

# Analysis on the Impact of Board Characteristics on Firm Financial Performance

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**Abstract:** This study has examined the impact of board characteristics on firm financial performance using a sample of 30 UK listed non-financial firms. Board of directors as an important governance mechanism, it was argued that effective board can improve firm financial performance (Mehrotra, 2016). Moreover, Selman and Selman (2009) added that board structure and composition is an important determinant of firm performance since their composition indicates how competent the board is in performing their duties. This study reveals a strong evidence of positively significant relationship between proportion of non-executive directors on board and firm financial performance. However, the study did not find any evidence of significant relationship between other board characteristics and firm financial performance. Though this study use only cross sectional data for 2015 which can be a limitation. Small sample size and measure of performance can also be another limitation for this study. Hence the study recommends the use of time series data and various performance measurements such as Tobins Q.

**Keywords:** Board structure, performance, composition, directors and relationship

## 1. Introduction

The aim of this study is to analyse the relationship between board structure and composition, and firm performance of 30 UK listed firms. Studies revealed that corporate governance is one of the main elements in improving firm performance, which monitors the relationship between shareholders, board of directors, managers and other stakeholders (Fama and Jensen, 2008). An effective board is observed as a prerequisite for a healthy corporate governance framework based on the opinion that effective boards are expected to influence firm performance (Mehrotra, 2016). Hence, boards of directors act as an important governance mechanism in aligning the interests of managers and shareholders.

The structure and composition of boards plays a vital role in improving performance, and is an essential prerequisite in explaining the competences of members in completing duties and aiding corporate performance (Selman and Selman, 2009). The need for board composition to include independent outside directors gains its root from agency theory. Agency theory proposes that boards need to be independent in order to be effective in monitoring and controlling management and as protectors of the shareholders' interests. The resource dependency theory views the board as the most suitable tool to secure outside resources essential to the achievement of its internal objectives on behalf of the firm; hence this could be achieved through it outside directors (Mehrotra, 2016).

A number of scholars studied the relationship between board structure and firm performance and provide mixed result, for instance Rosenstein and Wyatt (1990) find a positive relationship between board structure and composition on firm performance of US firms. However, Dalton et, al. 1998; Vafeas and Theodorou, 1998; Phung and Le, 2013; Mehrotra, 2016 find no significant relationship between board structure and composition, and firm financial performance. Oxelheim and Randøy (2005) have suggested that internationalisation in the product and service market enhances firm's financial performance.

This study provides some evidence on the relationship between board structure and composition and firm performance.

## 2. Methodology

The sample for this study was drawn from the Fame data base which contains data of about 200, 000 firms. Hence to avoid possible bias in our selection, simple random sampling was employed to select 30 companies. However, financial firms were excluded from the sample because of the special regulatory environment in which they operate; regulation masks effectiveness variances across companies, possibly making governance mechanisms less important (Vafeas and Theodorou, 1998; Phung and Le, 2013). We then use a random number table from which we extract the study sample of 30 firms. This method is used because it is seen as free of bias which can be a true representative of the population. Even though the selection of sample tends to be difficult if the units are broadly spread. The following models were developed.

Model 1

ROCE=

$$\alpha + \beta_1 TNVi + \beta_2 SIZEi + \beta_3 PNONEXi + \beta_4 PFMLi + \beta_5 DIRAGEi + \beta_6 INTERLOCKi + \epsilon_i$$

Model 2

PROFITM=

$$\alpha + \beta_1 TNVi + \beta_2 SIZEi + \beta_3 PNONEXi + \beta_4 PFMLi + \beta_5 DIRAGEi + \beta_6 INTERLOCKi + \epsilon_i$$

Model3

Internationalisation=

$$\alpha + \beta_1 TNVi + \beta_2 SIZEi + \beta_3 PNONEXi + \beta_4 PFMLi + \beta_5 DIRAGEi + \beta_6 INTERLOCKi + \epsilon_i$$

Where:

