

External Governance, Corporate Governance, Firm Performance and Economic Growth in the UK and India

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Abstract: This research investigates the connection between corporate governance and firm performance, corporate governance, and economic growth, the moderating effect of external governance on corporate governance and firm performance, and economic growth by using a sample of one hundred companies listed on the National Stock Exchange of India (NSEI), and one hundred companies listed on the London Stock Exchange (LSE) between 2011 and 2020. We construct three governance indices –the Internal Corporate Governance Index (ICGI) based on 100 elements of governance, and the External Governance index (X-GI) based on World Bank Institutional Quality measures. The study uses GMM Dynamic Panel Data to test the hypotheses. Results show that our newly constructed indexes (the ICGI and CCGI) have significant relationships with firm performance (ROE, Tobin's Q) and economic growth (growth in GDP) in both the UK and India. Findings also show that external governance negatively moderates the relationship between corporate governance and firm performance, and the relationship between corporate governance and economic growth for India. The case for the UK is different as external governance positively moderates the relationship between corporate governance and firm performance. However, no significant moderating effect is seen between corporate governance and economic growth.

Keywords: Corporate governance, Institutional quality, Firm performance, Economic growth

1. Introduction

Undoubtedly, a firm's external governance environment is more significant than the internal governance systems that the company observes. This is because the quality of the country's legal system reflects its ongoing commitment to good governance (Gupta et al., 2018). More often than not, a firm's internal governance preferences mirror self-seeking interest rather than a commitment to good governance. Jensen & Murphy (1990) and La Porta et al., 1998 also added that both firm and country-level corporate governance systems enhance corporate performance. Such mechanisms include independent and watchful boards, separation of the control and decision-making roles, alignment of management incentives with owners' goals, and legal protection of providers of funds, and minority shareholders (Essen et al., 2013).

Despite researchers going to a great extent to narrow the knowledge gap between corporate governance and firm performance, there are still gaps that need to be investigated. This is regarding how both internal corporate governance mechanisms affect firm performance, and economic growth, how the external governance (institutional quality) moderates the relationship between corporate governance and firm performance; and corporate governance and economic growth in the United Kingdom (UK) and India). This study contributes to the body of knowledge by directly evaluating the impact of both external and internal governance on firm performance and economic growth.

The remaining sections of this paper are the study context, problem statement, and objectives of the study in section 2, theoretical underpinning in section 3, section 4 is the literature review, section 5 covers the methodology and data, and section 6 presents the findings and discussion, while section 7 gives the conclusion.

2. Study Context, Problem Statement, Objectives, and Significance of the Study

2.1 Study context

The benefits that accrue from having an effective corporate governance system include improvement of the confidence of local investors, lowering the cost of capital, which leads to efficient use of resources by firms, and thus promoting growth at firm and economy levels (Khan et al., 2020; Zhu, 2014). Krafft, Qu, Quatraro, & Ravix, (2013) and Mishra & Mohanty, (2014) add that good corporate governance is important for the functioning of financial markets, and the promotion of economic growth. This is because good governance encompasses improved monitoring, better transparency, minimized agency problems, and public disclosure. This in the long

run results in improved investor trust and a reduction in management preferences to steal rents (Gupta et al., 2018).

Corporate governance in the UK is birthed from several legislations, regulations by different bodies, and other sources (Boyle & Rose, 2019). The key legitimization is outlined in the Companies Act 2006. In addition, the Financial Conduct Authority (FCA) has developed listing rules, and the disclosure guidance and transparency rules are referred to as DTRs. Other regulations include The UK government lens on corporate governance, the UK Corporate Governance Code, in addition to the UK Stewardship Code that applies to institutional investors. The last two are issued by the Financial Reporting Council (Boyle & Rose, 2019).

The evolution of the corporate governance framework in India mirrors the American and Anglo-Saxon systems and is mostly supported by the agency theory (the relationship between owners/shareholders and managers), while the board of directors supposedly mediates the two groups (Kaur, Kaur & Singh, 2018). Kaur et al. (2018) posited that India's firms have a dominant shareholder who is not always considerate to the minority shareholders, and most of the firms are controlled by families. India's corporate governance scene is driven by the Securities and Exchange Board of India (SEBI) and the Ministry of Corporate Affairs (Shroff & Katragadda, 2019).

