THE RELATIONSHIP BETWEEN NATIONAL CULTURE AND STOCK MARKET DEVELOPMENT IN THE UNITED KINGDOM

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ABSTRACT

This paper investigates the relationship between culture values and stock market development in the United Kingdom. Monthly secondary data was gathered to represent both cultural values (Hofstede, 1980), and stock market development (Demirguc-kunt and Levine, 1995) for the time period 1990-2004. Empirical results revealed a relationship between stock market development and cultural values. More specifically, the multi-dimensional Structural Equation Model (SEM) showed that there is a significant negative relationship between Power Distance and stock market size. In addition, a significant positive relationship is detected between Individuality and stock market activity. This paper highlights the influence of cultural values on the stock market development on a continuous scale; which encourages policy makers, regulators, and international investors to have a more comprehensive approach in dealing with reform programs in the United Kingdom as well as in other countries worldwide.

Keywords: Stock market development, Cultural values, Structural Equation Model

1. INTRODUCTION

The development of stock markets is attracting the attention of some studies due to their potential impact on economic growth, and prosperity (Levine, 1991; Shleifer and Vishny 1988). However, there is a current debate among scholars on the factors affecting stock market development across countries. Some studies argue that the legal system provides an explanation on the basis that the stock market is influenced by, among other factors, the degree of shareholders' protection (La Porta et al., 1997; Demirguc-kunt and Maksimoveic, 2002; John and Kedia, 2002; Pagano and Volpin, 2005). This approach suffers from some pitfalls such as the alleged superiority of the common law over civil law system (Lomareaux and Rosental, 2004; Coffee, 2001), the importance of the degree of law enforcement over the law in the books (Shleifer, 2002), and failure of legal reforms to achieve stock market development in some countries (Hill, 2004; Gorga, 2003). Another stream of studies claimed that politicians and changes in political coalitions can influence changes in the financial development process (Roe, 2000; Pagano and Volpin, 2000; Rajan and Zingales, 2000). However, there is still a debate among scholars on whether these political changes are based on economic principles or ideology (Pagano and Volpin 2005). In this context, the Institutional theory (North, 1990) argued that core cultural values and basic assumptions influence the scope of institutional change through their impact on social norms and outcome behavior in a society. Some studies managed to provide empirical evidence for the influence of national culture on stock market development across countries (See Landes, 1998; Greif, 2006; Kwok and Tadesse, 2006, De-Jong and Semenov, 2002).

To this end, these studies did not provide any clues on the impact of changes in national culture on stock market development on a continuous scale, which may represent an important perquisite for any successful financial reform programs. Consequently, this study is the first to introduce the impact of culture on stock market development over time. By addressing this relationship in a well-established stock market of the UK, this study provides policymakers and regulators with more understanding of the stock market mechanism, and highlights the need to maintain or reshape national culture to ensure effective implementation of any reform programs. In addition, this study draws the attention of international investors for the need to incorporate national culture factors in evaluating investments for better risk management decisions.

The main purpose of this study is to investigate the impact of cultural values on the stock market development of the United Kingdom during the time period 1990-2004. Empirical results using the multi-dimensional Structural Equation Model (SEM) showed that there are significant relationships between cultural values and stock market development during the time period of the study. More specifically, there is a negative relationship between the cultural value of Power Distance and stock market size; whereas a significant positive relationship was detected between the cultural value of Individuality and stock market activity. The rest of this paper is as follows: section two presents the historical background, followed by the methodology and data sources, next the study hypotheses are introduced, and then another section describes the empirical results and discussion. Finally, conclusion and recommendations for further research are presented.

2. HISTORICAL BACKGROUND

There is a current debate among scholars on the main factors affecting stock market development across countries. Some empirical studies focused on the impact of different legal systems on the stock market development. Proponents of this approach argued that there are relationships between several measures of stock market development, such as breadth of the equity market, measures of companies' access to external finance, equity issuance, initial public offerings, and market capitalization; and shareholders' protection indices (La Porta et al., 1997; Demirguc-kunt and Maksimoveic, 2002; John and Kedia, 2002; Pagano and Voplin, 2005). Common law counties, La Porta et al. (1998) added, provide more protection for shareholders in contrast to civil law countries. That is, common law countries usually have better legislative protection for investors and more developed stock markets than civil law countries. Civil law emphasizes duties, authorities and orders, more paternalistic, and tries to protect citizens against themselves (Chloros, 1978); while common law emphasizes rights, emancipations, and responsibilities. Furthermore, it was found that firms with better shareholders' protection are associated with positive relationship with Tobin's Q ratios (La Porta et al., 2002).