ROCE= returns on capital employed

PROFITM= profit margin

Internationalisation= the degree of internationalisation

TNV=turnover

SIZE= board size

PNONEX=percentage of non-executive directors

PFML= percentage of female directors

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DIRAGE= directors average age

INTERLOCK= number of interlocking directors

Data were collected for this report regarding the variables used in the developed models. Each model consists of the dependent variable as a measure of firm performance, control variables and the explanatory variables. The dependent variables are; return on capital employed, profit margin and degree of internationalisation for the year 2015, whereas the control variables are turnover and number of employees for the same year 2015. Moreover, the explanatory variables are the board characteristic; that is the board size, proportion of non-executive directors, proportion of women directors, average age of the board, and number of interlocking directorships.

Following some existing literature, this report employs the use of descriptive statistics to test the normality of the variables, correlation to establish relationship between one

variable and the other, and regression methodology to infer causal relationship between the dependent and independent variables (Dasilas and Leventis, 2013; Prempeh and Odartei-Mills, 2015; Mehrotra, 2016).

The next section is descriptive statistics, to perform statistical analysis and discuss the result; we need to do some descriptive statistics. This is done so as to observe board characteristics and the spread of each variable of interest. Descriptive statistics could also assist to discover whether there are any errors in the data.

### 3. Empirical Result

The results obtained from the empirical analysis are presented below:

#### 3.1 Descriptive Statistics

Table 1: Descriptive Statistics

	N	Statistic	Minimum	Maximum	Mean	mode	median	Std. Deviation	Skewness	Kurtosis
turnover £thousand	30	1300100.00	7834000.00	3255901.1000			2047034.77774	1.095	-.128	
Log Turnover 2015	30	14.08	15.87	14.8269			.57514	.519	-1.021	
number of employees 2015	30	3117	108624	26122.03			24597.634	2.243	5.228	
Log Employees 2015	30	8.04	11.60	9.8415			.82279	.031	.304	
ROCE 2015	30	-25.03	34.38	5.8690			11.48219	.021	1.891	
profit margin 2015	30	-46.42	15.26	2.4737			10.64920	-3.485	15.815	
degree of internationalisation 2015	30	.03	.99	.5822			.32743	-.345	-1.264	
board size 2015	30	7	13	9.43	8 <sup>a</sup>	9.00	1.695	.623	-.280	
Percentage of non- executive Directors 2015	30	33.33	72.73	60.9153	66.67	62.50	8.89943	-1.185	1.831	
Percentage of Female Directors 2015	30	8.33	42.86	22.8018	25.00	25.00	9.61293	.285	-.607	
average age of board members 2015	30	49.00	64.00	56.0000			3.75086	.097	-.300	
number of interlocking directors 2015	30	12	56	28.67			11.769	.622	-.441	
Valid N (listwise)	30									

a. Multiple modes exist. The smallest value is shown

Having selected a sample of 30 firms from the UK listed companies in FAME, we have been looking at a descriptive statistics to show us the board characteristics and the spread of variables of interest and to discover whether there are any errors in the data. Table 1 shows the result of the descriptive statistics for the sample under study. When we first run the descriptive statistics it reveals some sign of potential outliers which can lead to an asymmetric distribution, specifically with regards to turnover, profit margin and number of employees. Hence, we transform the turnover and number of employees in to natural log and the transformation was effective, hence the skewness and kurtosis become less than one, which is close to zero. However, for the profit margin we were unable to transform it because it has a negative value and SPSS cannot transform a variable with a negative value. As the study has a small sample size, it did not consider checking for outliers relating to the profit margin in order to remove it because all values are important. Therefore, this may affect our overall inference, though the variable has a standard deviation of 10 which may imply that it spread not far from the mean. Our descriptive statistics shows that on average percentage of non-executive directors is 61% that is in our sample, on average boards have a majority non-executives This implies that UK firms

