Master Thesis Economics

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Culture and IFRS

The effect of culture on IFRS implementation and financial reporting quality

Purpose

The purpose of this study is to measure the influence of culture on whether countries have adopted IFRS as national standards and the influence of culture and IFRS adoption on financial reporting quality.

Design

This paper uses logistic and OLS regression analysis using various data sources, indexes and indicators. Culture is measured by creating an IFRS-favorable profile based upon Hofstede 's cultural dimensions.

Findings

No effect of culture on IFRS implementation was found. No effect was found of IFRS implementation on financial reporting quality and of culture on financial reporting quality. However a relation between the cultural dimensions individualism and indulgence with whether a country has adopted IFRS as national standards has been found. This indicates that there is a relation between culture and the implementation of IFRS as national standards.

Scientific and Societal Value

This study is the first to measure the influence of culture on the IFRS adoption decision by using an IFRS-favorable profile. It can help standard setters in identifying why some countries do adopt IFRS.

Contents

1. Introduction

"Accounting is shaped by the environment in which it operates. Just as nations have different histories, values, and political systems, they also have different patterns of financial accounting development" – Mueller, Gernon & Meek (1994)

The adoption of Internal Financial Reporting Standards (IFRS) around the world has been occurring rapidly during the last decade. The assumption of this adoption is that there will be benefits from having a uniform set of standards for financial reporting around the world, so that cross-country comparisons will be easy and more transparent (Holthausen, 2009). According to Ding, Jeanjean and Stolowy (2005) there are several reasons why it is important that accounting becomes harmonized over the world. First, because international capital markets have developed rapidly they have become important in the distribution of economic resources. To make the markets efficient, the way information is disclosed to the market is important. Second, multinationals increasingly cross-list and this creates the need to reduce information production costs and send a unified message to the market. A single universal set of accounting standards can do this. Third, activities of institutional investors are becoming more international. They are present in global markets and this creates the need for firms that are listed domestically, to have global rules.

Since the first IFRS in 2003, over 100 countries have mandated IFRS for all listed companies (FASB, 2013). However some, including large countries, have not yet adopted them. This includes large countries like the US, China and Brazil (Ramanna & Sletten, 2011). Because of the expected benefits from implementing IFRS it is likely there exist barriers which have prevented these countries and world-wide acceptance of international accounting standards. One of these barriers could be differences in culture. House (2004) describes culture as "the shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives and are transmitted across age generations". Culture influences emotion, motivation, behavior and interactions (Markus & Kitayama, 1991), and given this characteristics of culture it can be expected that it will influence accounting (Cieslewicz, 2014). People are influenced by culture, and people operate institutions. Societal values in culture lead to the development and maintenance of institutions within a society, including educational, social, and political systems, and

also legal, financial and corporate systems (Borker, 2013). So it is expected that a nation's culture will influence the institutions, which further influences accounting systems like IFRS.

Ramanna and Sletten (2009) gave insights in the effects of culture on IFRS implementation, and ascertained that IFRS has been perceived as an European institution. Therefore, countries that are more culturally accepting of European institutions and more closer to Europe, are more likely to adopt IFRS. But besides this, culture is an area in accounting research that has been researched before, but fails to reach conclusions about its impact on IFRS implementation. Jaggi et al. (2000) and Hope (2003) do not find cultural values to have a significant influence on financial disclosures. But Chand (2008) has shown that national culture does have a significant effect on the manner of accountants' professional judgment required by International Financial Reporting Standards. Also, Orij (2010) shows that corporate social disclosure levels are likely to be influenced by culture.

One research has directly looked at the relationship between culture and IFRS implementation (Clements, Neill & Stovall, 2010),: but they were unable to document any cultural influences on the decision. But one of the reasons they were not able could be the use of their methodology. They use Hofstede's dimensions (1980) on national culture on which nations can be compared. The use of these dimensions (power distance, individualism, masculinity & uncertainty avoidance) has been widespread in accounting literature (Jaggi et al., 2000; Schultz et al., 2001; Hope, 2003; Ding et al., 2005; Noravesh et al., 2007; Tsakumis, 2007; Chand, 2008; Orij, 2010; Salter, 2011; Perera et al., 2012). The model of Hofstede has been expanded by Gray (1988) who introduced a framework for analyzing the development of accounting systems. He links the cultural dimensions to four accounting values: professionalism, uniformity, conservatism and secrecy. In his paper, Borker (2013) proposed a link between Hofstede's culture dimensions and Gray to identify which Gray values and which corresponding Hofstede cultural dimensions would be most influential on the IFRS adoption decision. He created an IFRS favorable profile by extending Gray's model with Hofstede's newest dimensions (long-term orientation and restraint). To test the validity of the cultural dimensions, this research wants to test this IFRS favorable profile, by looking at the influence of culture on the decision whether to adopt IFRS as national standards for financial reporting.

Culture could also be one of factors that shape the quality of financial reporting and so are the financial reporting standards (Holthausen, 2009). If the goal of IFRS implementation is to increase financial reporting quality it is necessary to gain insight if the enforcement of IFRS leads to an increase and how this interacts with the culture of a country. Ball, Robin and Wu (2003) show that the financial reporting quality is low in Hong Kong, Malaysia, Singapore, and Thailand even though they have high

quality reporting standards, because the institutions, that are influenced by culture, provide incentives for low quality financial reporting. They state that political, legal and economic institutions affecting reporting incentives. The political, legal and economic systems in these countries are considered weak, and therefore reporting will not be of higher quality after adoption of IFRS. Chen, Tang and Jiang (2010) say that the improved accounting quality after IFRS adoption in the European Union is attributable to IFRS, rather than factors like culture. But culture in Europe is more alike than it is in comparison to the rest of the world, so there is a possibility the desired increase in accounting quality will be influenced by culture in other countries.

The research question of this paper is: *to what extent does culture influence the International Financial Reporting Standards adoption decision and the resulting financial reporting quality?*

This paper attempts to contribute to the literature in that it expands the research of Borker (2013), by looking at an IFRS favorable profile applied to IFRS adoption, and by expanding Ball, Robin and Wu (2003) by doing research in a more recent setting. It also uses cultural indicators in explaining the influence on the IFRS adoption decision and accounting quality instead of institutional, like Ball et al. (2003) and Judge, Li and Pinsker (2010). This research is important because there are still a lot of (big) countries, that haven't implemented IFRS as national standards even though there are expected positive effects. To reach harmonization of accounting standards over the world is it necessary to gain insight in the factors underlying the decision not to adopt. Also it is important to know if IFRS adoption leads to higher reporting quality and if this is influenced by culture, because the positive effects of IFRS could not be the same for every country (Holthausen, 2009).

In the next section, there will be given an overview of the current literature on culture and IFRS, by using network theory and institutional theory in explaining the IFRS adoption decision and the resulting financial reporting quality. Hypotheses will be formulated about expectations regarding the IFRS-favorable cultural profile. Next this will be applied to a profile of 94 countries over the world to see whether culture influences the IFRS adoption decision and the resulting financial reporting quality. This paper will end with a conclusion and discussion regarding the implications and directions for further research.

2. Literature Review

The adoption and diffusion of International Financial Reporting Standards

History of IFRS

After World War II, accounting harmonization ideas arose as a response to economic integration and increases in capital flows that went across borders. These first efforts mainly focused on harmonization: to reduce differences among accounting principles. In 1973 the first international standards-setting body was founded by the AICPA: the International Accounting Standards Committee (IASC). Its mission was to: "formulate and publish, in the public interest, basic standards to be observed in the presentation of audited accounts and financial statements and to promote their worldwide acceptance (FASB, 2013)." By 1987, the IASC had made 25 standards. Most countries that decided to use these standards were countries that did not have their own standard-setters. The standards were often extracted from existing accounting practices. It was during the 1980s that there came worldwide interest in a common body of international standards. Resulting from this there became more focused activity on common standards. The notion of harmonization was replaced with convergence: "the development of a unified set of high-quality, international accounting standards that would be used in at least all major capital markets (FASB, 2013)." Also the U.S. congress and the SEC became involved in the issues. The Financial Accounting Standards Board (FASB) decided that the need for international standards was so strong, that more effort was needed and superior international standards would gradually replace national standards.

Consequently, efforts to harmonize accounting standards evolved into broad effort and in 2001 the IASC was replaced with the IASB. The IASB was an independent standard-setting board with 14 board members from 9 countries (including the U.S.). In 2002 the IASB and FASB made a partnership to work together to improve and converge IFRS. In "the Norwalk Agreement" this partnership is described. This agreement describes the goal: to develop compatible high-quality accounting standards, and the tactics: develop standards together, get rid of differences and to keep the convergence. Since then, the use of international standards has progressed. By 2009, over 100 countries, including the European Union, had adopted international standards or a local variant. By 2013, other countries like India and China are also working to adopt international standards.

Characteristics of IFRS standards

The most common and key characteristic of IFRS is that they are principles-based. This means that the standards are fewer with more general standards, that leave more details of implementation to individual judgment (Sunder, 2010). The opposition are rules-based standards like U.S. GAAP: they try to get more into the specifics of implementation. According to Nelson (2003), rules include specific criteria, thresholds, examples, scope restrictions, exceptions and implementation guidance. Principles-based systems do not address every issue but keep ambiguity about processes as record keeping and measurement (Carmona & Trombetta, 2008). Principles-based standards like IFRS thus issue generic accounting standards. IFRS leaves it up to firms to make accounting choices that are not in conflict with the principles, for example the choices regarding the recognition of actuarial gains and losses. Principle-based standards are said to allow accountants professional judgment (Gao, Sapra & Xue, 2016), and that the professional judgment is not constrained by any rule. IFRS requires accountants to possess a solid knowledge of the business and events so that they understand the accounting treatments (Carmona & Trombetta, 2008). Besides from the technical skills, accountants also should have legal and ethical understandings. Accountants role changes then from not only reporting formal compliance to a broader definition wherein they also have to understand the firm to see if the firm properly applies the standards. If principles-based standards require more professional judgement from the auditor, the amount and type of expertise required will change, according to Schipper (2003).