We contribute to the body of knowledge by jointly evaluating the impact of external governance and internal corporate governance systems on firm performance and economic growth. Whereas prior studies have looked at firm-level governance as an explanatory variable for firm performance, they do not condition their analysis based on the quality of external governance. Our sample is based on country-level governance. This enables us to directly test the comparative importance of this important variable in explaining the governance, firm performance, and economic growth in the two economies.

We believe that the outcome of our study will inform the discussion about corporate governance, external governance, firm performance, and economic growth. It will also shade more light on the debate of how external governance moderates firm-level in the relationship between firm performance and corporate governance, and economic growth. Therefore, the empirical findings of this study are important to policymakers, investors, firm managers, and governments, especially in economies with low-quality country-level governance. Our findings show that both systems of governance must work together to bring about positive firm performance and economic growth. This calls for policymakers to provide an external environment (legal systems and related frameworks) that is conducive to improved firm performance, and economic growth. On the other hand, managers and business owners should put in place good corporate governance bearing in mind that such mechanisms have an impact on both firm and economic performance.

2.2 Problem statement

Previous literature (e.g., Aduda et al., 2013a; Ammann et al., 2011; Azeez, 2015; Bhagat & Bolton, 2008, 2019; Jackling & Johl, 2009; Kapil & Mishra, 2019; Li & Singal, 2017) experienced problems when examining the association between corporate governance and firm performance. These problems include, how to isolate the effect of each governance mechanism. Two, how to isolate the effect of all endogenous factors. Three, how to isolate the effect of exogenous factors. Four, how to isolate the combinations of both endogenous and exogenous factors, and lastly how to establish the overall causal effect of corporate governance systems on firm performance (Bhagat & Bolton, 2008). It is this dilemma that led Misangyi & Acharya (2014) to advocate for change in the approach to governance studies. The current study addresses the points outlined by Misangyi & Acharya (2014) by developing a governance index that incorporates internal and external corporate governance measures.

To address the above problem, this paper has developed three governance indexes. These are i) the internal corporate governance index (ICGI), ii) the external governance index (X-GI), and iii) the contextualized composite governance index (CCGI) which is the product of the ICGI and X-GI for the sample of companies listed in the National Stock Exchange of India (NSEI), and the London Stock Exchange (LSE). The governance indexes are used to measure the effect of corporate governance on firm performance, and economic growth.

2.3 Objectives

Based on the above problem statement, this study had three objectives. First, it set out to develop an internal corporate governance index for sampled companies in India and the UK. Secondly, it examined the impact of

the corporate governance measures on firm performance as measured by ROE and Tobin's Q in India and the UK, and lastly, it analyzed the impact of the corporate governance measures on economic growth in India and the UK.

3. Theoretical underpinning of this study

Several theories are used to link corporate governance systems to firm performance. However, this study considers the agency theory (AT). Jensen & Meckling, (1976) defined AT as a relationship that exists between two or more parties, where one party (known as the principal) engages another party (called the agent) to act on his behalf. If the two parties in the relationship seek to maximize utility, it is expected that the agent's actions will not be in the best interest of the principle but rather his own. Such actions lead to a divergence of interest between owners (principals) and non-owner managers (agents) which may lead to the inclination that the agent may siphon perquisites from the firm and in addition, may not be keen on pursuing profitable investments (Linder & Foss, 2015; Shogren et al., 2017). To mitigate principal-agency conflicts, the principal must incur agency costs such as monitoring costs, budgeting, and budgetary control costs, bonding costs, and setup of compensation structures costs, and should be ready to bear residual losses arising from divergent interests of the agent (Kyereboah-Coleman 2007). (Linder & Foss, 2015; Shogren et al., 2017)