comply with the agency theory suggestion for majority of non-executive directors on their boards and a suggestion in UK Corporate Governance code that each board to consist of majority non-executive. As shown in table 1, the maximum percentage of non-executive director is 72.73 percent, while the minimum percentage is 33.33. Though the minimum percentage is below the agency theory suggestion and the UK Corporate Governance Recommendation, but only five companies out of thirty have minority non-executive directors on their board. The minimum percentage of female directors as shown in table one is 8.33 percent far below the UK threshold of 25 percent female directors on each board as suggested by Davies report. About 47% of the sample does not comply with Davies recommendation which seems to be significantly high. However, the maximum percentage of female directors is 42.86% which exceeds Davies suggestion as well as the European Union threshold of 40%. This implies that along the lines of UK firms seem to be making progress towards gender diversity and each board in our sample have at least one female director. The sample also reveals an average age of directors to be 56 years while minimum and maximum age is 49 and 54 years respectively. This implies that on average the individual directors on the board are younger. The sample

also reveals an average board size of 9 and maximum of 13 while minimum is the one with 7 members. This could be seen as moderately small, which implies a potentiality of proper monitoring as suggested by agency theory that large board can diminish the quality of monitoring by the board which will in turn weaken firm performance.

### 3.2 Correlation

**Table 2:** Correlation analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Turnover (Log)	1									
(2) Employees (Log)	.509**	1								
(3) ROCE	-.314	-.279	1							
(4) Profit Margin 2015	-.483**	-.249	.681**	1						
(5) Internationalisation	.176	-.124	-.400*	-.407*	1					
(6) Board Size	.324	.093	-.184	-.085	.307	1				
(7) Non-executive (%)	.212	-.043	.236	.276	-.158	.368*	1			
(8) Women (%)	-.174	-.415*	.106	.289	-.024	.100	-.095	1		
(9) Directors' Age	.468**	.487**	-.383*	-.340	.105	.005	.068	-.230	1	
(10) Directors Interlock	-.021	-.201	.058	.199	.163	.213	.075	.029	.216	1

\*\* : Correlation is significant at the 0.01 level.  
\* : Correlation is significant at the 0.05 level.

Table 2 shows the correlation analysis amongst the variables, which indicate the direction and strength of the relationship amongst the variables. We first look at the correlation between turnover and employees as they both measure firm size in order to avoid multi-collinearity problem. The analysis reveals a strong correlation between firm size variables at less than 1% significant level this may indicate collinearity (Hair et al. 2013 in Saunders, Lewis and Thornhill, 2016); hence it will be tested by checking for VIF values in the regression. To avoid multi-collinearity, we did not include the two variables together in our regression. Rather we include turnover in the regression because it has strong relationship with at least one of the performance measurement variables.

The correlation analysis reveals that among the board characteristics variables, only directors' age shows a significant relationship with firm financial performance. The result shows a negatively significant relationship between director's age and return on capital employed at less than 5% level. This is an interesting result, as it contradicts the assumption that age is a symbol of accumulated knowledge and experience (Carroll and Harrison, 1998). The result implies that as board age increases firm performance will decrease, which means younger directors can bring innovation and more effective monitoring than older directors. The result also reveals strong negative relationship between profit margin and turnover. On the other hand, there is a significant positive relationship between profit margin and return on capital employed at less than 1% level. In aggregate all the performance measurement variables are significantly correlated with each other, though with different sign. For instance, degree of internationalisation is negatively correlated to profit margin and return on capital employed. Sanders and Carpenter (1998) finds a negative correlation between internationalisation and returns on capital employed in which they claim that higher internationalisation can weaken the monitoring role of directors thereby affect performance negatively.

The following section will show how the correlation analysis was performed so as to find out whether a linear relationship exists amongst the variables of board characteristics and firm performance.

Similarly, Jensen (2010) argues that agency cost increases with increase in internationalisation which might reduce performance.