IFRS are based on a conceptual framework which describes the objectives of general purpose financial statements and the qualitative characteristics of useful financial information (Gebhardt, Mora & Wagenhofer, 2014). The overarching objective of financial reporting is described as decision usefulness. This means that the information must be relevant and faithfully represent what it purposes to represent (IFRS Foundation, 2010). Relevance means that the information is capable of making a difference in users' decisions. It has to have predictive value, confirmatory value and materiality. The concept of faithful representation says that the information has to represent the phenomena faithfully by being complete, neutral and unbiased, and ideally free from error. This usefulness is enhanced if it is comparable, verifiable, timely and understandable. These enhancing qualities are less critical but still highly desirable. The principles-based standards that are based on the conceptual framework are made ideally made up of a scope with no exceptions, principles that are derived from the framework with a reliance on profession judgement, and application guidance.

Adoption of IFRS

The goal of the International Financial Reporting Standards is to develop a single set of high-quality, understandable, enforceable and globally-accepted accounting standards based upon clear principles (Hodgdon, Hughes & Street, 2011). In 2005 the adoption of IFRS hit a milestone when the consolidated accounts of public companies in the European Union where mandated to adopt IFRS. All major economies have adopted IFRS now or are considering to adopt IFRS: these are the United States, Japan, India and Colombia. Over 100 countries have adopted IFRS (FASB, 2013). In table 1 you can see which countries have adopted IFRS and which haven't. It shows that 91 countries have adopted IFRS as national standards and 56 have not, but for 10 of these countries IFRS is required for some companies like financial institutions or banks.

Table 1 – use of IFRS by country

IFRS required (91)	Abu Dhabi, Anguilla, Antigua and Barbuda, Armenia, Austria, Australia, Azerbaijan, Bahama's, Bahrain, Bangladesh, Barbados, Belgium, Bosnia and Hercegovina, Botswana, Bulgaria, Cambodia, Chile, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Estonia, Fiji, Finland, France, Germany, Georgia, Ghana, Grenada, Greece, Guatemala, Guyana, Honduras, Hong Kong, Hungary, Iceland, Iraq, Ireland, Italy, Jamaica, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Libya, Macedonia, Malawi, Malaysia, Malta, Mauritius, Moldova, Mongolia, Montenegro, Namibia, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Panama, Papua New Guinea, Peru, Poland, Portugal, Qatar, Romania, Russia, Serbia, Sierra Leone, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Taiwan, Tajikistan, Tanzania, Trinidad and Tobago, United Kingdom, Zambia.
IFRS required for some (10)	Argentina, Belarus*, Brazil**, Canada***, Israel****, Mexico, Morocco*, Pakistan, Saudi Arabia, Ukraine.
IFRS permitted (22)	Aruba, Bermuda, Bolivia, Dominica, El Salvador, Gibraltar, Haiti, India, Japan, Laos, Lesotho, Maldives, Mozambique, Myanmar, Netherlands Antilles, Nepal, Paraguay, Suriname, Swaziland, Switzerland, Uganda, Zimbabwe.
IFRS not permitted (24)	Benin, Bhutan, Burkina Faso, China, Colombia, Cuba, Egypt, Indonesia, Iran, Ivory Coast, Mali, Niger, Philippines, Senegal, Singapore, Thailand, Togo, Tunisia, Turkmenistan, United States, Uruguay, Uzbekistan, Venezuela, Vietnam.

Source: Deloitte (2012)
*= banks
**= depends on starting date company
***= rate-regulated companies and investment companies
****= all except banks

The adoption of IFRS is based on the notion that a financial reporting system supported by strong governance, high- quality standards is the key to economic development (Joshi, Yapa & Kraal, 2016). The adoption is said to result in more usefulness of financial statements and better quality of financial communication. Also the comparability is said to increase, and the transparency of the results in different countries will increase so that the needs of the users of the financial information will be met. Prior research about IFRS adoption mostly focuses on the economic consequences of implementing IFRS (Chen et al., 2010; Pope & McLeay, 2011) or understanding the shift from local GAAP to IFRS (Ding et al., 2005; Judge et al., 2010; Ramanna & Sletten, 2009).

Ramanna and Sletten (2009) studied variations in the decision to adopt International Financial Reporting Standards. They found evidence that more powerful countries are less likely to adopt IFRS, consistent with more powerful countries being willing to surrender standard-setting authority to an international body. They also found evidence that IFRS is adopted when governments are capable of timely decision making and when opportunity and switching costs from domestic standards to IFRS are low. They did not found evidence that there is an effect from the levels and changes in foreign trade and investment flows in a country. Finally, they find that countries are more likely to adopt IFRS if its trade partners or countries within its region have also adopted IFRS, suggesting a network effect.

Judge, Li and Pinsker (2010) have also looked at the reasons why certain countries have adopted IFRS as national standards where other countries have not. They found that foreign aid, import penetration, and level of education achieved in an economy can be reasons for the implementation of IFRS, in 132 developing and developed economies. They also looked at three forms of pressures and found that all three forms (coercive, mimetic and normative) are predictive of IFRS adoption. They find that social legitimization processes are more important than economic logic, when adopting IFRS as national standards. Since they find that not only pure economic logic is important in this decision, this leaves room for the thought in this research that culture will have an effect on the IFRS adoption decision.

Joshi, Yapa and Kraal (2016) have examined the perceptions of professional accountants from three Asian countries to get more understanding about the decisions to implement IFRS. They showed that reasons to implement where the expected economic benefits, but that there was also a strong role for the pressure of international agencies, governments, media and professional accounting bodies. They conclude that social and professional institutions have an effect on the adoption of IFRS. Also Chua and Taylor (2008) tried to gain insight in the social and political factors underlying the decision.

They say that countries outsource the creation of IFRS, as long as they have the final decision in adopting IFRS and that this depends on the power of nations.

Culture and IFRS adoption

Culture and accounting

In the previous part different reasons why countries adopt IFRS as national standards were described. This section will look at the influence of culture on the IFRS adoption decision. An area that is limited in how much research is done is the effect of culture on the IFRS adoption decision. Culture is said to be a powerful environmental factor that can affect the accounting system of a country and also how individuals perceive and use accounting information (Doupnik & Tsakumis, 2004). A link between culture and accounting was proposed first by Violet (1983). Violet's paper attempts to explain that the success of an attempt to create an international set of accounting standards, like IFRS in the current accounting climate, would be limited by culture. He links this to cultural relativism: in saying that fundamental attributes of countries are different from one society to another. This had led to the believe that the culture of a country influences the choice of accounting techniques. Doupnik and Tsakumis (2004) state that culture is important in saying that: "in the context of financial reporting, the important question is whether financial reporting models and practices are universal or if their international applicability is constrained by difference in culture". This is important to know because cultural differences might serve as barriers to universal adoption of IFRS.

A study that has looked at the influence of culture is that of Clements, Neill and Stovall (2010). Their results indicate that the IFRS adoption decision is not influenced by cultural influences but they make the comment that their empirical measures do not adequately measure cultural diversity. In contrast, Fearnley and Grey (2014) find that cultural values are important in explaining accounting measurement choices of European investment property companies. They remain important even after controlling for firm-specific factors. This study shows that a nation's culture and accounting tradition has a continuing and significant effect on firm's measurement decisions and provide explanations of international accounting differences. Tsakumis (2007) conducted an experiment to investigate the impact of national culture on accountant's recognition and disclosure decisions, researching differences between Greek and U.S. accountants, but he finds no relation for his first hypothesis. He used Gray's framework and concludes that either the framework is flawed, or that other factors outweigh culture due to the experimental design. He does find an effect for his second

hypothesis, providing evidence that cultural values may influence accountant's disclosure decisions. Schultz and Lopez (2001) have looked at the impact of the nation of an accountant on financial judgments. They found that accountants with the same economic facts that are governed by similar financial reporting rules make different judgments, suggesting an impact of national culture. Jaggi and Low (2000) made a difference between common law countries and code law countries. They did not find an impact of cultural values on financial disclosures of multinationals from common law countries, and mixed signals for multinationals from code law countries. Finally, Hope (2003) researched the roles of legal origin and national culture in explaining firm-level disclosure levels internationally and finds that they are both important. But with respect to overall explanatory power they do not dominate for variations in disclosure levels.

Institutional theory

So overall there are signals that culture can influence accounting. Violet made the same assumption in 1983 with institutional theory. When looking at the influence culture can have on the IFRS adoption decision, institutional theory is also used in the literature up to now. Research about the reasons why not every country has accepted IFRS relate to institutions and to the relationship between countries. In this paper there is a focus on institutions with a focus on culture as an informal institution. There may be a variety of national institutional factors playing a role in the adoption of IFRS. From a sociological perspective, institutions are "humanly devised rules that affect behavior, constraining certain actions, providing incentives for others, and thereby making social life more or less predictable" (Hariss, 2003). North (1990) says that there are formal and informal institutions. Formal institutions include laws and regulations, and informal institutions are norms and conventions and include the cultural environment. Formal and informal institutions both influence social behavior (Judge et al., 2010). Informal institutions like culture also influence the nation's formal institutions like laws and regulations because people that are imbued by culture operate the nation's institutions (Cieslewicz, 2014). Culture has led to "the development and pattern maintenance of institutions" (Hofstede, 1980). By North (1991), institutions have been defined as "the humanly devised constraints that structure political, economic, and social interaction", like Williamson (2003) who says that institutions are the political, social, and legal ground rules that are the basis for economic activity.

In the literature about institutions Guler, Guillen and Macpherson (2002) have shown that the institutional environment has influenced the adoption of ISO 9000 standards. Schneper and Guillen (2004) showed the influence of institutions on hostile takeover legislation and practices, and Collier

(2002) on corruption. Licht, Goldschmidt and Schwartz (2007) present evidence on the relation between national culture and institutions. They say culture is often treated as a "black box", in that values and norms are often taken as given, and want to promote research on informal institutions. Stulz and Williamson (2003) show that differences in culture, which they define by religion and language, influence investor protection. Further, Cieslewicz (2014) finds that culture influences institutions, which influence accounting.