However, some studies have initially questioned the alleged superiority of the common law over civil law countries. Lomareaux and Rosental (2004) argued that the French commercial civil law "Code de Commerce", and legal practice offer more sophisticated and flexible solutions to organize businesses more than the Anglo American law (See also Coffee, 2001). It is further argued that the degree of law enforcement is what matters rather than the type of law in the development of financial markets (Shleifer, 2002). Moreover, one can argue that the legal approach has not been always successful in explaining differences in stock market development across countries. Some counties implemented legal reforms to improve the stock market, but did not achieve successful outcomes, such as the Russian economic reforms (Hill, 2004), and the Brazilian corporate law reforms (Gorga, 2003). It seems that in both cases the main reason of failure resides behind the historical and cultural norms in these societies that restricted effective implementation of the economic reform programs. Another stream of studies focused on the impact of the political environment. Roe (2000) theorized that politicians pass legal rules that prevent concentration of ownership, in order to reduce the power of banks and pension funds in the US. Changes in a political coalition, Rajan and Zingales (2000) added, can influence changes in the financial development. They claimed that if some political groups gain unjustified power, due to increased competition and lack of insurance by social and economic bodies, the political system may have unfavorable impact on the financial markets (De-Jong and Semenov, 2002). However, there is still a debate on whether these political decisions are based on economic principles or ideology (Pagano and Volpin 2005).

In this context, the influence of culture on economic development showed up even in the early writings of some economists such as Max Weber (1905) who theorized that cultural aspects (using religion as a proxy) are an important factor to the development of markets. Later on, the proponents of the Institutional theory (North, 1990) supported this view by arguing that core cultural values and basic assumptions influence the scope of institutional change through their impact on social norms and outcome behavior in a society (See also Landes, 1998; and Greif, 2006). Culture can be defined as "the collective programming of the mind which distinguishes members of one human group from another" (Hofstede, 2001). This implies that certain collective behaviour is expected to happen more in one country, which can have an impact on the preferences of the society. These preferences may in turn influence people,

organizations and the whole economy (Hofstede, 2001). Some empirical studies explored the impact of cultural values on the stock market development. Kwok and Tadesse (2006) found that countries with high uncertainty avoidance are more likely to have a bank based financial system rather than a stock market system. De-Jong and Semenov (2002) found that stock market capitalization to Gross Domestic Production (*GDP*) was relatively high in low Uncertainty Avoidance and high Masculinity societies. De-Jong and Semenov (2006) added that cultural values do influence the degree of ownership concentration; as well as some intermediating variables, such as the level of protection of minority shareholders, the role of the state in pension provision, and the propensity to invest in shares (De-Jong and Semenov, 2002). However, there is a lack of studies which explore the impact of culture change on the stock market development on a continuous scale, perhaps due to the difficulty of measuring culture in this respect. This study introduces the impact of culture on stock market over time, which can provide more understanding of stock market mechanism for the benefit of several stakeholders.

3. METHODOLOGY AND DATA SOURCES

3.1 IDENTIFICATION OF STUDY VARIABLES
Some studies presented several models to capture the essence of national culture across countries, such as Hofstede (1980), Hall and Hall (1990), Trompennars and Turner (1997), and more recently Schwartz (1999). It is stated by Licht (2001) that: "[A] close positive association between basic dimensions [is] identified in different ways by different authors". This study depends on the cultural value model by Hofstede (1980) because it provides a useful framework of cultural values, which relatively reduces the complexity of the culture concept into four easily understood dimensions (Dahl, 2004). In addition, the model is easy to apply using measurable variables for empirical testing and hypotheses (Dahl, 2004). Furthermore, Hofstede (2001) provided some explanations of the consequences of each cultural value dimension in relation to family life, organization, and government, which helped in the identification process of measurable observable variables for each of them (Sudarwan and Fogarty, 1996). Moreover, the validity of this model was tested successfully by several studies such as the Chinese Cultural Connection Study (1987), Hoppe (1990), and Søndergaard (1994). The cultural values model value model by Hofstede (1980) consists of four dimensions: Power Distance (*PDI*), Uncertainty Avoidance (*UAV*), Individuality (*IND*), and Masculinity (*MAS*). These dimensions are not directly observable, thus a matching process was implemented to provide indirect measures of cultural values existing in the United Kingdom based on the methodology of Sudarwan and Fogarty (1996), and Noravesh et al. (2007) (Tables 1 and 2).

Some observable proxy variables were located based on the prevailing origins of societal norms for each cultural value dimension. The outcomes of this process were analyzed using social norms as an approximation to predict the relationships within each cultural value construct (Sudarwan and Fogarty, 1996). This matching process followed three steps: The societal origins of each cultural value were identified; then, these societal origins were matched with some observable variables; and the resulting relationships between these variables were justified based on previous theoretical and empirical studies (Sudarwan and Fogarty, 1996). In addition, the notion of "wealth creation" (Hofstede, 2001) was utilized to provide explanations for these underlying societal norms/values to each cultural value dimension. The origins of each cultural value norm together with their proxy variables used are explained as follows: First, the cultural value of Power Distance refers to the extent a society can accept an unequal distribution of power among its members; co-operation among people is difficult to maintain, as everyone perceives the other as a potential threat (Hofstede, 2001). An automatic or paternalistic relationship is expected to prevail between superiors and subordinates, whereby the latter is usually dependent on the former, and they seldom contradicts each other (Hofstede, 2001). Based on previous empirical research, four observable variables were used to proxy for the Power Distance dimension (See Table 1).