The correlation analysis also reveals a significant relationship between percentage of non-executive directors and board size; this implies that larger boards tend to have more outside directors. Similarly, percentage of female directors is negatively correlated with number of employees. This implies that the higher the number of employees the lower will be the proportion of female directors. Huse, Nielsen and Hagen (2009) also find a negative correlation between female director and number of employees. Director's age is also found to be positive and significantly correlated to turnover and number of employees at less than 1% level while negative with return on capital employed at less than 5% level. We expect to see a positive significant relationship between percentage non-executive directors and performance measurement as suggested by agency theory. However, our sample finds no significant correlation between non-executive directors and performance which is very strange. This might be due to the problem of skewness and kurtosis or it might be due to small sample size. The study also finds no relationship between female directors and performance measurement variables as in (Kakabadse et al., 2015; Carter et al., 2010; Rose, Munch-Madsen and Funch, 2013). We also find no evidence of relationship between board size and firm performance.

The following section will reveal a regression analysis, in which firm performance is regressed on board characteristics. This is performed using the Ordinary Least Square method to compute the coefficients, establish their sign and statistical significance. The analysis is performed using SPSS software and results are shown in table 3. The table reveals an outcome for three different models with three different performance measurements.

### 3.3 Regression

**Table 3: Regression**

Standardised beta coefficients	Model 1 (DV = ROCE)	Model 2 (DV = Profit Margin)	Model 3 (DV = Degree of Internationalisation)
Turnover (control)	-.089	-.378*	.090
Size of board	-.346	-.200	.387
% non-executive directors	.401*	.447**	-.336
% women directors	.068	.236	-.071
Average board age	-.391	-.189	.046
Interlocks (Log)	.182	.234	.100
R	.595	.709	.459
R <sup>2</sup>	.354	.502	.210
Adjusted R <sup>2</sup>	.185	.373	.004

Significance levels \* $<0.05$ , \*\* $<0.01$

The results for the test of Multicollinearity (Variance Inflation Factors) are reported in the appendix.

The above table 3 shows the results of regression with three models. Model 1 consist of return on capital employed as the dependent variable and board size, proportion of non-executive directors, proportion of female directors, average age of the board and directors interlocks as independent variables. Our model 2 and 3 have the same independent variables with model 1, and profit margin and degree of internationalisation are the dependent variables respectively. It can be observed from table 3 that the regression result adjusted R<sup>2</sup> in all the three models have relatively low magnitude of 37% for model 2, 19% for model 1 particularly model 3 with 0.4% which indicates how well or otherwise our model predicts the results. This implies that the three modes mainly explain 19%, 37% and 4% of models 1, 2 and 3 respectively. Hence model 3 aggregate results show no significant relationship between board characteristics and firm financial performance. Model 1 reveals a significant positive relationship between non-executive directors and firm performance measured by ROCE at 5% level. On the other hand, there is no evidence of significant relationship between the remaining board characteristics variables and firm performance. The result for model 2 reveals a positive strong significant relationship between proportion of non-executive directors and firm performance as measured by profit margin. It also shows a negative significant relation between firm size (control variable) and profit margin. Generally, our regression reveals that at least one of the board characteristics is significantly related to firm performance. What about model 3.

### 3.4 Discussion of results

This section will look at the regression outcome and discuss it with relevant theories and empirical studies. The study is aimed at analysing the influence of board characteristics on firm financial performance. The stepping stone of a study on the influence of board characteristics on firm performance could be agency theory. Agency

theory looks at the board of directors as an instrument for proper monitoring of the management. The results from our regression finds a positive significant relationship between outside directors and firm financial performance measured by return on capital employed and profit margin though any result related to profit margin need to be interpreted with caution because of its abnormal distribution . This result is in support of agency theory assumptions that independent directors are believed to provide effective monitoring role that can lead to improved firm performance. There are number of empirical studies in support of this argument. For instance, Ezzamel and Watson (1993) reveal a positive significant relationship between non-executive directors and profitability using a sample of UK firms. Similarly, Pearce and Zahra (1992); Rosenstein and Wyatt (1990); Mura (2007) find a positive relationship between independent directors and firm performance, they argue that outside directors might have the strength to adequately monitor the management. Resource dependency theory also argues that outside directors will bring unique resources to the firm which can lead to improved performance.