4. Empirical evidence

Several studies have looked at the relationship between firm financial performance and corporate governance nexus from different angles. Studies that have used governance indexes to measure the impact of corporate governance on firm performance in India in the recent past include Ahuja, (2015); Arora & Bodhanwala, (2018); Balasubramanian et al., (2010); Ben, (2014); Kaur & Vij, (2018); Mishra & Mohanty, (2014); Varshney et al., (2012) and Raithatha & Halidar, (2021) among others. Recently, Abdoush et al., (2016) developed a governance index for manufacturing firms in the UK. The index was used to measure the effect of corporate governance on the firm performance of Insurance companies. Other studies that have used corporate governance indexes to measure the impact of corporate governance on firm performance in developed countries include Bebchuk & Weisbach, (2010); Brown & Caylor, (2006); Core et al., (1999); Dahya & McConnell, (2007), and Gompers et al., (2003). Likewise, Bhatt & Bhatt, (2017); Azeem & Kouser, (2013) & Javaid & Saboor, 2015; Da Silva & Leal, 2005; and Ntim (2009) among other used corporate governance indexes to measure the relationship between firm performance and corporate governance in Malaysia, Pakistan, Brazil, and South Africa which are developing economies. All these studies have arrived at one conclusion; good corporate governance enhances firm performance.

Various scholars have posited that there is value in good corporate governance. For instance, (Xiaoyue & Xiaodong, 2001) found that shares of companies that lacked governance systems that protected outside investors had lower returns. Firms with effective mechanisms of corporate governance are appealing to investors, and their cost of capital is low (Chen et al., 2009; Gillan & Starks, 2003; La Porta et al., 2002; Morck et al., 1988). In a study covering 25 emergent markets, (Klapper & Love, 2004) established that improvement in corporate governance leads to positive market valuation. Additionally, (Klapper & Love, 2004) noted that the association was stronger in economies with weaker legal infrastructure. Good governance in organizations influences economies and several aspects of society (Yusoff & Alhaji, 2012). As the world becomes a global village and more de-territorialized, governmental control has become less, which has resulted in the need for increased accountability (Crane & Matten, 2008).

Despite the rigorous effort and resources invested in constructing commercial indices, studies that have used them report inconclusive findings on the quality of corporate governance and firm performance. For instance, Brown and Caylor (2006) constructed a governance score measuring 51 firm-specific items of both external and internal governance, the study findings showed that the governance score had a positive relationship with firm value. On the contrary, Epps and Cereola (2008) found that the index CGQ had no significant relationship between ROA and ROE, hence concluding that the ISS governance rating has no relationship with operating performance (Epps & Cereola, 2008). Based on the above discourse, the first hypothesis of this study is stated below.

H₁: The internal corporate governance index (ICGI) has a significant positive relationship with ROE and Tobin's Q in India and the UK.

Approaching corporate governance through the institutional theoretical lens acknowledges the fact that governance mechanisms emerge from the bigger institutional and legal structures (Aguilera & Jackson, 2010). To acknowledge the role played by the institutional environment in which firms operate, the study introduces the institutional quality measures by constructing a country-level governance index (XGI). The XGI is developed using the World Bank to country-level governance indicators (Kraay et al., 2010; Masron & Nor, 2013). This index is used to moderate the internal corporate governance index (ICGI). The product of the ICGI and XGI resulted in a new index called the composite corporate governance index (CCGI). The XGI is constructed from the annual average percentiles of six measures (*Voice and accountability, Political stability and absence of violence, Government Effectiveness, Regulatory Quality, Rule of law, and Control of corruption*) of institutional quality. As a result, the second hypothesis of this study is:

H₂: The composite corporate governance index has a significant positive relationship with ROE and Tobin's Q in India and the UK.

Good corporate governance systems must provide accurate and timely information disclosure to shareholders so that they can exercise control over their investments, and allocate their funds optimally i.e. investing in projects that yield the highest returns possible. It also allows government authorities to monitor markets and identify weaknesses and ways of resolving such weaknesses. Having corporate governance systems and corporate structures that are accountable and effective in restoring investor confidence is essential in promoting economic growth. This leads us to the third hypothesis of this study which is:

H₃: There is a positive relationship between corporate governance and economic growth.