The Hofstede-Gray framework

In 1962, Klukhohn argued that there should be universal categories of culture. He said that in principle, there is a generalized framework that underlies the more apparent and striking facts of cultural relativity. Since then culture has been organized in various dimensions. The most common dimension ordering is their degree of economic evolution or modernity. A dimension is an aspect of a culture that can be measured relative to other cultures (Hofstede, 2011). In 1980, Hofstede came with a book: *Culture's Consequences*, showing four dimensions of culture that were basic, and enduring. Hofstede made these dimensions by using country-level correlation analysis and country-level factor analysis and these scores correlated significantly with conceptually related external data. He used a cross-cultural survey, collecting data about values from the employees of a multinational corporation located in more than fifty countries (Gray, 1988). Statistical analysis showed that there were four underlying dimension along which countries could be recognized. The scores on the dimensions correlated with dimensions from other analyses, like Gregg and Banks' (1965) analysis of political systems and Lynn and Hampson's (1975) study of mental health. Hofstede's model provides scales from 0 to 100 for countries on each dimension, and each country has a position on each scale or index, relative to other countries (De Mooij & Hofstede, 2010).

The first four Hofstede dimensions of national culture are as follows: power distance, uncertainty avoidance, individualism and masculinity/femininity. Power distance has been defined as the extent to which less powerful members of a country accept power that is unequally distributed (Hofstede, 2011). When there is a large power distance, people have their fixed place in social hierarchy (De Mooij & Hofstede, 2010). In this case, social status is clear to others so they can show respect. This defines some kind of inequality, but defined from below. Hofstede (2011) says that there is power and inequality in every society, but that some societies are more unequal than others. Some examples from countries with a large power distance, drawn from Hofstede (2011) include: (1) power is a basic fact of society, (2) parents teach children obedience, (3) older people are both respected and feared,

(4) teacher-centered education, (5) subordinates are expected to be told what to do, (6) frequent corruption, (7) income distribution is uneven, and (8) there are religions with a hierarchy of priests. These situation refer to extremes: the association with a statement is statistical and not absolute.

The second dimension of Hofstede's model is uncertainty avoidance. Hofstede (1980) defines this as: "the extent to which people feel threatened by uncertainty and ambiguity and try to avoid these situations". It is not the same as risk balance because it deals with a society's tolerance for ambiguity. It is an indication to what extent a culture makes people feel uncomfortable in unknown and surprising situations. When a culture is uncertainty avoidant, there are strict behavioral laws and rules and there is also a believe in absolute truth. There is need for rules and formality to structure life. People are less open to change and innovation (De Mooij & Hofstede, 2010). Some examples from strong uncertainty avoidance cultures from Hofstede (2011) are: (1) uncertainty is felt as a threat, (2) higher stress, emotionality and anxiety, (3) lower scores on subjective health and well-being, (4) intolerance of deviant persons and ideas: different is dangerous, (5) need for clarity and structure, (6) teachers are supposed to have all the answers, and (7) believe in ultimate truth.

Individualism versus collectivism is the third dimension of Hofstede. This is the degree to which people in society are integrated in groups (Hofstede, 2011). In individualistic cultures ties between individuals are loose, everyone is expected to look after themselves. On the collectivist side there are cultures who integrated in cohesive groups with often extended families. Some examples from Hofstede (2011) for individualistic cultures are: (1) everyone is supposed to take care of him or herself, (2) I-consciousness instead of we, (3) right of privacy, (4) speaking one's mind is healthy, (5) a personal opinion is expected, (6) purpose of education is how to learn.

The final original Hofstede dimension is masculinity versus femininity. Women in feminine countries have the same modest, caring values as men and in masculine cultures women are assertive and competitive, but not as much as men. Examples from Hofstede (2011): for feminine cultures are: (1) minimum emotional and social role differentiation between genders, (2) men and women should be modest and caring, (3) there is balance between family and work, (4) sympathy for the weak, (5) men and women deal with facts and feelings and may cry, but should not fight, (6) there are many women in political positions, and (7) religion focuses on humans, not gods. In contrast, in masculine cultures work is more important, boy's may not cry and there are few women in political positions.

Then, two new dimensions were identified by Hofstede in 1987 (Hofstede, 2011). The first is long-term orientation versus short-term orientation. Cultures with a more short-term orientation have more the conception that most important events in life take place in the past or take place now. They

value personal steadiness and stability and think a good person is always the same. In these cultures there are also universal guidelines about what is good and evil. These cultures are also often nationalistic: one should be proud of one's country (Hofstede, 2011). Service to others is also an important goal. Regarding education, students attribute success and failure to luck. In poor countries with a short-term orientation there is slow or no economic growth. In comparison, cultures that are more long-term focused think that most important events will take place in the future. These cultures think that a good person adapts to circumstances and what is good and evil also depends on the circumstances. Traditions are also adaptable to changed circumstances. These countries try to learn from other countries. Students attribute their success to effort and failure to lack of effort. In these countries there is often fast economic growth.

Finally, the newest Hofstede dimensions is indulgence versus restraint. This dimension was added in a book in 2010 (Hofstede, 2011). It was based on World Values Survey items. It is weakly negatively correlated with long- versus short term orientation. Indulgence stands for a society that allows meeting natural desires like having fun and enjoying life (Hofstede, 2011). A higher percentage of people declares themselves happy in these societies. These societies have a perception of own life control and see deeds of people as their own doing. People in these societies are more likely to remember positive emotions. Also more people are engaged in sport, and are obese. Maintaining order is not giving high priority. Contrary, in restraint societies there are fewer happy people. What happens to people is seen as not their own doing. Freedom of speech and leisure are not seen as important. Also there are stricter sexual norms and a higher number of police officers.

In 1988 Gray explored the extent to which international differences in accounting may be explained by cultural factors. Because he thinks that in accounting the importance of culture has been neglected he proposes a framework exploring the relationship between culture and accounting systems. He says that the cultural dimensions of Hofstede are related to the development of accounting systems at the subcultural level and hypothesizes that they directly influence the development of accounting systems. From a review of accounting literature he then derives four accounting values related to the cultural values of Hofstede. The first is professionalism versus statutory control. Professionalism is a preference for the exercise of individual professional judgement and the maintenance of professional self-regulation (Gray, 1988). The opposite is statutory control: here there is compliance needed with prescriptive legal requirements. Gray's second accounting dimension is uniformity versus flexibility. In flexible environments practices depend on the circumstances, wherein uniformity it is important that there are uniform and consistent practices. The

third dimension is conservatism versus optimism. In conservative environments the approach is more cautious, to cope with uncertainty and with optimism, the approach is more-risk taking. The final dimension is secrecy versus transparency. In secrecy the preference is for confidentiality and disclosures are often restricted. In transparent environments the information is more public.

Next, Gray (1988) formulates four hypotheses about the relation of these accounting dimensions with Hofstede's (1980) cultural dimensions. These hypotheses are shown in table 2.

Table 2 – Gray's hypotheses about the relationship between his accounting values and Hofstede's cultural dimensions

1 – The higher a country ranks in terms of individualism, and the lower it ranks in terms of uncertainty avoidance and power distance, then the more likely it is to rank highly in terms of professionalism.
2 – The higher a country ranks in terms of uncertainty avoidance and power distance, and the lower it ranks in terms of individualism, then the more likely it is to rank highly in terms of uniformity.
3 – The higher a country ranks in terms of uncertainty avoidance and power distance, and the lower it ranks in terms of individualism and masculinity, then the more likely it is to rank highly in terms of conservatism.
4 – The higher a country ranks in terms of uncertainty avoidance and power distance, and the lower it ranks in terms of individualism and masculinity, then the more likely it is to rank highly in terms of secrecy.

Source: Gray (1988)

Gray (1988) does not carry out the empirical research to see whether there is a match between these societal and accounting values. Salter and Niswander (1995) did this and found that Gray's model has statically significant explanatory power, and best at explaining actual financial reporting practices. Chanchani and MacGregor (1999) have placed Gray's accounting values and Hofstede's dimensions in a table, indicating the relationships between them. In table 3 you can see these relationships between Gray's accounting values and Hofstede's cultural dimensions.

Table 3 – Relationships between Gray's accounting values and Hofstede's cultural dimensions

	Power Distance: (PDI)	Uncertainty Avoidance: UAI	Individualism: IDV	Masculinity: MAS	Long-Term Orientation: LTO	Indulgence vs. Restraint: IVR
Professionalism	-	-	+		-	+
Uniformity	+	+	-		+	-
Conservatism	+	+	-	-	+	-
Secrecy	+	+	-	-	+	-

Source: Chanchani and MacGregor (1999)

The IFRS-favorable profile

Gray (1988) referenced to the Anglo-American countries as having a long history of development of accounting professional organizations. All these countries are countries with strong democratic values and a long standing tradition of public companies (Borker, 2013). The accounting standard setting bodies in these countries (Australia, Canada, New Zealand, United Kingdom & United States) are independent organizations and there is acceptance of the public accountant's independence. According to Borker (2013), IFRS has a strong connection with the Anglo-American culture. IFRS has strong similarities to US GAAP but is more principles-driven, like described in the previous chapter. But because the Anglo-American world had a central role in the making and evolution of IFRS, Borker (2013) says that the Anglo-American profile can be the optimal profile for IFRS development, in terms of Gray's accounting values. The Anglo-American profile consists of the Hofstede's cultural dimensions: low power distance, individualism, and moderate masculinity and uncertainty avoidance. In table 4 the scores of the Anglo-American countries on these dimensions can be seen. When they are conversed to Gray's accounting values, Borker (2013) shows that the corresponding values are professionalism, flexibility, optimism and transparency.

Table 4: scores of Anglo-American countries on Hofstede's cultural dimensions

Anglo-American countries	PDI	UAI	IDV	MAS	LTO	IVR
Australia	36	51	90	61	21	71
Canada	39	48	80	52	36	68
New Zealand	22	49	79	58	33	75
United Kingdom	35	35	89	66	51	69
United States	40	46	91	62	26	68

Source: Borker (2013)

Here the corresponding Hofstede dimensions to these four values will be used to see whether countries that have such an IFRS-favorable profile, will be more likely to have adopted IFRS as national standards to see if culture has an influence on IFRS adoption.

H1: If the IFRS-profile of a country is more favorable of IFRS, the country will be more likely to have adopted IFRS as national standards.

Financial Reporting Quality

The second part of the research question focuses on financial reporting quality. This research will also look at the influence of IFRS adoption and culture on financial reporting quality. First, it will be explained why IFRS can influence financial reporting quality.