Similarly, resource dependency theory argues that diversity on the board room can enhance firm performance, a number of empirical studies also evidence in support of this view (Adam and Ferreira, 2009; Carter, Simkins and Simpson, 2003; Carter et al., 2007; Campbell, and Mínguez-vera, 2008;). However, our findings do not reveal any evidence of significance relationship between women directors and firm performance. A number of empirical studies also find no relationship between women directors and firm performance (Kakabadse et al., 2015; Carter et al., 2010; Rose, Munch-Madsen and Funch, 2013).The finding with regards to firm size also reveals no evidence of significant relationship with firm performance. However, agency theory argues that keeping small board might make monitory easy and can reduce agency cost which may help improve performance. Haleblian and Finkelstein (1993) argue that large board might have more problem solving capability that can enhance firm performance.

With regard to interlocking directors, our results show no significance relationship with firm performance. Nevertheless, resource dependency theory assumes that interconnection of directors in a way of coordinating the exchange of resources like capital information and market access among organisations can have a positive impact on firm performance (Pfeffer and Salancik, 2003). Galbreath (2012) argue that based on resource needs of the firm, directors are instruments for accomplishing external reliance and minimise uncertainty. Conversely, agency theory argues that excessive interlocks might divide director's attention to the point that their monitoring ability could be compromised. Webb (2004) argues that higher interlocks can lead a scenario of secret passing of confidential information critical to the firm, helping the spirit of selfishness and conflicts of interests. Drago et al. (2015) finds a negative relationship between directors' interlock and firm performance.

Our finds reveal no evidence of significant relationship between director's age and firm performance as in (Shamsul and Ku Nor Izah, 2013) using sample of Malaysian firm find no relationship between average age of directors and firm performance measured by Tobin's Q. Similarly, we find no relationship between board size and firm performance, which is contrary to the agency theory assumption of negative relationship between board size and performance. We also find evidence of negative significance relationship between turnover and profit margin which implies that firms with large turnover tend to have lower profit margins.

Overall our findings show that at least one of the board characteristics explains firm performance, however some of the board characteristics do not explain firm performance. Though this study use only cross sectional data for 2015 which can be a limitation. Small sample size and measure of performance can also be another limitation for this study. It need more word.

#### 4. Conclusion

This study looks at the impact of board characteristics on firm financial performance and finds some evidence that can contribute to the understanding of the impact of board on firm performance. The study reveals an evidence of positive relationship between non executive directors and firm financial performance. However, we also do not find evidence of significant relationship between the remaining board characteristics variables with firm performance. Though this study use only cross sectional data for 2015 which can be a limitation. Small sample size and measure of performance can also be another limitation for this study.

We recommend further research on the impact of board characteristics on firm performance using data that covers long range of time and to include various performance measurements such as Tobins Q with large sample size. We also recommend further study to look at other aspect such as the processes in the board room but not just looking at board composition (Finkelstein and Mooney, 2003).