5. Method and Data

To test the relationship between corporate governance, firm performance, and economic growth, the generalized method of moments/dynamic panel data. The panel data method of analysis was adopted because of its ability to combine time-series and cross-section data. This combination yields more information, more variability, more degrees of freedom, and minimal collinearity among instruments (Gujarati, 2004). An important consideration for the legitimacy of the Generalized Method of Moments /Dynamic Panel Data (GMM/DPD) is that instruments are exogenous. If the model is identified accurately, the finding of invalid instruments is not possible, but if the model is over-identified, statistics to assess the combined suitability of temporary conditions (identification limits) come naturally from the GMM/DPD framework (Roodman, 2009). The statistic that is used to assess the combined suitability of temporary conditions (identification limits) is the Hansen J- Statistic.

Equation 1 tests the impact of governance (ICGI and CCGI) on firm performance while controlling for firm age, firm size, growth in GDP, Inflation, and population growth. We add firm-level control variables due to their ability to affect firm performance (Adeyemi & Fagbemi, 2010; Lee & Lee, 2012; Niresh & Velnampy, 2014). Equation 2 tests the impact of governance (ICGI and CCGI) on economic growth. Below are the two equations:

$$\text{Firm_Perf}_i = \alpha_0 + \alpha_1(\text{ICGI}_i) + \alpha_2(\text{CCGI}) + \alpha_3(\text{Control}_i) + e_i \quad \dots\dots\dots 1$$

$$\text{Growth in GDP}_j = \alpha_0 + \alpha_1(\text{ICGI}_i) + \alpha_2(\text{CCGI}_i) + \alpha_3(\text{Control}_j) + e_j \dots\dots\dots 2$$

Where

where: Firm_Perf_i is ROE and Tobin's Q for the *i*th firm while α_i for all *i* = 1, ...,4 are the unknown coefficients. While *i* and *j* denote the firm and country prefixes in equation (2).

ICGI_i denotes the internal corporate governance index for firm *i*, while CCGI is the product of ICGI and X-GI. Growth in GDP is the proxy for economic growth

6. Findings and Discussion

6.1 Descriptive statistics

Table 1 (see appendix 2) presents in comparative form the descriptive statistics of the study. Results show that companies in India had an average compliance rate of 72% with a standard deviation of 0.06 as far as the internal corporate governance index is concerned. Results show that the composite corporate governance index was 42% on average while the country-level governance index (X_GI) averaged 32% is concerned. However, the UK companies had an average compliance rate of 89% with a standard deviation of 0.03 as far as the internal corporate governance index is concerned. The average compliance rate of the composite corporate governance

index was 78%, while the country-level governance index (X_GI) averaged 88%. In this case, the UK firms performed better in both internal and external governance. Firm performance measured by TQ and ROE averaged 2.04 and 0.20 for India, and 1.14 and 0.27 for the UK respectively. In this case, firms in India had higher firm value than their counterparts in the UK, while the UK firms were more profitable. Further, firms in India had an average listing age of 24.58 years, firm size of USD 3,632.54 million, GDP growth rate of 0.06, an inflation rate of 0.06, FDI amounting to 38.89 billion, and an average population growth rate of 0.01. Likewise, results show that the UK firms had an average firm age of 28.32 years, firm size of USD 347.12 million, average GDP growth rate of 0.25, an average inflation rate of 0.02, average foreign direct investment (FDI) of USD 2.04 Trillion, and an average population growth rate of 0.01. These results show that the UK's performance was higher than that of India in firm age, GDP growth rate, and FDI.

Panels A and B in Table 2 (*See Appendix 3*) show correlations between the measures of firm performance (ROE, Tobin's Q), and the measure of economic growth (growth in GDP). For instance, a significant correlation exists between the ICGI and ROE at 10%, Tobin's Q at 5%, and growth in GDP at 1% levels of significance for firms in India. Similarly, the CCGI is significantly correlated with growth in GDP at 5%. For the UK firms, both the ICGI and the CCGI are significantly correlated with growth in GDP at 1% and 10% respectively. However, even though there seems to be a high correlation, the variance inflation factor score was within the acceptable range of 2.35 (Myers, 1990). Consequently, due to the presence of correlations between the governance measures and the dependent variables, there is a need to introduce control variables in the model to evaluate the predictive potential of governance measures (Black et al., 2017).

