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FACIAL WIDTH TO HEIGHT RATIO AND FIRM PERFORMANCE: A STUDY OF INDIAN CEOS

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ABSTRACT

Research indicates that financial policies of firms are associated with observable CEO characteristics one of them being their masculinity. Establishing Facial width to height ratio asa proxy for the same, this paper aims to measure the relationship between the two. While a number of studies have been conducted globally to measure this relationship, any such study could not be found by the researchers in Indian context. The research paper shall obtain information regarding the CEOs fWHR across various industries and find out if there are any differences existing between and within different sectors with respect to the fWHR and financial policies of the firm and thereby its performance. While financial policies which are taken in consideration relate to leverage and cash holdings, firm performance is measured by taking Return on Assets (ROA) and Return on Capital Employed ratios (ROCE). The demographic parameter age will be kept as the control variable. The data is obtained from secondary sources like the Bloomberg Terminal and CapitaLine Database. Statistical techniques of regression analysis and appropriate tests are applied to test the hypothesis. This paper is an attempt to contribute to an area of corporate finance literature which shows that observable CEO characteristics can have a significant influence on financial management decisions.

KEY WORDS: fWHR, CEO, Firm Performance, ROA, ROCE.JEL Classification: G32

INTRODUCTION

It is said that “First impression is the last impression.” The human face is a classic example ofcasting such an impression. The face is a reflection of character, attractiveness and personality.For instance, people who are baby faced are perceived to be more social, agreeable and affectionate. Characteristics of the human face thus, provide cues on the behavioural aspects of the individuals. Research suggests that inferences can be made about individual personalitytraits and behaviours on the basis of certain facial metrics.

Facial masculinity is one of the facial metrics and can be described by the Face Width to HeightRatio (fWHR). It has gained popularity as a medium to study the personality and behavioural characteristics of individuals. The fWHR is the distance between the left and right zygion (bizygomatic width) divided by the distance between the upper lip and mid brow (upper facialheight). In 2007 Weston et al described the fWHR and found that it is associated with a numberof behavioural tendencies in men but not in women. The fWHR is a sexual dimorphism in thestructure of the face which is independent of the body size, from a morphometric analysis of an ontogenetic series of skulls. At puberty and thereafter, the difference in the fWHR betweenboys and girls emerges due to the increased level of testosterone among the boys as comparedto girls. This brings about the masculinity facial features in the males. The present study aimsto study the relationship between a CEO's fWHR and the firm's financial policies and financialperformance. While a number of studies have been conducted globally to measure thisrelationship, no such study could not be found by the researchers in Indian context. Hence, theresearchers wish to replicate the study in the Indian context to either reinforce the claims madeby some researchers across countries or to negate them.

LITERATURE REVIEW

The human face is perhaps the most salient source of interpersonal information, especially withstrangers. People can judge extroversion and conscientiousness accurately from the face at levels slightly above chance **(Penton-Voak, Pound, Little, & Perrett, 2006)**. **Weston, Friday, and Lio (2007)** have shown that human adults are sexually dimorphic in skull bizygomatic width corrected for upper facial height. Masculinity in men arises on account of hightestosterone levels. Several studies have investigated the relationship between facial appearance and testosterone levels. **Penton-Voak and Chen (2004)** find that male subjects with highertestosterone levels were judged to have more masculine-looking faces than low testosterone men. **Lefevre, Lewis, Perrett,and Penke (2013)** also show that males with greater facial width tend to have higher testosterone levels. **Carré, McCormick, and Mondloch (2009)** find that fWHR is linked to both perceived and actual aggression. **Lentine, Li, Penke, and Perrett (2014)** found that high fWHR males were more likely to be perceived as dominant, as well as more attractive to women for short-term (but not long-term) relationships. **Apicella, Dreber, Campbell, Gray, Hoffman, and Little (2008)** find that both salivary testosterone levels and facial masculinity were positively associated with risk-taking behaviour in an investment game.**Stanton, O'Dhaniel, McLaurin, Kuhn, LaBar, Platt, and Huettel (2011)** observed a U- shaped, nonlinear relationship between salivary testosterone levels and risk aversion, asindividuals with low or high testosterone levels exhibited decreased risk aversion compared tothose with testosterone levels in intermediate ranges. Testosterone levels have also been linkedto trading success in financial markets. **Coates and Herbert (2008)** measured salivary testosterone levels of 17 male traders each morning at 11 A.M. over the course of an eight-daystudy, finding that traders subsequently earned higher profits on days where their morning testosterone levels were high.