#### References

- [1] Adams, R.B. and Ferreira, D. (2009) Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* [online], 94(2), pp. 291-309 Available at: <<http://www.sciencedirect.com/science/article/pii/S0304405X09001421>>.
- [2] Barroso, C., Villegas, M.M. and Pérez-Calero, L. (2011) Board Influence on a Firm's Internationalization. *Corporate Governance: An International Review* [online], 19(4), pp. 351-367 .
- [3] Bordean, O. and Borza, A. (2013) Board of directors and the internationalization process: the case of Romania. *International Journal of Management Science & Technology Information* [online](9), pp. 82-95 .
- [4] Campbell, K. and Mínguez-vera, A. (2008) Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics* [online], 83(3), pp. 435-451 Available at:<<http://dx.doi.org/10.1007/s10551-007-9630-y>>.
- [5] Carroll, G. R., & Harrison, J. R. (1998) Organizational demography and culture: insights from a formal model and simulation, *Administrative Science Quarterly* [online] 43(3), 637-667.
- [6] Carter, D., D'Souza, F. P., Simkins, B. J., & Simpson, W. G. (2007). The diversity of corporate board committees and firm financial performance. Available at SSRN 972763.
- [7] Carter, D.A., Simkins, B.J. and Simpson, W.G. (2003) Corporate Governance, Board Diversity, and Firm Value. *Financial Review* [online], 38(1), pp. 33-53 .
- [8] Chatterjee, S.D. (2011) Board Composition and Performance in Indian Firms: a Comparative Analysis Empirical. *International Journal of Management Science & Technology Information* [online], 1(2), pp. 1-15
- [9] Cochran, P.L., Wartick, S.L. and Wood, R.A. (1984) The Average Age of Boards and Financial Performance, Revisited. *Quarterly Journal of Business & Economics* [online], 23(4), pp. 57
- [10] Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. (1998) Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, 19(3), pp. 269-290.
- [11] Dasilas, A. and Leventis, S. (2013) Corporate Governance, Dividend Status, Ownership Structure, and the Performance of Greek Seasoned Equity Offerings. *International Journal of the Economics of Business* [online], 20(3), pp. 387-419
- [12] Drago, C., Millo, F., Ricciuti, R. and Santella, P. (2015) Corporate governance reforms, interlocking directorship and company performance in Italy. *International Review of Law and Economics* [online], 41pp. 38-49 Available at:<<http://www.sciencedirect.com/science/article/pii/S0144818814000647>>.
- [13] Eugene F. Fama and Michael C. Jensen (1983) Separation of Ownership and Control *Journal of Law and Economics* [online], 26(2), pp. 301-325

- [14] Ezzamel, M. A. and R. Watson (1993) ‘Organizational form, ownership structure, and corporate performance: A contextual empirical analysis of UK companies’, *British Journal of Management*, 4(3), pp. 161–176.
- [15] Finkelstein, S. and Mooney, A. C. (2003) Not the usual suspects: How to use board process to make boards better. *Academy of Management Executive*, 17, pp. 101-113.
- [16] Galbreath, J. (2012) “Are Boards on Board? A Model of Corporate Board Influence on Sustainability Performance”, *Journal of Management & Organization*, Vol 18, No. 4, pp 445-460.
- [17] Halebian, J. and Finkelstein, S. (1993) Top management team size, CEO dominance, and firm performance: The moderating roles of environmental turbulence and discretion. *Academy of Management Journal* [online], 36(4), pp. 844 Available at: <[http://wk6kg9sd8m.search.serialssolutions.com/?ctx\\_ver=Z39.88-2004&ctx\\_enc=info:ofi/enc:UTF-8](http://wk6kg9sd8m.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8)>
- [18] Huse, M., Nielsen, S. and Hagen, I. (2009) Women and Employee-Elected Board Members, and Their Contributions to Board Control Tasks. *Journal of Business Ethics* [online], 89(4), pp. 581-597
- [19] Jensen, M.C. (2010) The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. *Journal of Applied Corporate Finance* [online], 22(1), pp. 43-58 .
- [20] Kakabadse, N.K., Figueira, C., Nicolopoulou, K., Hong Yang, J., Kakabadse, A.P. and Özbilgin, M.F. (2015) Gender Diversity and Board Performance: Women's Experiences and Perspectives. *Human resource management* [online], 54(2), pp. 265-281.
- [21] Mehrotra, S. (2016) The Nature of Corporate Board Structure and Its Impact on the Performance of USA Listed Firms. *IUP Journal of Corporate Governance* [online], 15(1), pp. 30-45
- [22] Mura, R. (2007) Firm Performance: Do Non-Executive Directors Have Minds of their Own? Evidence from UK Panel Data. *Financial Management (Wiley-Blackwell)* [online], 36(3), pp. 81-112
- [23] Oxelheim, L. and Randøy, T. (2005) The Anglo-American financial influence on CEO compensation in non-Anglo-American firms. *Journal of International Business Studies* [online], 36(4), pp. 470 Available at: <[http://wk6kg9sd8m.search.serialssolutions.com/?ctx\\_ver=Z39.88-2004&ctx\\_enc=info:ofi/enc:UTF-8](http://wk6kg9sd8m.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8)>
- [24] Pearce, J. A. and S. A. Zahra (1992). ‘Board compensation from a strategic contingency perspective’, *Journal of Management Studies*, 29, pp. 411–438.
- [25] Phung, D.N. and Le, T.P.V. (2013) Foreign Ownership, Capital Structure and Firm Performance: Empirical Evidence from Vietnamese Listed Firms. *IUP Journal of Corporate Governance* [online], 12(2), pp. 40-58 Available at: <[http://wk6kg9sd8m.search.serialssolutions.com/?ctx\\_ver=Z39.88-2004&ctx\\_enc=info:ofi/enc:UTF-8](http://wk6kg9sd8m.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8)>
- [26] PREMPEH, K.B. and ODARTEI-MILLS, E. (2015) Corporate Governance Structure and Shareholder Wealth Maximization. *Perspectives of Innovations, Economics & Business* [online], 15(1), pp. 1-30
- [27] RIVAS, J.L., HAMORI, M. and MAYO, M. (2009) Board Composition and Firm Internationalization. *Academy of Management Annual Meeting Proceedings* [online] pp. 1-6 .
- [28] Rosenstein, S. & Wyatt, J. (1990). ‘Outside directors, board independence, and shareholder wealth’, *Journal of Financial Economics*, 26, pp. 175–191.
- [29] Sanders, W.M.G. and Carpenter, M.A. (1998) Internationalization and Firm Governance: the Roles of Ceo Compensation, Top Team Composition, and Board Structure. *Academy of Management Journal* [online], 41(2), pp. 158-178
- [30] Shamsul, N.A. and Ku NorIzah, K.I. (2013) Gender, Ethnic and Age Diversity of the Boards of Large Malaysian Firms and Performance. *Jurnal Pengurusan*[online], 38pp. 27-40 .
- [31] VAFEAS, N. and THEODOROU, E. (1998) THE RELATIONSHIP BETWEEN BOARD STRUCTURE AND FIRM PERFORMANCE IN THE UK. *The British Accounting Review* [online], 30(4), pp. 383-407 Available at: <<http://www.sciencedirect.com/science/article/pii/S0890838998900750>>.
- [32] Webb, E. (2004) “An Examination of Socially Responsible Firms’ Board Structure”, *Journal of Management and Governance*, Vol 8, pp 255-277