The introduction of a uniform accounting set of standards is expected to ensure greater comparibility and transparency of financial reporting over the world. However in research the influence of IFRS on financial reporting quality has been questioned (Ball, 2003). Daske and Gebhardt (2006) assessed the quality of financial statements under IFRS of Austrian, German, and Swiss firms. The study made use of available disclosure quality scores extracted from detailed analysis of annual reports. Their study showed that disclosure quality increased significantly under IFRS in the three countries. Their results also hold for firms which mandatorily adopted the standards.

Also Tendeloo and Vanstraelen (2011) researched the influence of IFRS on financial reporting quality. Their paper addressed whether voluntary adoption of International Financial Reporting Standards is associated with lower earnings management. They investigated German companies that have chosen to adopt IFRS voluntarily and compared them with German companies that use GAAP

(German generally accepted accounting principles). Their results suggest that IFRS-adopters do not present different earnings management compared to companies reporting under GAAP. This indicates no effect of IFRS adoption on financial reporting quality.

Jeanjean and Stolowy (2008) looked at the effect of the mandatory introduction of IFRS standards on earnings quality. They focused on three adopters: Australia, France and the UK. They found that earnings management did not decline after the introduction of IFRS, and increased in France. They note that rules may not be enough to increase financial reporting quality and institutional factors may play a role.

Van der Meulen, Gaeremynck and Willekens (2007) have compared the quality of IFRS with US GAAP. They use a sample of German New Market firms. They find that the quality of US GAAP and IFRS is overall very comparable. With regard to predictive ability of accounting information they find that US GAAP is superior.

Chen, Tang, Jiang and Lin (2010) investigate the role of IFRS in the change of accounting quality, controlling for factors where previous research fails to control for. They compare 15 member states of the European Union before and after the adoption of IFRS. They found that the majority of accounting quality indicators improved after IFRS adoption in the EU. But the results also indicate that firms engage in more earnings smoothing and recognize larger losses in a less timely manner in post-IFRS periods.

Houqe, Dunstan, Karim and van Zijl (2012) have also investigated the effect of IFRS adoption and investor protection on earnings quality around the world. Like this study, the study is carried out on country level. They measure two attributes of accounting earnings: the magnitude of discretionary accruals, and accruals quality. The results suggest that IFRS adoption does not necessarily lead to increased earnings quality. They do find that earnings quality improves with strong investor protection and that investor protection mediates the effect of IFRS adoption.

Findings on the impact of IFRS adoption on financial reporting quality seem to be mixed. Therefore this research tries to gain more insight into the relationship between IFRS implementation and financial reporting quality by carrying out a country level analysis. This research expects a positive relationship. Conversions to IFRS are intended to improve financial reporting. The switch to IFRS in the EU has been motivated by the desire to seek higher quality accounting standards (Daske & Gebhardt, 2006). The assumption that IFRS provides higher quality accounting standards can be based on the greater quantity of mandatory disclosures (Daske & Gebhardt, 2006). Also the measurement rules have been developed with the aim of providing relevant and reliable information to investors

and are therefore supposed to be of higher quality. Therefore, this research expects that countries that have mandated IFRS as national standards will have higher financial reporting quality than countries without IFRS.

H2: Countries that have IFRS as national standards will have higher financial reporting quality than countries without IFRS.

Like discussed in the introduction and in the literature section for the first hypothesis, culture can influence accounting. Kwok and Tadesse (2006) state that national culture plays a great role in the configuration of financial statements. Also Gray (1988) claims that national systems are determined by culture.

Previous literature has looked at the influence of culture on financial reporting quality. Many studies have looked at the effect of the indivualistic features of managers on earnings management. These features are also often cultural features and give an indication that culture can influence financial reporting quality. Han, Kang, Salter and Yoo (2010) have looked at whether there is a relation between the values system of managers and earnings management. They also apply this to cultural features of the country. They find that uncertainty avoidance and individualism dimensions of natural culture explain the earnings discretion of managers across countries, and that this varies with the amount of investor protection.

Nabar and Boonlert-U-Thai (2007) examined the impact of investor protection and national culture on earnings management for a sample of 30 countries. Their results indicate that earnings management is high in countries with high uncertainty avoidance scores and low in countries where the primary language is English. Uncertainty avoidance and masculinity seem to be associated with earnings discretion but not with earnings smoothing.

Also Doupnik (2008) has investigated the relation between culture and earnings management in different countries. He finds that the cultural dimensions of uncertainty avoidance and individualism are significantly related to earnings management. Culture has a stronger relation with income smoothing than earnings discretion.

Previous research gives an indication that culture can influence financial reporting quality. This study makes the assumption that countries with a profile that is more favorable of IFRS, will have a higher financial reporting quality. These countries have lower power distance, higher individualism, higher masculinity, lower uncertainty avoidance, a lower long-term orientation and more indulgence

instead of restraint. Nabar and Boonlert-U-Thai (2007) already found that low uncertainty avoidance is associated with lower levels of earnings management and Han et al. (2010) that high individualism is associated with lower levels of earnings management.

The IFRS-favorable profile is based on the scores of Anglo-American countries. Anglo-American countries are expected to have higher financial reporting quality because these countries have a long history of development of accounting professional organizations (Gray, 1988). These countries have long standing tradition of public companies. In these countries there is acceptance of the public accountant's independence and the accounting standard-setting bodies are independent organizations. Therefore this study hypothesizes that countries with a more IFRS-favorable profile, have a higher financial reporting quality.

H3: If the IFRS-profile of a country is more favorable of IFRS, the country will have a higher financial reporting quality.

Finally, a hypothesis is added about an interaction between culture and the implementation of IFRS as national standards. The assumption made is that there is a relationship between the implementation of IFRS, and financial reporting quality. This assumption was made in hypothesis 2 and expects a positive relation between IFRS implementation and financial reporting quality. An additional assumption made here is that this relationship becomes stronger if the country has an IFRS-favorable profile. If the profile of a country is more IFRS-favorable, it could influence the relationship between IFRS implementation and financial reporting quality. IFRS could be more suited to countries with cultural dimensions that are more favorable of IFRS and therefore have a higher relation with financial reporting quality. A reason could be that accountants in these countries understand the principles of IFRS better because they are more suited to their culture.

H4: The relationship between IFRS as national standards and financial reporting quality will be stronger if a country has an IFRS-favorable profile.

3. Methodology

Research Design

The research will be carried out on country level, because the hypotheses make statements about countries specifically. To carry out the country level analysis, regression techniques will be used. The model to test the first hypothesis will use a logistic regression model, because the dependent variable uses a dichotomous variable. The hypothesis is that if the IFRS-profile of a country is more favorable of IFRS, the country will be more likely to have adopted IFRS as national standards. This dependent variable (IFRS implementation) can also be named a binary, zero-one or dummy variable. The dummy variable is the dependent variable: IFRS implementation. The benefit of using zero-one variables to capture the information of IFRS implementation is that this leads to a regression model where the parameters give very natural interpretations (Wooldridge, 2003). Because a logistic regression model is used, the coefficients will have a percentage interpretation. Because log(IFRS implementation) is the dependent variable in the model, the coefficients can be explained as, the percentage difference in IFRS implementation, holding all other factors constant. The estimation can be positive or negative.

First, the model will test the influence of the control variables separately to see if they have an effect on the implementation of IFRS. Tested is, if the capital market size of a country, the economic growth rate, the education level, the level of investor protection and the corruption index are associated with the implementation of IFRS standards. This model will be:

Model 1a: Logit (*pIFRS Implementation*) = $\beta_0 + \beta_1$(capital market size) + β_2(economic growth rate) + β_3(education)+ β_4(investor protection)+ β_5(corruption index) + ε.

In model 1a there are five factors that influence IFRS implementation. IFRS implementation is 1 when the country has adopted IFRS as national standards, and is 0 when the country does not yet have IFRS as national standards. So parameter β_0 has the following interpretation: this is the difference in implementation of IFRS standards, in percentage, given the same size of the capital market, same economic growth rate, same education, same investor protection and same corruption index of a country, and the same error term.

Second, the IFRS-profile score will be added to answer the hypothesis: if a higher score on the IFRS-favorable profile leads to a higher probability to have adopted IFRS as national standards,

controlled for capital market size, economic growth rate, education level, investor protection and corruption. This can be seen in model 1B:

Model 1b: Logit (*pIFRS Implementation*) = β_0 + β_1(IFRS-profile score) + β_2(capital market size) + β_3(economic growth rate) + β_4(education)+ β_5(investor protection)+ β_6(corruption index) + ε.

The parameter β_0 in this model has the interpretation that this is the difference in implementation of IFRS standards, in percentage, given the same score on the IFRS-profile and the six control variables. With this model the hypothesis can be answered. To answer the hypothesis, the IFRS-profile is looked at. If this variable is of significant influence on IFRS implementation, controlled for all other variables, hypothesis 1 can be confirmed.

Finally, the Hofstede's dimensions will be added separately to see whether they have an influence on IFRS implementation. The dimensions power distance, individualism, masculinity, uncertainty avoidance, long term orientation and indulgence will be added to model 1c to look at their relation with the decision to have adopted IFRS as national standards. The variable IFRS-profile score is excluded here because else the same variables are included two times and this will lead to biased results. The meaning of parameter β_0 is here the difference in percentages in IFRS implementation per country with the same score on the control variables, and the same scores on the different dimensions of culture. Here it is shown in model 1C:

Model 1C: Logit (*pIFRS Implementation*) = β_0 + β_1(capital market size) + β_2(economic growth rate) + β_3(education)+ β_4(investor protection)+ β_5(corruption index) + β_6(power distance) + β_7(individualism) + β_8 (masculinity) + β_9(uncertainty avoidance) + β_{10}(long term orientation) + β_{11}(indulgence) + ε.

To get the results on the second to fourth hypothesis, multiple linear regression will be used because the dependent variable: financial reporting quality, is considered a continuous variable. Multiple regression analysis allows to control for factors that simultaneously affect the dependent variable (Wooldridge, 2003). If more factors are added to the model, more of the variance in the financial reporting quality can be explained. The method or ordinary least squares (OLS) chooses the estimates to minimize the sum of squared residuals. Model 2a will be:

Model 2a: Financial Reporting Quality = $\beta_0 + \beta_1$(capital market size) + β_2(economic growth rate) + β_3(education)+ β_4(investor protection)+ β_5(corruption index) + ε.