6.2 Empirical statistics:

6.2.1 Corporate governance, firm performance, and Economic growth

GMM/DPD results in Panel 1 of Table 3 below show that the ICGI is positively significant in influencing ROE (coefficient = 0.92) and Tobin's Q (coefficient = 1.17) which are the proxies for firm performance in India. The positive coefficients indicate that ROE increased by 0.92%, while Tobin's Q increased by 1.17 when the internal corporate governance index increased by 1% under ceteris paribus. Similarly, results show that the ICGI is positively significant in influencing both ROE (coefficient = 0.34) and Tobin's Q (coefficient = 0.42) in the UK. These findings corroborate those of several studies (Arora & Bodhanwala, 2018; Kaur & Vij, 2018; Varshney et al., 2012; Abdoush et al., 2016; Acharya et al., 2011; Gompers et al., 2003) whose governance index exhibited a positive relationship with the ROE and Al-Malkawi et al., (2014) and Haat et al., (2008) whose governance index exhibited a positive relationship with Tobin's Q. These results support the agency theory proposition that good corporate governance improves firm performance. Based on these findings, we fail to reject the first hypothesis which stated that the internal corporate governance index (ICGI) has a significant positive relationship with ROE and Tobin's Q in India and the UK.

Table 3: The relationship between corporate governance, firm performance, and economic growth in India and the United Kingdom

Variables	ROE		Tobin's Q		Growth in GDP	
	India	UK	India	UK	India	UK
	Observations = 800	Observations = 800	Observations = 800	Observations = 800	Observations = 800	Observations = 800
ICGI	0.92 ^b (0.04)	0.34 ^c (0.08)	1.17 ^b (0.03)	0.42 ^b (0.02)	0.15 ^a (0.00)	0.22 ^a (0.00)
CCGI	-0.93 ^b (0.01)	0.94 ^b (0.01)	-1.03 ^c (0.06)	0.82 ^b (0.01)	-0.19 ^c (0.08)	0.13 (0.69)
Firm age	-1.17 (0.12)	-0.08 (0.49)	-1.17 ^a (0.00)	0.29 (0.21)	0.08 ^a (0.00)	0.32 ^b (0.02)
Firm size (Log of Total Assets)	0.05 (0.86)	0.26 ^b (0.02)	-0.80 ^a (0.03)	0.33 ^b (0.02)	0.19 (0.63)	(0.65) 0.49
Inflation	-0.76	-0.01	-0.61	(0.01)	0.38 ^a	(0.02)

	(0.15)	(0.62)	(0.69)	0.72	(0.00)	0.97
<i>FDI</i>	0.13	-0.37	0.20	0.23	0.14 ^b	0.03 ^c
	(0.16)	(0.22)	(0.19)	(0.50)	(0.02)	(0.09)
<i>Population growth rate</i>	2.34 ^b	0.26	0.31	(0.69)	0.08 ^b	0.08
	(0.04)	(0.87)	(0.26)	0.28	(0.01)	(0.29)
<i>J Statistic</i>	0.21	0.20	0.16	0.15	0.22	0.16

Note: a=1%, b = 5%, c = 10% denote level of significance

On the contrary, the Composite Corporate Governance Index (CCGI) is significantly negative in influencing both ROE (coefficient = -0.93) and Tobin's Q (coefficient = -1.03) in India, but positively significant in influencing ROE (coefficient = 0.94) and Tobin's Q (0.82) in the UK. This finding suggests that the benefits accruing from strong internal corporate governance measures in an emerging economy such as India are wiped out by weak country-level governance. However, where external governance is strong as it is in the UK, the impact of governance is even greater as shown by the high coefficients attached to the CCGI. These findings point out the complementary role played by external governance in the relationship between corporate governance and firm performance. The results lead to the rejection of the second hypothesis in the case of India, while we fail to reject the same for the UK.

Lastly, results relating to the relationship between governance and economic growth show a positive relationship between the ICGI and growth in GDP in both India (coefficient = 0.15) and the UK (coefficient = 0.22). This positive impact could be due to the trickle-down effect of improved firm performance resulting from good corporate governance. This result confirms the third hypothesis that good corporate governance affects economic growth. However, the CCGI affected growth in GDP negatively in India (coefficient = -0.19). No significant relationship is seen in the results for the UK. This underscores the need for good governance at both firm and country-level or else, the gains of strong firm governance cannot trickle down into the economy.