Table 1: The basis for observation of Power Distance, and Uncertainty Avoidance		
Proxy variables	Origins of Power Distance norm	
Power Distance	High	Low
Number of telephone lines (X_1), and Ratio of number of telephone lines to total population (X_2).	Less dependence on modern technology	More dependence on modern technology
Total number of students' enrolment (X_3), and Ratio of total number of students' enrolment to total population (X_4).	Less emphasis on Learning	More emphasis on Learning
Uncertainty Avoidance		
Real Fluctuations of foreign currency rate (X_5), Real change rate of Gross Domestic Production (X_6), and Real change rate of Gross National Income (X_7).	Less acceptance of changes in disposal income	More acceptance of changes in disposal income

Hofstede (2001) argued that national wealth is an important determinate of Power Distance across countries. That is, people in wealthy countries may have less dependence on power to secure a higher position and they have fewer tendencies towards creating powerful groups; and thus wealth can be considered as a substitute for power satisfaction (Hofstede, 2001). The number of telephone lines (X_1) and the ratio of telephone lines to total population (X_2) proxy variables, as argued by Sudarwan and Fogarty (1996), reflect the capability of a country in the field of information and communication technology to generate more national income, and hence reduce Power Distance. Similarly, the total number of students' enrolment (X_3) and the ratio of total number of students' enrolment to total population (X_4) proxy variables, as argued by Sudarwan and Fogarty (1996), reflect low levels of illiteracy rates which allow members of a country to use modern technology and to communicate effectively with each others; that may help create more income, and reduce Power Distance over time.

Second, the cultural value of Uncertainty Avoidance refers to the extent that people can tolerate the anxiety emerging from unknown or ambiguous situations in daily life (Hofstede, 2001). People in high Uncertainty Avoidance society usually feel that uncertainty inherent in life is a continuous threat that must be fought; they are motivated by security-preference, and tend to reduce ambiguity, conflict and competition (Hofstede, 2001). This dimension was represented by four proxy variables (Table 1): Fluctuations in foreign currency rate (X_5), gross domestic production (GDP) (X_6), and gross national income (X_7) indicate that people are more likely to accept changes in their disposable income, and hence changes in their living standards; which reflect preference for low Uncertainty Avoidance (Noravesh et al., 2007). Third, the cultural value of Individuality represents a high degree of independence among member of a society. People are considered to be responsible only for themselves and their immediate family, and they usually prefer loose social ties in the society (Hofstede, 2001). Based on previous empirical studies, four observable variables were used to proxy for this cultural value (Table 2): ratio of people living in cities to total population (X_8), number of people living in cities (X_9), real gross national income (X_{10}), and real income per capita (X_{11}). The former two proxy variables represent the urbanization rate, which usually increase individuality in the society. As more people live in urban areas more pressure of competition, and struggle for self-survival usually prevail (Hofstede, 2001). The latter two proxy variables represent income available to members in a society. People living in wealthy nations can have more disposable income to pursue their own interests and objectives apart from other colleagues which may increase the level of Individuality (Sudarwan and Fogarty, 1996).

Finally, the cultural value of Masculinity indicates the level of distinction of social gender roles in a society (Hofstede, 2001). In this case, people emphasize material achievement, assertiveness, and competition; conflicts are resolved by fighting them out, and managers prefer to have more independence in decision-making (Hofstede, 2001). By contrast, a feminine society usually focuses on feminine nurturance, care for others, the living environment and quality of life, modest behaviour, equality, solidarity against

competition, and tendency towards consensus-decisions (Hofstede, 2001). This study depends on four underlying proxy variables to represent the cultural value of Masculinity (Table 2): ratio of male employment to total employment (X_{12}), ratio of male students to total students in elementary schools (X_{13}), ratio of male students to total students in further education (X_{14}), and ratio of male students to total students in higher education (X_{15}). The first proxy variable shows the composition of the employment force by gender. It is suggested that as more women join the workforce the more modest societal values tend to prevail in a society and vice versa (Sudarwan and Fogarty, 1996). The ratios of students at different education levels by gender help to investigate the impact of education of males and females on masculinity in a society. It is expected that high numbers of male students at different education-levels lead to more masculinity in a society (Sudarwan and Fogarty, 1996). Previous empirical studies showed that the regulatory environment in a more masculine society usually facilitates competition in the financial system; and managers are more likely to favor independence in contrast to solidarity, and close relations with company stakeholders (De-Jong and Semenov, 2002).