## Appendixes

### Appendix1

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	82.773	53.277		1.554	.134		
Log Turnover 2015	-1.772	4.226	-.089	-.419	.679	.627	1.595
board size 2015	-2.343	1.357	-.346	-1.727	.098	.700	1.428
Percentage of Directors 2015	.518	.236	.401	2.198	.038	.842	1.187
Percentage of Female D2015	.081	.210	.068	.385	.704	.908	1.101
average age of board 2015	-1.197	.627	-.391	-1.908	.069	.669	1.494
number of interlocking s 2015	.178	.177	.182	1.004	.326	.854	1.171

a. Dependent Variable: return on capital employed 2015

## Appendix 2

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	103.569	43.358		2.389	.026		
Log Turnover 2015	-7.002	3.439	-.378	-2.036	.053	.627	1.595
board size 2015	-1.255	1.104	-.200	-1.137	.267	.700	1.428
Percentage of non- executive Directors 2015	.535	.192	.447	2.792	.010	.842	1.187
Percentage of Female Directors 2015	.261	.171	.236	1.526	.141	.908	1.101
average age of board members 2015	-.537	.510	-.189	-1.052	.304	.669	1.494
number of interlocking directors 2015	.212	.144	.234	1.473	.154	.854	1.171

a. Dependent Variable: profit margin 2015

## Appendix 3

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.377	1.679		-.224	.824		
Log Turnover 2015	.051	.133	.090	.384	.705	.627	1.595
board size 2015	.075	.043	.387	1.749	.094	.700	1.428
Percentage of non- executive Directors 2015	-.012	.007	-.336	-1.666	.109	.842	1.187
Percentage of Female Directors 2015	-.002	.007	-.071	-.366	.718	.908	1.101
average age of board members 2015	.004	.020	.046	.204	.841	.669	1.494
number of interlocking directors 2015	.003	.006	.100	.497	.624	.854	1.171