The J-statistics in all panels show that the models are well specified as in all models the J statistics is between 0.10 and 0.25 (Roodman, 2009). The Hansen (1982) J statistic is automatically reported in GMM results and it shows the joint validity of all the instruments used in the model (Hansen, 1982).

6.2.2 Robustness checks

GMM/DPD contains a built-in check for first and second autocorrelation first-order difference, which further tests the suitability of the instruments. This is done through GMM/DPD's "system" rating (Roodman, 2009). Diagnosis of selected models should indicate that the first order of integration exists, but the second order does not exist. The GMM/DPD estimator is based on the assumption that a standard deviation exists unrelated to a set of flexible instruments. Therefore, the system GMM/DPD estimator selects parameter values so that the correlation between the instruments and the disturbances is close to zero as far as possible, as defined in the function of the condition. By selecting a weighted matrix in the panel options window, GMM/DPD can be robust in eliminating any unknown heteroscedasticity and/or autocorrelation. We also rely on the J- Statistics to reject the null hypothesis that the instruments specified in the models are not sufficient in explaining governance, firm performance, and economic growth nexus (Arellano & Bond, 1991; Roodman, 2009).

7. Conclusion

We conclude this study by pointing out some of its limitations. Although many studies have used corporate governance indexes to evaluate the relationship between corporate governance and firm performance, their prominence is undermined by the fact that they are regarded as backward-looking, hence, incapable of predicting future firm performance as compared to single governance measures (Daines, Gow and Larcker, 2010). Also constructed indexes such as the ones used in this study may have measurement errors, which may be a major limitation of this study (Bhagat & Bolton, 2008, Bozec & Bozec, 2012). These are some of the limitations of this study.

Further, this study has shown that good corporate governance affects firm performance and economic growth. However, weak country-level governance erodes the benefits accruing from good firm-level governance in a country such as India where country-level governance is substandard. On the contrary, when country-level governance is strong as is the case of the UK, the combined effect on firm performance is even higher. Lastly, we extended the corporate governance and performance nexus to the macro level. Our results show that firm-level governance has a trickle-down effect on growth in GDP in both countries. However, the benefits of good

corporate governance on the economy in form of GDP growth are eroded in an environment with poor country-level governance. Our findings do provide strong apparent indication that the issue of external governance and how it impacts firm and economic performance requires closer investigation, particularly in the context of strategic decisions about required level and direction of action.

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Appendix 1: Definition of terms

ICGI represents the Internal Corporate Governance Index

XGI represents the External Governance Index

CCGI represents the Composite Corporate Governance Index (a governance score that is a product of ICGI of the ICGI and XGI)

TQ represents Tobin's Q

ROE is the return on equity and measures firm performance,

Total assets which is the proxy for firm size, and firm age represents the number of years of listing on the stock exchange.

FDI stands for Foreign Direct Investment (FDI).

G-GDP stands for growth in GDP

Appendix 2: TABLES

Table 1: Descriptive statistics Panel A: India n=100; The UK = 100

Variable	Mean		Median		Maximum		Minimum		Standard Deviation	
	India	UK	India	UK	India	UK	India	UK	India	UK
ICGI	72%	89%	73%	88%	87%	97%	42%	81%	0.06	0.03
XGI	44%	88%	46%	88%	48%	89%	41%	85%	0.03	0.01
CCGI	32%	78%	32%	78%	42%	84%	17%	69%	0.04	0.03
TQ	2.04	1.14	0.54	0.75	21.23	11.86	-1.01	0	3.12	1.44
ROE	0.20	0.27	0.18	0.18	1.9	290.01	0.39	-66.15	0.2	0.33
Firm age	24.58	28.32	19	19	119	218	1	1	19.47	27.22
Total Assets in Millions	3,632	347	1,339	1426	12,278	10,839	3.27	0.31	109	1,213
Growth in GDP	0.06	0.25	0.06	0.28	0.08	0.42	0.04	0.01	0.01	0.10
Inflation	0.06	0.02	0.05	0.03	0.10	0.05	0.03	-	0.03	0.01
FDI USD Billions	38.89	2.04	42.12	2.21	50.61	2.75	23.99	1.10	1.23	1.31
Population growth rate	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.00