One study depicted a correlation between fWHR and self-ratings of psychological ''sense of power'' in men, and that sense of power mediated the relationship between fWHR and cheating **(Haselhuhn & Wong, 2012). Haselhuhn and Wong (2012)** linked high fWHR with feelingsof power, as well as cheating and deceptive behaviour. **Stirrat and Perrett (2010)** find thatfacial width is associated with both perceived trustworthiness

as well as an actual propensityto exploit the trust of others for personal financial gain.

Researchers have conducted studies related to leaders and President's facial masculinity and its impact on the company's success. They have suggested that physical characteristics (e.g., height) may influence leaders' effectiveness **(Judge, Piccolo, &Kosalka, 2009; Van Vugt, Hogan, & Kaiser, 2008).** If it can be proved that testosterone levels affect a CEO's managerialpreferences, greater CEO facial width may be associated with more aggressive firm financial policies **Mills (2014).** Facial width of CEOs has also been studied by **Wong, Ormistion, and Haselhuhn (2011),** who show that fWHR in male CEOs is positively related to firm performance in firms. **Wong et al (2012)** predicted that organizations headed by male leaderswith greater facial WHRs would achieve superior organizational performance. The present study aims to analyze the same in the Indian context.

OBJECTIVES AND METHODOLOGY

The objectives of the study are the following:

1. To study the relationship between the CEOs fWHR and the firm's financial policies.
2. To study the association between the CEOs fWHR and the firm's financialperformance.

HYPOTHESES

Based on the objectives outlined above, the following hypotheses have been established:

H1: There is no association between CEOs fWHR and the firm's financial policies.

H1a: There is no association between CEOs fWHR and the firm's long term debt to equityratio

H1b: There is no association between CEOs fWHR and the firm's Cash holdings

H2: The CEOs fWHR has no impact on the firm's financial performance.

H2a: There is no association between CEOs fWHR and the firm's Return on Net Worth **H2b**: There is no association between CEOs fWHR and the firm's Return on CapitalEmployed.

CEO DATA

The data relating to CEOs has been collected from the companies listed in the Nifty 50 index.The companies should have been listed at least for the past five years (2011-15) and the CEOsshould also have been associated with the company in the capacity of a CEO during the abovementioned period. 3 female CEOs have been excluded from the sampling units. Aurobindo Pharma has also been excluded as its data was unavailable. Thus 46 CEOs fitted the criterion established. Images of each CEO were then obtained through Google Image searches and selected in accordance with Carre and McCormick's (2008) guidelines (subject facing forward, head not tilted). Photos were obtained from company websites and articles which clearly and directly identified each CEO. The final data included the photos of 46 CEOs.The fWHR was was measured as the maximum horizontal distance between the right and left facial boundary; upper-face height was measured as the vertical distance between the highest point of the upper-lip and the highest point of the eyelids. The fWHR was calculated as widthdivided by height. The fWHR was calculated by using the Adobe InDesign software. The researchers took professional help for the same.

Financial policies-The financial policies have been defined through the Long term Debt to Equity ratio and cash holdings of the firm for the period 2011-15.

Financial performance- The financial performance of the companies has been measured usingthe ratios of Return on Net Worth (RONW) and Return on Capital Employed (ROCE) for the defined period.

The data has been analysed using descriptive statistics like mean and standard deviation. Statistical techniques of correlation and regression have been used to check for the dependencyand to test the hypotheses. Data has been analysed using SPSS.

DATA ANALYSIS AND DISCUSSION.

Table 1: Descriptive statistics

						Correlations				
Variable No.	Variable	Minimum	Maximum	Mean	Std Deviation	1	2	3	4	5
1	fWHR	1.27	2.27	1.98	0.2	1	0.054	-0.244	-0.27	0.28
2	LTDE	0	17.88	0.588	0.1	0.054	1	-0.57	0.18	-0.89
3	RONW	-9.76	130.01	23.052	0.7	-0.244	-0.57	1	0.68	0.79
4	ROCE	-4.54	121.52	22.73	0.7	-0.277	0.18	0.68	1	0.12
5	CH	2.98	154755.78	8050.098	730.3	0.28	-0.89	0.79	0.12	1

fWHR- Face width to height ratio, LTDE-long term debt to equity, RONW- return on net worth, ROCE- return on capital employed, CH- cash holdings.