Second, IFRS implementation will be added to the model to test hypothesis 2: if countries that have IFRS as national standards have a higher financial reporting quality than countries that do not have implemented IFRS as national standards, controlled for capital market size, the economic growth rate, education level, investor protection and corruption. Here this model is shown:

Model 2b: Financial Reporting Quality = $\beta_0 + \beta_1$(IFRS implementation) + β_2(capital market size) + β_3(economic growth rate) + β_4 (education)+ β_5 (investor protection)+ β_6 (corruption index) + ε.

For the third hypothesis that predicts that countries with a profile that is more IFRS-favorable have a higher financial reporting quality, the IFRS-favorable profile is added to the model in model 2c:

Model 2c: Financial Reporting Quality = $\beta_0 + \beta_1$(IFRS-profile score) + β_2(capital market size) + β_3(economic growth rate) + β_4(education)+ β_5(investor protection)+ β_6(corruption index) + ε.

In this model it is also controlled for IFRS implementation, because the effect of the IFRS-profile score could influence IFRS implementation which in turn could influence financial reporting quality.

The third hypothesis wants to look at the interaction with culture. It predicts that the relationship between the implementation of IFRS as national standards and financial reporting quality will be stronger if a country has an IFRS-favorable profile. This is shown in model 2d:

Model 2d: Financial Reporting Quality = $\beta_0 + \beta_1$(IFRS implementation) + β_2(IFRS-favorable profile) + β_3(IFRS implementation*IFRS-favorable profile) + β_4(capital market size) + β_5(economic growth rate) + β_6(education)+ β_7(investor protection)+ β_8(corruption index) + ε.

Sample

The sample selection process began by identifying the list of countries of which data are available on IFRS implementation. These data are available by Deloitte (2012) and 147 countries are included in this list. In table 1 (p.8) the countries are listed, and they are classified by adoption of IFRS. On 94

countries data are found and included in this research on IFRS adoption, the Hofstede dimensions, capital market size, economic growth rate, education level, investor protection and corruption. The 53 countries[1] on which data on the Hofstede dimensions are not found, are excluded from further research. There are also 22 countries in this research that miss data on some specific variable. These countries are still included in this research because enough data are still available to make predictions. These countries miss data on the fifth or sixth Hofstede dimension so for these countries the IFRS-favorable profile score is only based on the first four Hofstede dimensions. Data are used, for all variables, from 2008, because this is the only year for which the data on financial reporting quality per country are available. With the exclusion of 53 countries on which data on the variables cannot be found, 94 countries[2] remain in this research to test the hypotheses.

Operationalization

Dependent variables

IFRS Implementation

To get results on the first hypothesis, the dependent variable used is IFRS implementation. If countries have implemented IFRS as national accounting standards is measured by using data available from Deloitte (2012). They have a list on use of IFRS by country, which also shows which countries are planning to implement IFRS in the next years, making this data more recent. However, because this research looks at the effects of culture on IFRS implementation and financial reporting quality in 2008: the data of Deloitte is compared with data from PWC (2011), which shows in which year countries implemented IFRS. In some cases, it is necessary to analyze the news reports in the data of Deloitte (2012) to investigate in what year countries adopted IFRS fully.

Deloitte makes a distinction between IFRSs not permitted, IFRSs permitted, IFRSs required for some companies (like banks) and IFRSs required for all companies. Because in this research the focus is on countries which have fully adopted IFRS as national guidelines, the distinction will be

[1] Abu Dhabi, Anguilla, Armenia, Aruba, Azerbaijan, Bahama's, Bahrain, Barbados, Belarus, Benin, Bermuda, Bolivia, Bosnia, Botswana, Cambodia, Cuba, Cyprus, Dominica, Georgia, Gibraltar, Grenada, Guyana, Haiti, Ivory Coast, Kazakhstan, Kyrgyzstan, Laos, Lesotho, Liechtenstein, Macedonia, Maldives, Mali, Mauritius, Moldova, Mongolia, Montenegro, Myanmar, Netherlands Antilles, Nicaragua, Niger, Oman, Papua New Guinea, Paraguay, Qatar, Swaziland, Tajikistan, Togo, Tunisia, Turkmenistan, Uganda, Uzbekistan, Zimbabwe.

[2] Argentina, Australia, Austria, Bangladesh, Belgium, Bhutan, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Fiji, Finland, France, Germany, Ghana, Greece, Guatemala, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Iraq, Iran, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kenya, Kuwait, Latvia, Lebanon, Lithuania, Luxembourg, Libya, Malawi, Malaysia, Malta, Mexico, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Romania, Russia, Saudi Arabia, Senegal, Serbia, Sierra Leone, Singapore, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Suriname, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad & Tobago, Ukraine, UK, US, Uruguay, Venezuela, Vietnam, Zambia.

made between countries who have fully adopted IFRS (required for all companies) and countries who have not.

In 2002 the EU Parliament passed a regulation that required all EU member states and the companies listed there to adopt IFRS as rules to prepare the consolidated financial statements starting in 2005. This means that all countries in the EU have adopted IFRS as national standards, in accordance with the data of this research. But because there could be differences in culture or financial reporting quality, EU countries are added separately in this research.

Table 5 shows a list of the countries used in this research, the date on which the country has adopted IFRS and to which extent the country has adopted IFRS. There are four options: total adoption and requirement of IFRS for listed companies, IFRS required for some listed companies, IFRS optional for listed companies, or that the country does not permit the use of IFRS. When there is no year entered for (full) adoption, this means that the country does not have plans to converge to IFRS in the near future. In table 6 the countries are grouped according to their IFRS adoption status in 2008.

In the sample 35 countries (37,2%) do not permit the use of IFRS. 11 countries (11,7%) permit IFRS, 5 countries (5,3%) require IFRS for some companies and 43 countries (45,7%) require IFRS for all companies. To be able to carry out the regression analysis the variable IFRS adoption needs to be coded into two categories. Countries that have not fully adopted IFRS as national standards are coded as 0:not adopted, and countries who have as 1: fully adopted IFRS as national standards. The categories that fall in between: countries that permit the use of IFRS or require them for some companies, are added to the other two categories. Countries that require IFRS for some companies are added to category 1: fully adopted IFRS as national standards, and countries that permit IFRS but do not require it are added to category 0: not adopted IFRS as national standards.

Category 1 only consists of countries that have fully adopted IFRS as national standards for all companies. The adoption of IFRS is a dichotomous (dummy) variable. So the regression on this dependent variable will be of a logistic nature.

Table 5: IFRS adoption for the countries in the sample

Country	Status IFRS adoption in 2008	Year of (full) adoption	Country	IFRS adoption	Year of (full) adoption
Argentina	Not permitted	2012	Lithuania	IFRS required	2005
Austria	IFRS required	2002	Luxembourg	IFRS required	2005
Australia	IFRS required	2005	Libya	IFRS permitted	-
Bangladesh	IFRS required	2007	Malawi	IFRS required	2002
Belgium	IFRS required	2002	Malaysia[3]	Not permitted	2011
Bhutan	Not permitted	-	Malta	IFRS required	2005
Brazil	IFRS permitted	2010	Mexico	Not permitted	2012
Bulgaria	IFRS required	2007	Morocco	Required for some	2008
Burkina Faso	Not permitted	-	Mozambique	Required for some	2010
Canada	IFRS permitted	2011	Namibia	IFRS required	2005
Chile	Not permitted	2010	Nepal	Not permitted	2014
China	Not permitted	-	Netherlands	IFRS required	2005
Colombia	Not permitted	2016	New Zealand	IFRS required	2007
Costa Rica	IFRS required	2001	Nigeria	Not permitted	2012
Croatia	Required for some	2013	Norway	IFRS required	2005
Czech Republic	IFRS required	2002	Pakistan	Not permitted	2015
Denmark	IFRS required	2005-2009	Panama	Not permitted	2011
Dominican Republic	Not permitted	2015	Peru	Not permitted	2010
Ecuador	Not permitted	2012	Philippines[4]	Not permitted	-
Egypt	Not permitted	-	Poland	IFRS required	2005
El Salvador	Not permitted	2011	Portugal	IFRS required	2005
Estonia	IFRS required	2005	Romania	IFRS required	2007
Fiji	IFRS required	2007	Russia	IFRS permitted	2012
Finland	IFRS required	2005	Saudi Arabia	Required for some	2018
France	IFRS required	2005	Senegal	Not permitted	-
Germany	IFRS required	2005	Serbia	IFRS required	2004
Ghana	IFRS required	2007	Sierra Leone	Not permitted	2012
Greece	IFRS required	2005	Singapore	Not permitted	2017
Guatemala	IFRS permitted	2011	Slovenia	IFRS required	2005
Honduras	Not permitted	2012	South Africa	Not permitted	2012
Hong Kong[5]	IFRS permitted	2014	South Korea	Not permitted	2011
Hungary	IFRS required	2005	Spain	IFRS required	2005
Iceland	IFRS required	2005	Sri Lanka	IFRS permitted	2012
India	IFRS permitted	2015	Suriname	IFRS permitted	-
Indonesia	Not permitted	-	Sweden	IFRS required	2005
Iraq	IFRS required	2004	Switzerland	IFRS permitted	-
Iran	Not permitted	-	Taiwan	Not permitted	2013
Ireland	IFRS required	2005	Tanzania	IFRS required	2004

[3] Malaysia uses MFRS (adopted in 2011), which is identical to IFRS – PWC (2011)
[4] Philippines have adopted IFRS as Philippines Financial Reporting Standards (PFRSs) and made various modifications, and standards are therefore no longer IFRS – Deloitte (2012)
[5] "Hong Kong has adopted national standards that are identical to IFRSs, including all recognition and measurements options" – Deloitte (2012)

Israel	IFRS required	2008	Thailand	Not permitted	2013
Italy	IFRS required	2005	Trinidad & Tobago	IFRS permitted	2009
Jamaica	IFRS required	2002	Ukraine	Not permitted	2011
Japan	Not permitted	2010 (permitted)	United Kingdom	Required for some	-
Jordan	IFRS required	2002	United States	Not permitted	-
Kenya	IFRS required	1999	Uruguay	Not permitted	2012
Kuwait	IFRS required	2002	Venezuela	Not permitted	-
Latvia	IFRS required	2005	Vietnam	Not permitted	-
Lebanon	IFRS required	2002	Zambia	Not permitted	2012

Source: Deloitte (2012) and PWC (2011)

Table 6: IFRS adoption in 2008

IFRS required (43)	Austria, Australia, Bangladesh, Belgium, Bulgaria, Costa Rica, Czech Republic, Denmark, Estonia, Fiji, Finland, France, Germany, Ghana, Greece, Hungary, Iceland, Iraq, , Ireland, Israel, Italy, Jamaica, Jordan, Kenya, Kuwait, Latvia, Lebanon, Lithuania, Luxembourg, Malawi, Malta, Namibia, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Tanzania.
IFRS required for some companies (5)	Croatia, Morocco, Mozambique, Saudi Arabia, United Kingdom.
IFRS permitted (11)	Brazil, Canada, Guatemala, Hong Kong, India, Libya, Russia, Sri Lanka, Suriname, Switzerland, Trinidad & Tobago.
IFRS not permitted (35)	Argentina, Bhutan, Burkina Faso, Chile, China, Colombia, Dominican Republic, Ecuador, Egypt, El Salvador, Honduras, Indonesia, Iran, Japan, Malaysia, Mexico, Nepal, Nigeria, Pakistan, Panama, Peru, Philippines, Senegal, Sierra Leone, Singapore, South Africa, South Korea, Taiwan, Thailand, Ukraine, United States, Uruguay, Venezuela, Vietnam, Zambia.