Table 2: The basis for observation of Individuality, and Masculinity

Proxy variables	Origins of Masculinity norm	
	High	Low
Individuality	More social mobility	Less social mobility
Ratio of people living in cities to total population (X_8), and Number of people living in cities (X_9). Real Gross National Income (X_{10}), and Real Income per Capita (X_{11}).	More emphasis on personal interests	Less emphasis on personal interests
Masculinity Ratio of male employment to total Employment (X12), Ratio of male students to total students in elementary schools (X_{13}), Ratio of male students to total students in further education (X_{14}), and Ratio of male students to total students in higher education (X_{15})	Less equality among males and females	More equality among males and females

This study utilizes the stock market indicators presented by Demirguc-kunt and Levine (1995), which include: stock market activity, size, liquidity, and concentration. First, stock market activity was represented by five variables (See Table 3). Second, stock market size is one of the most widely used proxies for stock market development worldwide. The importance of this indicator stems from the assumption that stock market size is more likely to correlate positively with the ability to diversify risk and to mobilize capital (Demirguc-Kunt and Levine, 1995). In this study five variables were selected to represent this indicator (See Table 3).

Table 3: Summary of dependent stock market development indicators, and their proxy variables.

Stock market development indicators	Proxy variables
Market Activity	Real value of Trade (Y_1), Volume of Trade (Y_2), Number of Transactions (Y_3), Real value of new issues including capital gains as % of trading value (Y_4), and Real value of new issues including capital gains as % of GDP (Y_5).
Market Size	Real market capitalization (Y_6), Real market capitalization as a % of GDP (Y_7), Volume of shares listed (Y_8), Volume of shares listed as % of number of listed companies (Y_9), and Number of listed companies (Y_{10})

Third, stock market liquidity can be defined as the ability to easily buy and sell securities (Demirguc-kunt and Levine, 1995). There are two main indicators which are usually used to measure stock market liquidity: liquidity ratio and turnover ratio. The liquidity ratio is expected to correlate positively with liquidity for the whole economy of a country, since it reflects the organized trading of shares in the market as a percentage of national production (Demirguc-kunt and Levine, 1995). The turnover ratio reflects the trading volume in a stock market, it focuses on the cost of transactions and measures stock market trading relative to the size of the market; it usually correlates negatively with transaction costs which helps to improve the stock market (Demirguc-kunt and Levine, 1995). Accordingly, three variables were used to represent stock market liquidity (See Table 4). Fourth, stock market concentration represents the degree few companies dominate the stock market in a country (Demirguc-kunt and Levine, 1995). Three variables were used to represent this indicator (See Table 4).

Table 4: Summary of dependent stock market development indicators, and their proxy variables.

Stock market development indicators	Proxy variables
Market Liquidity	Real total value traded to market capitalization (Y_{11}), Real total value traded to GDP (Y_{12}), and Volume of shares traded as a % of volume of shares listed (Y_{13})
Market concentration	Real % of 10 biggest companies' shares in market capitalization (Y_{14}), Real % of 10 biggest companies' shares in value traded (Y_{15}), and Real value of 10 biggest companies' shares (Y_{16})

3.2 DATA SOURCES
Monthly secondary data are collected on the proxy variables for cultural values and stock market development indicators in the United Kingdom during the time period 1990-2004 from the DataStream database, the London Stock Exchange (*LSE*), the Organization of Economic Cooperation and Development (*OECD*), the UK Office for National Statistics (*ONS*), the UK Office of Communications (*Ofcom*), and the UK Department of Business Innovation and Skills (*BIS*). The study period was restricted to fifteen years due to the unavailability of information for some proxy variables especially for the cultural value constructs.

3.3 STATISTICAL MODEL
This study utilized the Linear Structural Relations (*LISREL*) analysis (Joreskog and Sorbom, 1993), which consists of two types of models: the Measurement Model and the Structural Equation Model (*SEM*). The main purpose of the Measurement Model is to describe how well the observed variables serve as a measurement instrument for the latent constructs. The first measurement model represented the relationships between the cultural latent constructs and their underlying observable proxy variables. Similarly, another measurement model was constructed for stock market development indicators as a *priori*. Then, a Confirmatory Factor Analysis (CFA) was implemented to explore the validity and reliability of the observed variables to represent the latent constructs in both measurement models under consideration. Finally, the structural equation model (SEM) was implemented to examine the relationships between the hypothetical latent constructs of cultural values and stock market development indicators.

4. HYPOTHESES DEVELOPMENT

This study proposes that the cultural value model by Hofstede (1980) prevailed in the United Kingdom during the period 1990-2004. Therefore, the study hypothesis (*H₁*) states that: *"The cultural values of Power Distance (H1a), Uncertainty Avoidance (H1b), Individuality (H1c), and Masculinity (H1d) provide distinct dimensions for a cultural value construct in the United Kingdom"*. Similarly, it is assumed that several indicators, as represented by their underlying proxy variables, can provide estimation for stock market development in the United Kingdom during the same period of study (Demirguc-kunt and Levine, 1995). Consequently, the study hypothesis (*H₂*) states that: *"The stock market development indicators of*

Activity (H2a), Size (H2b), Liquidity (H2c) and Concentration (H2d) provide distinct dimensions for a stock market development construct in the United Kingdom".

