The most likely CEO candidates are identified as executives who are either on the board or are ranked in the top three in pay. They must also be younger than 65. Panel reports univariate results comparing the phi-mask deviations of the newly appointed CEOs with the pool of potential candidates at their firm. Panel B reports univariate results comparing the phi-mask deviations for Male and Female Runner-Ups. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively.

Panel A: Facial Deviations from Phi-Mask (CEOs with the firm versus Runner-Ups)

	N	Mean	Median
Sum of Deviations of Competitors	239	426.43	445.41
Sum of Deviations of Appointed CEO	83	229.0541	192.72
Sum of Deviations of Runner-Ups	156	531.4464	515.97
CEO - Runner-Up Deviations		-302.39***	-323.25**
p -value		*(<0.01)*	*(<0.01)*

Panel B: Facial Deviations from Phi-Mask (Male versus Female Runner-Ups):

	N	Mean	Median
Sum of Deviations of Runner-Ups	175	533.54	518.60
Sum of Deviations of Male Runner-Ups	162	539.793	525.17
Sum of Deviations of Female Runner-Ups	13	455.6709	417.61
Male - Female Runner-Up Deviations		84.12**	107.55**
p -value		*(.035)*	*(0.016)*

Table 6. Do looks matter in CEO selection?

This table reports results of probit model regression analysis of the likelihood of an executive being selected to be the next CEO. The sample includes all CEOs appointed within their firm and the other top executives most likely to be contending to be the next CEO. The most likely CEO candidates are identified as those who are either on the board or are ranked in the top three in pay. They must also be younger than 65. Executive is a Director is an indicator variable that equals one if the executive is also on the board during the year. Compensation Rank is the rank of the executive based on total compensation with 1 being the highest ranking (i.e. highest paid) executive. Total compensation is the total of salary, bonus, equity based compensation and other compensation during the year. Ownership is the percentage of shares outstanding owned by the executive, excluding options. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively.

Dependent variable: Selected as CEO (1/0)	Model 1	Model 2	Model 3	Model 4
Sum of Mask Deviations		-0.008***	-0.008***	-0.009***
		(<.01)	*(<.01)*	*(<.01)*
Executive is a Director	1.73***	1.57***	0.51*	1.47***
	(<.01)	*(<.01)*	*(0.09)*	*(<.01)*
Compensation Rank	-0.63***	-0.43***		-0.52***
	(<.01)	*(<.01)*		*(<.01)*
Ln(Total Compensation)			0.34**	
			(0.02)	
Ownership				0.195**
				(0.04)
Constant	0.42	3.262***	-0.272	3.82***
	(0.32)	*(<.01)*	*(0.76)*	*(<.01)*
Number of Observations	206	206	210	206
Psuedo - R^2	40.23%	71.58%	60.86%	74.07%

Table 7. Which firms pick better looking CEOs?

This table reports results of probit regression analysis. The dependent variable is one if the sum of the phi-mask deviations are in the bottom quartile of all newly appointed CEOs. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively.

Dependent variable: Good Mask (1/0)	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Ln(Assets)	0.16**	0.1	0.09	0.1	0.17**	0.06
	(0.04)	(0.14)	(0.24)	(0.2)	(0.02)	(0.58)
Industry Adjusted ROA$_{(t-1)}$	-0.31					-1.99
	(0.88)					(0.36)
Industry Adjusted ROA$_{(t-2)}$	-3.11					-2.5
	(0.2)					(0.48)
Manufacturing (SIC: 2000-3999)		-0.67**				-0.48
		(0.02)				(0.15)
Industry Homogeneity			3.53**			3.17*
			(0.02)			(0.1)
Number of Firm Employees (1,000's)				0.00092		0.00087
				(0.28)		(0.33)
Industry Adjusted R&D/Assets					-21.63***	-18.69**
					(<.01)	(0.02)
Constant	-2.31***	-1.516*	-2.658***	-1.74**	-2.42***	-2.08**
	(<.01)	(0.05)	(<.01)	(0.03)	(<.01)	(0.03)
Number of Observations	97	100	97	97	100	91
Psuedo - R^2	3.77%	6.21%	3.91%	2.32%	6.73%	12.97%