Source: Deloitte (2012) and PWC (2011)

Financial Reporting Quality

To measure financial reporting quality the financial reporting indexes of Tang, Chen and Lin (2016) are used. They have computed a financial reporting quality index on country level for 38 countries based on six indicators. They have applied this financial reporting quality index to an empirical study of the association between financial reporting quality and investor protection. The results are robust to sensitivity checks and also consistent with previous studies. This suggests that the measure of national financial reporting quality is a reliable measure. The indexes are believed to be suitable for this research, because it is a measure of financial reporting level on country level, and not only on firm level. Tang, Chen and Lin (2016) use six characteristics on country level for their financial reporting

indexes. The six indicators and will be described here briefly. For further in-depth explanations and calculations of the ratio see the article of Tang, Chen and Lin (2016).

The first indicator is the loss avoidance ratio. This is a measure of earnings management. Firms will engage in earnings management to avoid reporting negative earnings. The higher the ratio of loss avoidance, the higher the ratio of earnings management, and the lower is financial reporting quality. To compute the ratio of loss avoidance, the following formula is used. Loss Avoidance Ratio = Total number of small profit firms/total number of small loss firms.

The second indicator is the profit decline avoidance ratio. This is also a measure of earnings measurement. Tang, Chen and Lin (2016) explain that different circumstances, like the price penalties for falling short of a profit and a possible effect of the stock price on a manager's compensation package, give managers incentives to report a pattern of increasing profit. To measure the profit decline avoidance ratio the following formula is used: total number of small profit increase firms/total number of small profit decrease firms.

The third ratio is the accruals ratio. This is measure of accruals quality. The level of accruals is used to measure the aggressiveness of accounting. A smaller accruals ratio points to less management discretion and also to less earnings management (Tang, Chen & Lin, 2016). They calculate the accruals ratio by using accruals divided by lagged total assets.

The fourth indicator of the country-level financial reporting index used by Tang, Chen and Lin (2008) is the qualified audit opinion ratio. The auditor examines the financial statements and gives an qualified or unqualified opinion about the reasonable assurance that the financial statements are presented correctly (Louwers, 2014). A qualified opinion is evidence that the financial reporting are not of good financial reporting quality. This ratio is the total number of qualified audit opinions divided by the total number of the auditees in a country.

The fifth indicator is the non-big four auditor ratio. Non-big four auditors are seen as of lower quality than big four auditors (Tang, Chen & Lin, 2016). Expected is that high audit quality exists because of a high quality of accounting systems in a country. Therefore audit quality is an important part of financial reporting quality. The ratio is therefore calculated by dividing the total number of big 4 auditors with the total number of the auditees.

Finally, the audit fee ratio is used as an indicator. This is also a measure of audit quality with the same reasons as the non-big four auditor ratio. The audit fee represents the contribution of a firm to the financial reporting system (Tang, Chen & Lin, 2016). The audit fee is paid, the better audit

service it was. Higher audit fees reflects a higher level of auditors efforts. The audit fee ratio is calculate by dividing the audit fee with total assets. This measures the output of the financial reporting system.

With these six indicators the financial reporting index is finally calculated. First, the countries[6] are ranked on basis of the individual indicators. Second, for each indicator the country with the highest value gets a score of 100 and other countries a percentage calculated on basis of the highest score. The third step Tang, Chen and Lin (2016) take is weighting the indicators equally to finally obtain the index. The higher the financial reporting index, the higher the rank of the country, and the higher the financial reporting quality. The quality is calculated for the years from 2001 and 2007 and finally overall for each country as average of the eight years. The final financial reporting quality per country can be seen in table 7. Because financial reporting quality has been influenced by the introduction of new standards and SOX (Cohen, Dey & Lys, 2007), in this research only the mean of the data from 2006 and 2007 are used.

A limitation of taken the data from 2008 is that certain reforms in financial reporting and reporting quality since 2008 will not be taken into account in this research. Therefore a suggestion for further research in this topic is to replicate this research with updated data about the variables in this research. Another limitation of this operationalization of financial reporting quality is that data are only available for 38 countries. Because there are data of countries available for both countries that have, or have not adopted IFRS as national standards (23 have fully adopted IFRS, whereas 15 have not) this is not considered as a problem. Also, as a rule of thumb, for linear regression analysis the sample has to be at least 30. So with 38 countries the linear regression can still be used as an analysis method. According to Hogg, Tanis and Zimmerman (2015) the sample size has to be at least 25 to 30.

Independent variable

Culture: IFRS-favorable profile

The variable of culture will be constructed by using the IFRS-favorable profile of Borker. In this profile, the dimensions of Hofstede will be combined with the Gray values. Borker (2013) has investigated which Gray values and which corresponding Hofstede cultural dimensions would be most supportive of the establishment of accounting standards like IFRS. In the previous chapter is described that this is the Anglo-American profile and that this profile consists of the Gray dimensions

[6] Austria, Australia, Belgium, Brazil, Canada, Chile, China, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Indonesia, Ireland, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Pakistan, Philippines, Portugal, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, United States & United Kingdom.

professionalism, flexibility, optimism and transparency. These dimensions of Gray can be linked to Hofstede dimensions by using the relationships in table 3. The data on the dimensions of Hofstede can be derived from the website of Hofstede (https://geert-hofstede.com/national-culture.html.

By using's Borker's data on the direct and inverse relationships between Gray's accounting dimensions and Hofstede's cultural dimensions, the ranking on the IFRS favorable profile can be read and a score will be computed to construct the scores on Gray's dimensions. This is done by looking at table 3 (Chanchani & MacGregor, 1999). Here you can see the summary of relationships between Gray's accounting dimensions and Hofstede's cultural dimensions. For each country in the data, the Hofstede dimensions are linked to Gray's accounting dimensions. In table 3 you could see Gray's four accounting dimensions are professionalism versus statutory control, uniformity versus flexibility, conservatism versus optimism and secrecy versus transparency. The IFRS favorable profile includes the dimensions professionalism, flexibility, optimism and transparency. So if you link this to Hofstede's dimensions: the favorable Hofstede dimensions are: no power distance, individualism, masculinity, no uncertainty avoidance, no long-term orientation, and indulgence instead of restraint. For example, if you look at the variable professionalism (Gray dimension) in table 3: you see a negative sign describing the relationship with power distance (Hofstede dimension). Professionalism is one of the components of the Anglo-American IFRS-favorable profile, and negatively linked with power distance. So, the IFRS-favorable profile would be characterized by a low power distance.

So the construction of the variable IFRS-favorable profile is started by retrieving the data on these Hofstede dimensions from his website (www.geert-hofstede.com) for the 94 countries in the sample. The dates of the scores depend on the country. The first scores were collected between 1967 and 1973 covering more than 70 countries. Since culture changes very slow, the scores can be considered up to date (Hofstede, 2001).

First the scores on data on the Hofstede dimensions are recorded in the way that, a high score, measures a higher score on the IFRS favorable profile. Then these are computed and the resulting score is the score on the IFRS favorable profile.

For all 94 countries data are available on the first four Hofstede dimensions: power distance, individualism, masculinity and uncertainty avoidance. For long-term orientation and indulgence, for some countries data are missing. To make sure the missing values don't affect the scores a method is used to handle the missing values without having to leave out the countries for which there is a missing value. The method used here is the mean of missing values method. This method replaces the missing values with the sample mean. So the countries for which data on the Hofstede dimension is missing,

will get the mean of all other countries. This averages are, for power distance: 37, for individualism 40, for masculinity 47, for uncertainty avoidance 36, for long-term orientation 57 and for indulgence 47. The advantage of this method that the N is not lowered because you can still include all countries. Disadvantages are that this reduces the variability of the sample, and that it reduces covariance and correlation estimates in the data. This happens because the method ignores relationships between variables (Humphries, 2013).

Control variables

Capital market size

Capital market size is added as a control variable because some countries have big capital markets whereas in other countries the capital market could barely exist. Capital market size could have an effect on IFRS implementation and financial reporting quality. In bigger capital markets there is more money, so it could be easier to adopt IFRS as national standards: because the implementation costs are less. But there are also arguments that countries with larger capital markets will be less likely to have adopted IFRS as national standards. Bigger, more powerful countries could be less willing to surrender standard-setting authority to an international body (Ramanna & Sletten, 2009). Also, research of Salter and Niswander (1995) found that the size of the nation's capital market was positively related to the adoption of International Accounting Standards. Also Hope, Jin and Kang (2006) found that access to equity capital was positively related with IFRS adoption.

Also, capital market size is expected to have a positive effect on financial reporting quality. Hermann & Thomas (1996) found evidence that reporting varies significantly per country and that firm size is also of significant influence on the quality of disclosures. Larger firms means also a larger capital market. Also, Leuz, Nanda and Wysocki (2003) show that countries with large stock markets exhibit lower levels of earnings management, which can be used as a proxy for financial reporting quality.