Appendix 2: Table 2 Correlation matrix

Variables	AGE	CCGI	FDI	G_GDP	G_POP	ICGI	INFLATION	ROE	TA	TQ	XGI
PANEL A: Correlation matrix for all the variables for INDIA											
AGE	1										

CCGI	0.25a	1									
	(0.00)	-----									
FDI	0.15a	0.49a	1								
	(0.00)	(0.00)	-----								
G_GDP	0.03	0.09b	0.09b	1							
	(0.31)	(0.01)	0.01	-----							
G_POP	-0.14a	-0.28a	-0.29a	-0.29a	1						
	(0.00)	(0.00)	(0.00)	(0.00)	-----						
ICGI	0.20a	0.80a	0.21a	0.12a	-0.17a	1					
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	-----					
INFLATION	-0.22a	-0.71a	-0.51a	-0.38a	0.45a	-0.34a	1				
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	-----				
ROE	-0.06	-0.04	-0.03	-0.02	0.09B	0.06c	0.07b	1			
	(0.11)	(0.25)	(0.44)	(0.53)	(0.01)	(0.08)	(0.03)	-----			

TA	-0.14a	0.00	0.01	-0.02	0.00	0.04	-0.02	0.07c	1		
	(0.00)	(0.98)	(0.84)	(0.58)	(0.91)	(0.26)	(0.55)	(0.05)	-----		
TQ	0.05	0.10a	0.02	0.01	0.00	0.09b	-0.02	-0.05	-0.14a	1	
	(0.17)	(0.00)	(0.46)	(0.87)	(0.90)	(0.01)	(0.64)	(0.17)	(0.00)	-----	
XGI	0.21a	0.75a	0.63a	0.03	-0.28a	0.3a	-0.87a	0.06c	0.03	0.02	1
	(0.00)	(0.00)	(0.00)	(0.42)	(0.00)	(0.00)	(0.00)	(0.08)	(0.34)	(0.58)	-----

PANEL B: Correlation matrix for all the variables for the UK

Variables	AGE	CCGI	FDI	G_POP	G_GDP	ICGI	INFLATION	ROE	TA	TQ	XGI
AGE	1.00										

CCGI	0.05	1.00									
	(0.13)	-----									
FDI	-0.09 ^b	-0.26 ^a	1.00								
	(0.01)	(0.00)	-----								
G_POP	-0.11 ^a	-0.30 ^a	0.75 ^a	1.00							
	(0.00)	(0.00)	(0.00)	-----							
G_GDP	-0.03	0.06 ^c	0.46 ^a	0.58 ^a	1.00						
	0.45	0.09	(0.00)	(0.00)	-----						
ICGI	0.10 ^a	0.76 ^a	-0.55 ^a	-0.53 ^a	0.30 ^a	1.00					
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	-----					
INFLATION	-0.10 ^a	-0.35 ^a	-0.21 ^a	-0.19 ^a	-0.55 ^a	-0.26 ^a	1.00				
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	-----				
ROE	0.03	-0.04	0.03	0.06 ^c	0.03	-0.04	0.02	1.00			
	(0.40)	(0.30)	(0.31)	(0.07)	(0.43)	(0.19)	(0.58)	-----			
TA	0.06 ^c	0.09 ^b	-0.05	-0.05	-0.03	0.12 ^a	-0.03	-0.19 ^a	1.00		
	(0.06)	(0.01)	(0.18)	(0.13)	(0.42)	(0.00)	(0.43)	(0.00)	-----		
TQ	-0.13 ^a	0.03	-0.01	0.00	0.04	0.01	-0.04	0.38 ^a	-0.39 ^a	1.00	
	(0.00)	(0.46)	(0.77)	(0.92)	(0.30)	(0.67)	(0.20)	(0.00)	(0.00)	-----	
XGI	-0.05	-0.08 ^b	0.76 ^a	0.54 ^a	0.70 ^a	-0.43 ^a	-0.49 ^a	0.01	-0.03	0.00	1.00
	(0.13)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	0.72	0.45	0.93	-----

Note: a=1%, b = 5%, c = 10% denote level of significance