Hofstede (1980) argued that the United Kingdom is characterized by a low cultural value of Power Distance (PDI). This implies, as explained by Gray (1988), low concentration of economic power, low level of conservatism and secrecy, and high independence in decision-making and self-regulation; that may enhance disclosure of financial information, and force effective regulation in favor of stock market development. These predictions were supported by Pedersen and Thomsen (1997) when they found that the United Kingdom has low concentration of ownership compared to other countries, which contribute positively to the volume of trade, reduce volatility, and provide more information about companies' performance (See also Holmstrom and Tirole, 1993). Therefore, it can be predicted that there is a negative relationship between PDI and stock market activity (ACT) (Table 5). The low preference for concentration of power in a low PDI society, as argued by De-Jong and Semenov, 2002, may force the regulatory system to provide more favorable conditions that facilitate competition such as increasing the minority shareholder's rights. This implies a positive relationship between PDI and stock market concentration (CON) (Table 5). As for PDI and both stock market size (SIZE) and liquidity (LIQ) it was difficult to predict specific relationships due to the existence of conflicting relations and lack of previous empirical evidence (See De-Jong and Semenov, 2002). Therefore, the study hypothesis (H₃) states that: "The cultural value of Power Distance has a negative relationship with the stock market activity (H3a) and positive relationship with the stock market concentration (H3b) in the United Kingdom".

Table 5: Summary of the predicted hypotheses between cultural values and stock market development indicators. ACT: market activity, SIZE: market size, LIQ: market liquidity, CON: market concentration. (+) positive relationship, (-) negative relationship, N/A: not available.

Cultural values	Stock market development indicators			
	ACT	SIZE	LIQ	CON
Power distance	H3a(-)	N/A	N/A	H3b(+)
Uncertainty avoidance	H4a(-)	H4b(-)	H4c(-)	H4d(+)
Individuality	H5a(+)	H5b(+)	H5c(+)	H5d(-)

On another cultural dimension, Hofstede (1980) argued that the United Kingdom has low cultural value of Uncertainty Avoidance (UAV). This implies that people in general are easier and more relax when faced with ambiguous situations. Motivation is perceived as recognition by others rather than security; people can accept more deviance, conflict, and competition (De-Jong and Semenov, 2002). Accordingly, people and managers are characterized by high independence (Gray, 1988), which may result in more competition and low market concentration. Therefore, it can be predicted that there is a positive relationship between UAV and stock market concentration (CON) (Table 5). In addition, the existence of high self-regulation, flexibility, and decentralization (Gray, 1988) may result in flexible legislation to support stock market ACT, SIZE, and LIQ. Therefore, a negative relationship can be predicted between UAV and ACT, SIZE, and LIQ (Table 5). This gives rise to the study hypothesis (H₄), which states that: "The cultural value of Uncertainty Avoidance has negative relationships with the stock market activity (H4a), size (H4b), liquidity (H4c), and positive relationship with stock market concentration (H4d) in the United Kingdom".

Turning now to the cultural value of Individuality (IND) which reflects the extent of people preference towards personal freedom and free choice; Hofstede (1980) argued that the United Kingdom is characterized by high IND. According to Gray (1988), this implies high tendency towards self-independence in decision-making; which may result in more competition, limited government intervention in the economy, and dispersed concentration of power (De-Jong and Semenov, 2002). Therefore, a negative relationship is predicted between IND and stock market concentration (Table 5). Low conservatism and secrecy in financial reporting practices (Gray, 1988) may increase disclosure of financial information; while high self-regulation, flexibility, and decentralization of regulations (Gray, 1988) may result in flexible legislations to improve stock market ACT, SIZE, and LIQ. This implies a positive relationship between IND and ACT, SIZE, and LIQ (Table 5). Consequently, the study hypothesis (H₅) states that: "The culture value of Individuality has positive relationships with the stock market activity

(H5a), size (H5b), liquidity (H5c), and negative relationship with the stock market concentration (H5d) in the United Kingdom".

5. EMPIRICAL RESULTS AND DISCUSSION

5.1 MEASUREMENT MODELS
The Measurement model for the cultural values was identified using a Confirmatory Factor Analysis (CFA). Cultural values consisted of four constructs: PDI, UAV, IND, and MAS (Hofstede, 1980). A model generating approach was conducted following the methodology of Sudarwan and Fogarty (1996). That is, the four constructs of cultural values were compared in alternative models. The purpose of these comparisons was to identify the most suitable model that better fits the data set. Test results revealed that the three factors model: PDI, UAV, and IND; can better represent the data set compared to other models, with chi-square/df (1.16), RMSR index (0.03), goodness of fit index (GFI) and adjusted goodness of fit (AGFI) index (0.95) and (0.90) respectively. Further analysis showed that most of the underlying observable proxy variables have significant relationships with the three latent independent constructs of cultural values. All of the parameters' estimates (Lambda) have a significant t-value at 0.01 levels. This provides support for study hypothesis (H1a), (H1b), and (H1c). By contrast, the sub-hypothesis concerning Masculinity (H1d) is not supported.