a. Dependent Variable: degree of internationalisation 2015

## Appendix 4 Companies

Company name	Registered number	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. yr	Overseas Turnover th GBP Last avail. yr	Return on Capital Employed % Last avail. yr	Profit margin % Last avail. yr	Number of current directors	female directors
Thomas Cook Group PLC	06091951	7, 834, 000	21, 813	5, 431, 000	2.22	0.64	12	5
Vedanta Resources PLC	04740415	7, 467, 000	25, 535	7, 395, 000	-25.03	-46.42	9	1
Balfour Beatty PLC	00395826	6, 955, 000	23, 316	3, 297, 000	-8.90	-2.86	8	1
Inchcape PLC	00609782	6, 836, 300	14, 523	4, 173, 900	17.08	3.84	11	3
Smurfit Kappa Group Public Limited Company	IE433527	6, 287, 528	41, 523	6, 204, 296	5.60	4.68	13	2
Amec Foster Wheeler PLC	01675285	5, 455, 000	34, 013	4, 232, 000	-7.63	-4.31	10	3
Firstgroup PLC	SC157176	5, 218, 100	108, 624	3, 023, 400	2.89	2.18	10	1
DS Smith PLC	01377658	4, 066, 000	26, 065	3, 253, 000	7.84	4.94	9	2
Carillion PLC	03782379	3, 950, 700	32, 055	946, 900	7.43	3.93	8	2
John Wood Group P.L.C.	SC036219	3, 387, 252	28, 175	2, 411, 028	4.31	2.77	9	2
Serco Group PLC	02048608	3, 177, 000	96, 462	1, 647, 800	-8.70	-2.18	10	2
Computacenter PLC	03110569	3, 057, 615	12, 993	1, 646, 793	34.38	4.15	9	1
Sports Direct International PLC	06035106	2, 904, 325	18, 280	623, 167	19.89	12.46	7	1
SIG PLC	00998314	2, 566, 400	9, 641	1, 225, 600	6.13	2.00	9	1
Tate & Lyle Public Limited Company	00076535	2, 355, 000	4, 161	2, 324, 000	6.78	5.35	13	5
Debenhams PLC	05448421	2, 322, 700	28, 127	400, 400	7.99	4.89	12	3
Mitie Group PLC	SC019230	2, 231, 900	62, 674	75, 400	13.05	4.34	8	2
Mitchells & Butlers PLC	04551498	2, 101, 000	43, 492	61, 000	3.04	6.00	12	1
Cobham PLC	00030470	2, 072, 000	12, 527	1, 849, 000	-1.58	-1.92	10	3
Weir Group Plc(The)	SC002934	1, 917, 700	14, 838	1, 824, 200	-8.75	-10.42	10	2
SSP Group PLC	05735966	1, 832, 900	30, 212	1, 105, 700	10.01	4.19	8	2

<b>JD Sports Fashion PLC</b>	01888425	1, 821, 652	12, 602	413, 786	29.70	7.23	7	2
<b>Meggitt PLC</b>	00432989	1, 647, 200	10, 851	1, 493, 300	5.20	12.76	3	2
<b>RPC Group PLC</b>	02578443	1, 642, 400	15, 177	1, 268, 800	3.69	4.60	8	2
<b>William Hill PLC</b>	04212563	1, 590, 900	15, 747	246, 200	11.12	11.61	8	2
<b>Keller Group PLC</b>	02442580	1, 562, 400	9, 781	1, 500, 600	8.58	3.60	9	3
<b>BBA Aviation PLC</b>	00053688	1, 442, 661	10, 924	1, 298, 788	3.34	4.47	9	1
<b>Pennon Group PLC</b>	02366640	1, 352, 300	4, 987	56, 200	3.95	15.26	7	3
<b>Vesuvius PLC</b>	08217766	1, 322, 000	11, 426	1, 250, 100	5.60	5.85	8	1
<b>Britvic PLC</b>	05604923	1, 300, 100	3, 117	360, 700	16.84	10.58	10	3