Capital market size is measured by using the market capitalization: the total dollar market value of all of a company's outstanding shares. The data are drawn from the Quandl database and data are taken from 2008. Capital market size is calculated by multiplying a company's shares outstanding by the current market price of one share. So the capital market size exists of the value of the capital market for all public companies. Market prices are shown in billion U.S. dollars.

In Africa, eight countries have combined their capital market to one capital market: BVRM. This includes the countries Benin, Burkina Faso, Cote d'Ivoire, Guinea Bissau, Mali, Niger, Senegal

& Togo. Only Burkina Faso and Senegal are included in the sample. Therefore the market capitalization of BVRM (8.1 billion) is divided by eight (8.1/8 = 1.01) and this is the market capitalization for respectively Burkina Faso and Senegal.

Economic growth rate

The next control variable used is the economic growth rate per country. The economic growth rate of a country could influence the decision to adopt IFRS as national standards. When the economic growth rate is high, there is more money to invest in the adoption of IFRS. Zeghal and Mhedhbi (2006) have found a relation between economic growth in developing countries and the adoption of IFRS.

Also, the economic growth rate can influence financial reporting quality. When the economic growth rate is higher there is more money to invest in higher financial reporting quality. Mueller, Gernon and Meek (1994) have also reported that there is a positive association between economic growth rates and accounting quality. Their argument is that higher accounting quality may help to lower the cost of capital and thus can lead to economic growth (Judge, Li & Pinsker, 2010).

Data on the economic growth rate of countries can be found in the World Bank and this is the annual percentage growth rate of GDP at market prices based on the local currency. The GDP is the sum of gross value added by all producers in the economy plus taxed and minus subsidies. The GDP is calculated without taking into account depreciation or depletion of natural resources. The economic growth rate from 2008 is used, because with IFRS implementation this year is looked at.

Education level

Education level is added as the third control variable to the model. Education level is a predictor of the degree of development of a country. According to Zeghal and Mhedhbi (2006), education is the pillar for modern complex accounting systems. Because the adoption of internal accounting standards is very complex and a very strategic decision, it requires a high level of education and expertise. Their results indicate that developing countries with the highest literacy rates are the most likely to adopt international accounting standards. Education level can also influence the financial reporting quality of a country. McGuire, Omer and Sharp (2012) found evidence that a higher education level of country leads to less lawsuits regarding accounting improprieties.

Education level is calculated by using data from the United Nations, that publish a Human Development Index (HDI) every year. This research focuses on 2008 so also for the education index

this year has been used. The Human Development Index consists of a life expectancy index, education index and income index. For this research only the education index is used. The education index is calculated by the United Nations Development Programme (2008) from the *mean years of schooling index* and *the expected years of schooling index*. The mean years of schooling is taken for adults of 25 years and more and expected years of schooling for children entering age.

Investor protection

The next control variable is investor protection. This variable is included because research (Hope, Jin & Kang, 2006) has shown that countries with weaker investor protection are more likely to adopt IFRS. These countries may seek to improve their investor protection mechanisms by "bonding" to a reporting standard that is more comparable to and has better information. They will want to reduce risk and will have more benefits by adopting IFRS then countries with stronger investor protection mechanisms (Hope, Jin & Kang, 2006).

To determine which countries are risky and which aren't, the "World Bank's 'Doing Business' report" (2008) is used. This report examines investor protection laws in 183 countries. The data come from a questionnaire administered to corporate and securities lawyers and are based on securities regulations, company laws, civil procedure codes and court rules of evidence (The World Bank, 2008). The investor protection rankings are based on three types of investor protection laws. The first one is the extent of disclosure: how do companies report transactions? The second one is the extent of director liability: can executives be held liable for what they do with corporate assets? The final one is the ease of shareholder suits: can investors get hold of company documents they need, when they need to sue? Based on these three types of investor protection laws the World Bank's Doing Business' report (2008) creates a minority investor protection index. For this research, the year 2008 is used.

Corruption index

Finally as the fifth control variable the degree of corruption in a country is included. Corruption can influence financial reporting quality. Collier (2002) states that the institutional environment has been found to influence corruption. Corruption can influence the financial development of a country (Francis & Khuruna, 2008). The adoption of IFRS can be seen as a financial development, and also financial reporting quality. According to Francis and Khuruna (2008), corruption is able to limit a firm's private contracting incentives, and opportunities.

Data on corruption can be found by data from Transparency International, who publish scores on corruptions every year. They created a corruptions perceptions index, which will be used here. The Corruption Perceptions Index ranks countries based on how corrupt a country's public sector is perceived to be. Here the data for 2008 are used. The data draw upon perceptions of businessman, analysts and experts because the reality cannot be measured. The scores differ from 0 (no corruption) to 10 (maximum corruption).

Summary Statistics

Table 7: Descriptive statistics

Variable	N	Mean	Median	Standard deviation	Minimum	Maximum
IFRS_required (no/yes) (IFRS)	94	0,51	1	0,50	0	1
Reporting_quality (index) (RQ)	38	29,79	29,59	8,79	13,14	49,57
IFRS_profile (score) (PROF)*	94	263,55	255	64,68	126	416
Capital_marketsize (million $) (CM)	94	674,6	74,2	2240,97	0	19947
Growth_rate (%)(GR)	94	2,11	2,09	3,01	-5,17	10,28
Education_level (index)(EL)	94	0,67	0,69	0,17	0,21	0,91
Investor_protection (index) (IP)	94	5,71	5,75	1,27	1,7	8,3
Corruption_index (CI)	94	5,21	6,1	2,29	0,7	9,0
Power_distance (PD)**	94	37,43	34,5	20,7	0	89
Individualism (IND)	94	39,76	31	22,44	6	91
Masculinity (MA)	94	46,90	45,5	17,62	5	95
Uncertainty_avoidance (UA)**	94	35,66	35,5	21,68	0	87
Longterm_orientation (LO)**	94	56,73	57	21,25	0	96
Indulgence (IL)	94	47,07	47	20,53	0	100

* IFRS_profile is calculated using IFRS_profile = power_distance + individualism + masculinity + uncertainty_avoidance + longterm_orientation + indulgence

** These variables are coded in the way that a high score means a lower level of power distance, uncertainty avoidance, and long term orientation.

(2008)

Finally, in table 7 you can see the constructed variables which will be used in the model. It shows the amount of cases per variable as well as the mean, median, standard deviation and the range of all variables. The first dependent variable, IFRS_required, shows if a country has implemented IFRS as national standards. A score of 0 means that the country hasn't fully implemented IFRS as national standards, whereas a score of 1 means that the country has fully adopted IFRS as national standards.

The mean is 0,51: more countries have adopted IFRS than countries that do not have adopted IFRS but the difference is small. The standard deviation of IFRS_required is 0,50. Meaning that approximately 68% of the scores fall between 0,50 difference with the mean of 0,51. 95% of the scores fall between 0,94 difference with the mean of 0,51. In table 8 the frequency table of IFRS_required is shown.

Table 8: Frequencies of dependent variable IFRS_required (IFRS)

	Frequency	**Percent**
0: IFRS not required	46	48,9
1: IFRS required	48	51,1
Total	94	100

The second dependent variable: reporting_quality is the financial reporting quality of a country, measured as the financial reporting index. This is an index made by Tang, Chen and Lin (2016) and measures the financial reporting quality for 38 countries. The biggest drawback of this small amount of countries is that for the hypotheses regarding reporting quality, the other 56 countries cannot be included in the analysis. The mean of financial reporting quality is 29,79 meaning that on average, the financial reporting quality of a country in the sample is 27,79. In table 9 you can see the financial reporting index, based on country. Countries with low values of financial reporting quality are Indonesia, China and India. Countries with high values are Israel, Canada and the US. The scores differ from 13,14 for Indonesia to 49,47 for the United States. The standard deviation for financial reporting quality is 8,79: meaning that approximately 68% of the scores fall between 8,79 difference with the mean of 29,79.

The scores on the IFRS_profile are the scores calculated in the operationalization for this variable by using the six dimensions of Hofstede. The lower the power distance of this country, the higher the individualism, the higher the masculinity, the lower the uncertainty avoidance, the lower the long-term orientation and the higher the amount of indulgence: the higher the score on the IFRS-favorable profile is. In table 10 you can see the scores on the IFRS_profile, ranked by country. The range of the resulting IFRS favorable profile score goes from 126 for Russia to 416 for Ireland. You see that the Anglo-American countries, on which the IFRS-favorable profile is based, rank highest. Australia, Ireland, Canada, New Zealand, the United Kingdom and the United States are at the top of the scores. Other countries, like countries from eastern Europe and from Asia, rank low on the IFRS

favorable profile score. Countries from the western European Union are also high scorers: Denmark can be seen at the top, together with Sweden, Germany, United Kingdom[7], Iceland, Finland and the Netherlands.

Table 9: Financial Reporting Quality Index (reporting_quality) per country (mean of 2006 and 2007)

Country	Score	Country	Score
Indonesia	13,14	Norway	29,92
China	14,59	Russia	31,25
India	14,77	France	32,34
Greece	17,34	Thailand	32,41
Philippines	20,21	Netherlands	34,47
Singapore	20,45	Mexico	34,78
Slovenia	21,83	New Zealand	35,58
Portugal	21,91	Australia	35,81
South Korea	22,68	Chile	36,00
Malaysia	23,08	Germany	36,39
Pakistan	24,14	Sweden	37,04
Brazil	24,17	Japan	38,00
Hong Kong	24,28	Taiwan	39,20
Spain	26,42	Finland	40,00
Austria	26,43	UK	40,07
Belgium	26,59	Ireland	40,82
Denmark	26,82	Israel	41,15
Italy	26,99	Canada	41,97
Switzerland	29,25	US	49,57

Source: Tang, Chen and Lin (2016)

Remarkable is the high score of Mozambique with a score of 293, close to Italy, Luxembourg and Germany. Also remarkable is the relatively low score of France and Belgium of 245: western European countries that rank the same in an IFRS-favorable profile with Sierra Leone, Japan, Thailand and Tanzania. The mean of the IFRS-favorable profile is 263,55: meaning that on average, the IFRS-favorable score is 263,55. The standard deviation is 64,68: approximately 68% of the scores are between 199 and 330.

[7] The United Kingdom has decided to leave the European Union, following the public referendum on 23-06-2016. However, they are still in the European Union as to date.