Similarly, the Measurement Model for stock market development indicators used four constructs: the stock market activity (ACT), size (SIZE), liquidity (LIQ), and concentration (CON) (Demirguc-Kunt and Levine, 1995). Test results revealed that the two factor model: ACT and SIZE, can better represent stock market development compared to other models during the study time period, with chi-square/df (5.73), RMSR (0.19), GFI (0.85), and AGFI (0.65). Further analysis showed that all the underlying observable proxy variables of stock market development indicators have significant relationships with ACT and SIZE at the 0.01 level. This provides support for the study hypothesis (H2a), and (H2b). By contrast, other sub-hypotheses concerning stock market liquidity (H2c), and concentration (H2d) are not supported.

5.2 STRUCTURAL EQUATION MODEL
The multi-dimensional structural equation model was implemented to highlight the relationships between all cultural values and stock market development indicators simultaneously (Figure 1). Results showed a weak structural model at the 0.10 level, this can be explained due to the short time period of the study which may have prohibited changes of cultural values to prevail in the society, especially in a well-established stock market like the one in the UK. This is consistent with Hofstede (2001) when he argued that core national culture may be difficult to change over short time periods. Nevertheless, the model showed three significant relationships: First, the proxy variables of Power Distance (PDI) have a significant negative relationship with stock market size (SIZE) at the 0.10 level. It is argued that low PDI is usually characterized by low concentration of economic power, which may force the regulatory system to provide more favorable conditions that facilitate competition; such as increasing minority shareholder's rights (De-Jong and Semenov, 2002). The low PDI in the UK stems from among other factors, the ability of the society to create more wealth, and the high level of literacy rate which allows many people to use modern technology, and to communicate effectively with each others to develop more awareness of the economic performance (Sudarwan and Fogarty, 1996); which in turn can result in favorable conditions for the stock market to flourish. By contrast, no evidence was detected for the study sub-hypotheses (H3a), and (H3b).

Figure 1: The multi-dimensional structural equation model for the relationship between cultural values and stock market development indicators. (*PDI*) Power Distance, (*UAV*) Uncertainty Avoidance, (*IND*) Individuality, (*ACT*) stock market activity, (*SIZE*) stock market size. (*DF*) degrees of freedom, (*RMSEA*) root mean square error residuals.
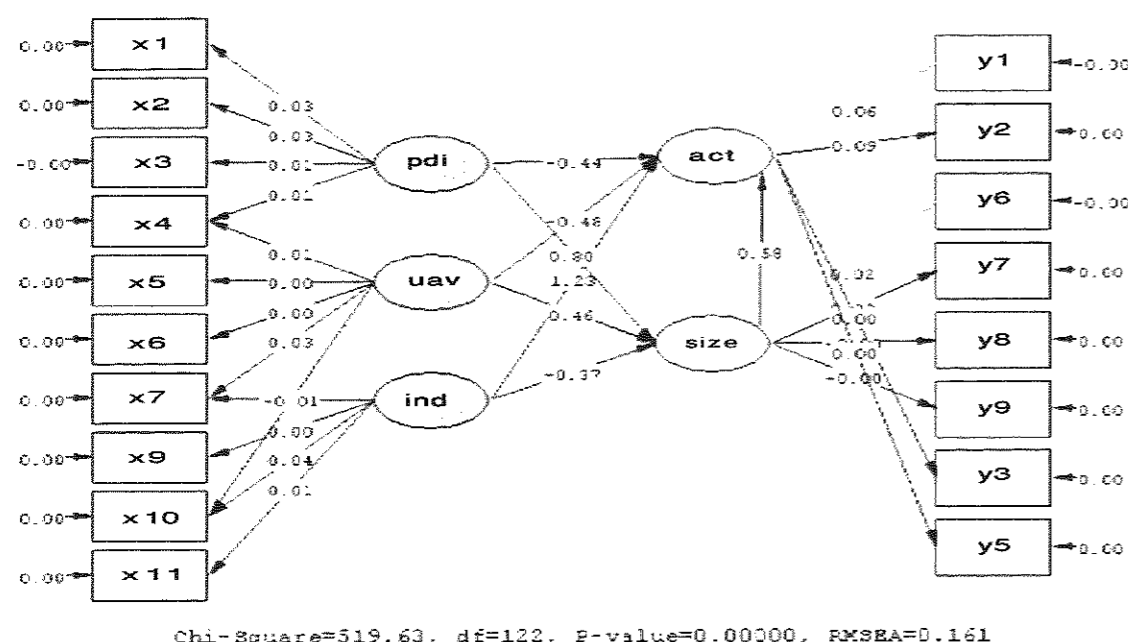
Second, test results showed that Individuality (*IND*) has a significant positive relationship with stock market activity (*ACT*) (Figure 1) at the 0.10 level. This provides support for the study hypothesis (H5a). The cultural value of *IND* usually reflects the extent to which people prefer personal freedom and freedom of choice (Hofstede, 2001). High tendency towards personal self-independence in decision-making (Gray, 1998) may result in more competition, less government intervention in the economy, and dispersed concentration of power. Furthermore, a high level of self-regulation, flexibility and decentralization of regulations (Gray, 1998), and flexible legislations (De-Jong and Semenov, 2002) may enhance stock market activity. By contrast, no evidence was detected for the relationship between Individuality and Uncertainty Avoidance with the stock market activity (*H4a*), size (*H5b, H4b*), liquidity (*H5c, H4c*), and concentration (*H5d, H4d*). Finally, test results indicated a significant positive relationship between stock market activity (*ACT*) and size (*SIZE*) (Figure 1) at the 0.10 level. This plausible relationship indicates that an increase in stock market size is usually associated with an increase in stock market activity and vice versa.