Table 1 shows the averages, standard deviations, minimum and maximum values of the variables along with their respective correlations. The fWHR depicts negative correlations withReturn on Net worth and Return on Capital Employed and positive correlations with Cash Holdings. Its relationship with Long term Debt to Equity is insignificant. LTDE has negative correlations with RONW and CH. ROCE shows a positive association with all variables exceptfWHR.

Table 2: Regression Analysis

Independent Variable	Dependent variables				
		LTDE	RONW	ROCE	CH
fWHR	Beta	0.05	-0.254*	-0.288*	0.299*
	Adj R^2	-0.22	0.041	0.06	0.67
	F-value	0.109	2.758	3.618*	3.94*

Table 2 shows the results of regression analysis. The 4 dependent variables, namely, LTDE, RONW, ROCE and CH have been regressed on the independent variable fWHR. For LTDE, the beta value is 0.05 and the adjusted R^2 is -0.22 which shows a weak and insignificant association between fWHR and LTDE. This is confirmed by the F value of 0.109.Thus the analysis suggests that there is a weak and inverse relationship between fWHR and LTDE. **TheH1a thus stands accepted.**

The regression analysis of fWHR and Cash Holdings shows a positive and significant association. The F value is also significant at 5%. 67% of the variation in CH is explained through the fWHR. This implies that fWHR is a major predictor of CH, thereby **rejecting thenull hypothesis H1b that there is no association between CEOs fWHR and the firm's Cashholdings.**

The researchers also regressed RONW and ROCE respectively on fWHR. As is evident from table 2, both show a significant but negative association with the independent variable. **This rejects hypotheses H2a and H2b respectively.**

DISCUSSION

The research presents some interesting findings. Studies conducted by Carre et al., 2009, Wonget al., 2011 and Mills, 2014 show that there is a positive relationship between the CEO's fWHRand firm performance and firm's financial policies respectively. Mills found that the fWHR ispositively correlated with leverage and negatively correlated with cash.

The present study suggests that there is no significant relationship between fWHR and leverage. Also, it shows a positive relationship between fWHR and cash holdings. This is in total contradiction to what Mills had estimated. Similarly, the financial performance asmeasured by RONW and ROCE have been found to be significantly but negatively correlatedto fWHR. This implies that a higher fWHR leads to lower RONW and ROCE. The plausible explanation of this is that in the Indian context, it is not only the masculinity of the face but other factors that could have more impact on the financial policies and performance.

According to a study titled, "The DNA of Indian Leadership: The Governance, Management and Leadership of Leading Indian Firms," Indian CEOs tend to be more preoccupied with internal management, long-term strategic vision and organizational culture. **Financial matters,on the other hand, are not at the top of their agendas**. They tend to focus more on human capital development and talent management. The study also revealed that unlike their westerncounterparts, Indian leaders seem to care a good deal more about motivating employees and setting an example than about currying favour with shareholders or the markets. While the Indian CEOs ask their employees to work hard to demonstrate that the Indian economy can bepart of the leadership of the world, that they can pull parts of their community out of poverty,'The U.S. CEO has to explain to the employee why it's important to improve quarterly profitability (www.knowledge.wharton, 2007)

Moreover, in the Indian context, the major financial decisions are taken jointly by the board ofdirectors and not by the CEO independently. Besides, many corporations in India are family run businesses and continue to carry on the same processes and methodologies as their predecessors. The financial policies and decisions may be influenced by the opinions of the family members participating in the management of the business, thereby reducing the role ofa CEO who is not a member of the family. Many families are conservative in their approach especially debt and hence may focus more on holding cash balances.

CONCLUSION

The study shows that a CEO's fWHR has a inverse relationship with RONW and ROCE and apositive relationship with cash holdings. No significant relationship exists between fWHR andleverage policies. Since the present study was conducted only on 46 CEOs and the searchers could not find similar studies in the Indian context, it becomes imperative to conduct similar studies by taking a larger number of CEOs to further support or negate the findings.

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