6. CONCLUSION

In recent years there has been an increase in the attention paid to the development of stock markets worldwide. This study focuses on the impact of national culture on stock market development in the United Kingdom during the time period 1990-2004. Empirical results showed that cultural values have significant impact on stock market development. More specifically, a low cultural value of Power Distance is usually associated with an increase in stock market size and vice versa. Low Power Distance usually encourages more competition, more information disclosures, and flexible regulations to secure power equalities in the society (Gray, 1988). This can reduce the cost of transactions, and increase investors' confidence in the financial sector, which in turn provide more support for stock market development. Reducing Power Distance can be achieved through continuous improvement in the education system to create technological advances capable of increasing wealth, and public awareness; which can ensure favorable conditions for the stock market to develop. Second, the cultural value of Individuality has a significant positive relationship with stock market activity. People living in wealthy nations, like the UK, are more likely to follow their own goals and objectives in isolation from others (Hofstede, 2001). The increase in Individuality may result in more self survival, independence, and hence competition among members of the society; which in turn foster stock market activity.

These results have important implications for policy makers and regulators as they provide more understanding of the stock market mechanism, and highlight the need to maintain or reshape national culture to ensure effective reform programs. The prevailing cultural values in the UK continue to foster competition, achievement, self independence, and availability of information over time. It can be considered as a role model by other countries as they plan to develop their financial systems. In addition, international investors need to recognize existing and/or potential changes in national cultures in their strategic plans especially in the case of mergers and acquisitions to ensure effective risk management decision making. That is, national culture factors should be incorporated in strategic planning for multinational companies to anticipate the reactions of the public and/or the authorities towards their activities, and to ensure efficient allocation of resources to achieve business objectives over time (Hofstede and Hofstede, 2005). Further studies are encouraged to cover other countries to check comparability of results.

REFERENCES:

Chinese Cultural Connection Study, 1987, "Chinese Values and the Search for Cultural-Free Dimensions of Culture", *Journal of Cross-Cultural Psychology*, Volume 18, Number 2, pp. 143-164.

Chloros, A.C., 1978, "Common law; civil law and socialist law: Three leading systems of the world; three kinds of legal thought", *Cambrian Law Review*, Volume 9, pp.11-26

Chow, Chee W., Lindquist, TIme M., and Anne Wu, 2001, "National Culture and Implementation of High-Stretch Performance Standards: An Exploratory Study, *Behavioral Research in Accounting*", Volume 13.

Coffee, J., 2001, "Do Norms Matter? : A Cross-Country Examination Of The Private Benefits Of Control", working paper No. 183, The Center For Law And Economic Studies.

Dahl, Stephan, 2004, "International Research: The Current State of Knowledge", Working Paper, Middlesex University, Business School, London, United Kingdom.

De-Jong, E., and Semenov, R., 2006, "Cultural Determinants of Ownership Concentration across Countries", *International Journal of Business Governance and Ethics*, Volume 2, Number 1-2, pp. 145-165.

----------, 2002, "Cross Country Differences in Stock Market Development: A Cultural View", Working Paper, University of Nijmegen, Netherlands.

Demirguc-Kunt, A. and Levine R., 1995, "Stock Market Development and Financial Intermediaries: Stylized Facts", Working Paper, The World Bank, Policy Research Department, Finance and Private Sector Development Division.

Demirguc-Kunt; A., and V. Maksimovic, 2002, "Funding Growth In Bank Based And Market-Based Financial Systems: Evidence From Firm-Level Data", *Journal of Financial Economics*, Volume 65, pp.337-337.

Gorga; E., 2003, "Does Culture Matter For Corporate Governance? A Case Study Of Brazil", working paper No. 257, Stanford Law School.

Gray, S. J., 1988, "Towards a Theory of Cultural Influence on the Development of Accounting Systems Internationally", *Abacus*, Vol.24, pp. 1-15.

Greif, A., 2006, "History Lessons: The Birth of Impersonal Exchange: The Community Responsibility System And Impartial Justice", *Journal Of Economic Perspectives, American Economic Association*, Volume 20, Number 2, pp. 221-236.

Hall; E. and Hall; M., 1990, "Understanding Cultural Differences", *Intercultural Press*, Yarmouth, Maine, U.S.A.

Hill, J., 2004, *Comparative Corporate Governance and Russia-Coming Full Circle, Law, Legal Culture And Politics*, In The Twenty First Century-Essays In Honour Of Alice Erh-Soon Tay, pp. 153,

Doeker-Mach and Ziegert, eds., Franz Steiner Verlag; Law And Legal Culture In Comparative Perspective, Doeker-Mach and Ziegert, eds., p. 394, Franz Steiner Verlag.

Hofstede, G. H., 1980, Culture's Consequences, Beverly Hills, Sage.

----------, 2001, Culture's Consequences, Beverly Hills, Sage, second edition.

Hofstede, G.H.; and Hofstede, G.J., 2005, Cultures and Organizations: Software of the Mind, McGraw-Hill, U.S.A.

Holmstrom B. and J. Tirole, 1993, "Market Liquidity and Performance Monitoring", Journal of Political Economy, Volume 101, pp.678-709.

Hoppe, M.H., 1990, "A Comparative Study of Country Elites: International Differences in Work-Related Values and Learning and their Implications for Management Training and Development". Unpublished Doctoral Dissertation, University of North Carolina at Chapel Hill, in Hofstede, 2001.

John; K. and S.; Kedia, 2002, "Design Of Corporate Governance: Role Of Ownership Structure Takeovers, And Bank Debt", NYU Working Paper No. CLB-06-023.

Joreskog, K.G., and Sorbom, D., 1993, LISREL 8.72 Users Reference Guide, Mooresville, Scientific Software.

Kwok, C. and Tadesse, S., 2006, "National Culture and Financial Systems", Journal of International Business Studies, Palgrave Macmillan Journal, Volume 37, Number 2, pp. 227-247.

La Porta R., F. Lopez-De-Silanes, A. Shleifer and R. W. Vishny, 1997, "Legal Determinants of External Finance", Journal of Finance, Volume 52, pp.1131-50.

La Porta; Rafael, De-Silanes; Lopez, Shleifer; Andrei, Vishny; Robert.1998, "Law and Finance", Journal of Political Economics, Volume 106, Number 6, pp.1113-1155.

La Porta; Rafael, De-Silanes; Lopez, Shleifer; Andrei, Vishny; Robert, 2002, "Investor Protection And Corporate Valuation", Journal of Finance, Volume. 57, pp. 1147-1170.

Landes, D., 1998, The Wealth And Poverty Of Nations, Norton and Company Inc., New York.

Levine R., 1991, "Stock Market, Growth, and Tax Policy", Journal of Finance, Volume 46, pp. 1445-65.

Licht, A., 2001, "The Mother Of All Path Dependencies: Toward A Cross-Cultural Theory Of Corporate Governance Systems", Delaware Journal Of Corporate Law, Volume 26 Number 1, pp. 147-159.

Lomareaux; N.R.; and J.L.Rosental, 2004, "Legal Regime And Business's Organizational Choice: A Comparison Of France And The United States During The Mid-Nineteenth Century", National Bureau of Economic Research (Cambridge, MA), working paper No.10288.

Noravesh, I., Dilami Z. D., and Bazaz M.S., 2007, "The Impact of Culture on Accounting in Iran: An Empirical Examination", Review of Accounting and Finance, Volume 6, Number 3, pp.254-272.

North, Douglass, 1990, Change and Economic Performance, Cambridge: Press Syndicate of the University of Cambridge.

Pagano; M., and Volpin; P., 2005, "The Political Economy Of Corporate Governance", The American Economic Review, Volume 95, Number 4, pp. 1005-1030.

----------, 2006, "Shareholder Protection, Stock Market Development, And Politics", Journal of the European Economic Association, Volume 4, pp.315-341.

Pedersen, T. and Thomsen, S., 1997, "European Patterns of Corporate Ownership", Journal of International Business Studies, Volume 28, Number 4, pp. 759-778.

Rajan; R.G. and L.; Zingales, 2000, "The Great Reversals: The Politics Of Financial Development In The 20th Century", OECD Publishing Series, working paper No.265.

Roe; M.; J., 2000, "Political Preconditions To Separating Ownership From Control: The Incompatibility Of The American Public Firm With Social Democracy", Stanford Law Review, Volume 53, pp. 539.

Schwartz; S., 1999, "Cultural Value Differences: Some Implications for Work", Applied Psychology International Review, Volume 48, No.23.

Shleifer; A. and Vishny; R.W., 1988, "Value Maximization and the Acquisition Process", Journal of Economic Perspectives, Volume 2, Number 1, pp.7-20.

Shleifer; A., 2002, "Strategies For Protecting Investors, Investor Protection And Equity Markets", Journal of Financial Economics, Volume 66, Number 1, pp.3-27.

Søndergaard, M., 1994, "Hofstede's Consequences: A Study of Reviews, Citations And Replications", Organizations Studies, Volume 15, pp. 447-456.

Sudarwan, M., and Timothy J, Fogarty, 1996, "Culture and Accounting in Indonesia: An Empirical Examination", The International Journal of Accounting, Volume 31, Number 4, pp. 463-481.

Trompennars, F. and Hampden-Turner, C., 1997, Riding the Waves of Culture: Understanding Cultural Diversity In Business. London. Nicholas Brealey.

Weber, Max, 1905, The Protestant Ethic and the Spirit of Capitalism, Routledge Classic, London, 2001.

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