Table 10: Scores on the IFRS favorable profile per country

Country	Score	Country	Score	Country	Score
Russia	126	Peru	227	Ghana	278
Ukraine	128	Ecuador	230	Germany	290
South Korea	141	Burkina Faso	231	Luxembourg	292
Guatemala	153	Honduras	234	Italy Iran Mozambique	293
Romania	160	Greece	237	Colombia	300
Bulgaria	162	Vietnam	238	Lebanon	301
Serbia	166	Chile Thailand	239	Netherlands	304
Panama	178	Hong Kong Uruguay	241	Argentina Mexico	309
Slovenia	186	Sierra Leone	244	Venezuela	312
Pakistan	189	Belgium France	245	Hungary	313
Taiwan	191	Spain	246	Finland Norway	316
Croatia	195	Fiji	248	Dominican Republic Israel Nigeria	326
Kuwait	199	Japan Tanzania	249	Iceland	329
Portugal	201	Czech Republic Libya	253	Switzerland	338
Lithuania	206	Malawi Poland	254	Trinidad & Tobago	339
Egypt	207	Malaysia	256	Sweden	341
Bangladesh	208	Brazil	257	Jamaica	353
Indonesia	210	Singapore	260	Austria	356
Suriname	211	India	262	South Africa	359
Iraq	212	Bhutan	266	Canada	377
China	213	Jordan Senegal	267	Denmark	384
Latvia	216	El Salvador	268	United Kingdom	403
Costa Rica	219	Kenya Nepal	269	New Zealand	408
Sri Lanka	222	Morocco Namibia	272	United States	409
Estonia	224	Malta Philippines	273	Australia	414
Saudi Arabia	226	Zambia	277	Ireland	416

Capital market size (capital_marketsize) is shown is capital market size in billion dollars. In the year 2008. The mean capital market size is 674,6 with a standard deviation of 2240,97. The standard deviation is large because of large fluctuations in capital market size. An outstanding value is for

example Sierra Leone, a country that does not have a developed capital market. The size of the capital markets of Sierra Leone is therefore zero. In table 1 in the appendix you can see the capital market size per country. Other countries with existing, but almost absent capital markets are Bhutan, the Dominican Republic, Uruguay and Fiji. Another outlier is the United States: with a capital market size of 19.947 billion dollars it has by far the biggest capital market and is not even close to other countries. These outliers can form a problem because the relationships in the regression could be formed by the outliers. Another problem is that most countries have a capital size between 0 and 500. Only 20 countries have a capital market size between 500 and 20.000. Capital market size is not distributed normally and this can affect the results. Therefore capital market size is transformed into a log variable. By doing this the non-normal distribution can be distributed in a normal distribution. The new descriptives for this log function of the capital market size variable are shown in table 11. The mean is now 1,71 with a standard deviation of 1,21. The logs of capital market size lie between -1 and 4,3. Sierra Leone (capital size = 0), is automatically excluded from the sample. Because the absence of a capital market size in Sierra Leone it is good that it has been taken out of the analysis. The distribution of capital market size is now more evenly spread and can be used in the analysis.

Table 11: Descriptive statistics for the LOG of capital market size

Variable	N	Mean	Median	Standard deviation	Minimum	Maximum
Logcapital_marketsize (CM)	93	1,71	1,88	1,21	-1	4,3

The economic growth rate (growth_rate) of 2008 lies between -5,17 and 10,28 percent. The mean economic growth rate is 2,11% with a standard deviation of 3,01. The economic growth rates per country can be seen in table 2 in the appendix. The countries with the highest growth rates are Lebanon, China and Romania. There are also 25 countries that have experienced a negative economic growth rate in 2008.

The education index is the variable education_level and is an index that measures the education level in a country in the year 2008. Scores from 0 to 100 are possible on this variable. The education index has a mean of 0,67 with a standard deviation of 0,19. You can see the education index per country in table 3 in the appendix. The lowest education index in the sample is 0,21 for Burkina Faso and the highest is 0,91 for Australia and New Zealand.

The rankings of investor protection for 2008 go from 0 to 10. 0 means no investor protection and 10 means the most investor protection. The mean of investor protection is 5,27 and the standard deviation 1,27. In table 4 in the appendix you can see the level of investor protection per country. Libya has the lowest investor protection of 1,7. The highest investor protection is seen in Singapore, New Zealand and Hong Kong with a rating of 8,3.

The corruption index (corruption_index), based on corruption perceptions, has a mean of 5,21 and a standard deviation of 6,1. Scores on the corruption index are possible from 0 to 10. In table 5 in the appendix you can see the corruption index per country. The corruption index ranges from 0,7 for Denmark, New Zealand and Sweden to 9,0 for Fiji.

Finally, the six dimensions of Hofstede are added separately to the analysis in model 1c. In table 7 you see the descriptives of these variables. They all can have possible scores ranging from 0 to 100. A zero on power distance means that the power distance is high: a score of 100 means a low power distance. A zero on individualism means that the degree of individualism in a country is low and a score of 100 means a high level of individualism. A score of 100 on masculinity means that the culture of a country is more male-oriented and a score of 0 that the culture is more female-oriented. A high score on uncertainty avoidance means that the uncertainty avoidance is low. A low score means that the uncertainty avoidance is high. A high score on long term orientation means that the long term orientation is low, and a score of zero means that there is a high long-term orientation. Finally, a high score on indulgence means a high level of indulgence whereas a lower score means more restraint.

4. Results

In this section the results from the tests will be discussed. The results will also be compared to the hypotheses that were developed in chapter 2.

Correlation analysis

Table 12: Correlation Matrix

	IFRS	RQ	PROF	CM	GR	EL	IP	CI	PD	IND	MA	UA	LO	IL
IFRS		,243	,144	,011	-,224	,329**	,131	-,307**	,355**	,404**	-,123	-,068	-,091	-,074
RQ	,243		,514**	,208	-,384	,626**	,203	-,499**	,543**	,551**	-,025	-,040	,209	,503**
PROF	,144	,514**		,221*	-,417**	,258*	,251*	-,470**	,645**	,606**	,305**	,506**	,389**	,639**
CM	,011	,208	,221*		-,218*	,542**	,540**	-,479**	,302**	,444**	,228*	-,006	-,343**	,074
GR	-,224*	-,384	-,417**	-,218*		-,346**	-,255*	,501**	-,510**	-,461**	,015	-,191	,119	-,229*
EL	,329**	,626**	,258*	,542**	-,346**		,457**	-,684**	,560**	,624**	-,063	-,132	-,375**	,147
IP	,131	,203	,251*	,540**	-,255*	,457**		-,515**	,373**	,340**	-,030	,171	-,234*	,131
CI	-,307**	-,499**	-,470**	-,479**	,501**	-,684**	-,515**		-,685**	-,678**	,132	-,133	,272**	-,302**
PD	,355**	,543**	,645**	,302**	-,510**	,560**	,373**	-,685**		,661**	-,040	,196	-,109	,241*
IND	,404**	,551**	,606**	,444**	-,461**	,624**	,340**	-,678**	,661**		,044	,148	-,191	,155
MA	-,123	-,025	,305**	,228*	,015	-,063	-,030	,132	-,040	,044		-,025	,047	,073
UA	-,068	-,040	,506**	-,006	-,191	-,132	,171	-,133	,196	,148	-,025		,073	,124
LO	-,091	,209	,389**	-,343**	,119	-,375**	-,234*	,272**	-,109	-,191	,047	,073		,393**
IL	-,074	,503**	,639**	,074	-,229*	,147	,131	-,302**	,241*	,155	,073	,124	,393**	

*= significant at 0,05
**=significant at 0,01

Table 12 reports a Pearson correlation matrix. Pearson correlations are used because the variables are of a scale nature. The table reports correlations between the 14 variables used in the analysis. First the correlations with the dependent variables: IFRS implementation and financial reporting quality will be discussed.

The variables that have a statistical significance with IFRS implementation are the economic growth rate, education level, corruption index, power distance and individualism. When a country has a higher economic growth rate, it will be less likely to have adopted IFRS as national standards.

A country with a high education level is more likely to have adopted IFRS as national standards. Also, a country that experiences less corruption is more likely to have adopted IFRS as national standards. For the dimensions of Hofstede: countries with lower power distance, and more individualism, are more likely to have adopted IFRS as national standards.

The correlation between the IFRS-profile and the implementation of IFRS is 0,144. This can be interpreted as follows: when a country has an IFRS-favorable profile, it is *more* likely to have adopted IFRS as national standards. This is in accordance with the hypothesis. That there is no significant correlation between the IFRS-favorable profile and the implementation of IFRS gives an indication that the first hypothesis of this research: that the more favorable the IFRS-profile is of adopting IFRS, the higher the chance the country has adopted IFRS as national standards, cannot be confirmed. However, because in this correlation matrix there is not controlled for other variables, it cannot be concluded that hypothesis 1 cannot be confirmed. Also, a correlation between two variables does not necessarily imply causation. This means that it is not necessarily the IFRS-profile that leads to the implementation of IFRS as national standards. IFRS implementation could also have an influence on the IFRS-profile. However then, you should make the assumption that the implementation of IFRS can change the culture of a country.

Financial reporting quality shows significant correlations with the IFRS-favorable profile, education level, corruption index, power distance, individualism and indulgence. Countries with a higher education level have higher financial reporting quality. Countries that experience a higher corruption level have lower financial reporting quality. Also, the more IFRS-favorable a profile, the higher the financial reporting quality. This seems to be an indication that there can be evidence found for the third hypothesis. For the second hypothesis, there is no significant correlation between financial reporting quality and the implementation of IFRS as national standards. There is, however, a correlation of 0,243. Indicating that when IFRS as implemented as national standards, financial reporting quality is higher. The effect could also work the other way around: when financial reporting quality rises when IFRS is implemented as national standards. In addition, countries that have a lower power distance, a more individualistic culture, and experience more indulgence instead of restraint, have higher financial reporting quality.

In addition, table 12 shows some high correlations between the explanatory variables, indicating multicollinearity. There is a significant correlation between the IFRS-favorable profile and the size of the capital market, economic growth rate, education level, investor protection and corruption level. Countries with a more IFRS-favorable profile have a larger capital market and a higher education level

and also more investor protection. They also experience less corruption and have a lower economic growth rate. Regarding the Hofstede dimensions, all effects are significant: which is expected because the IFRS favorable profile is made up by these dimensions.

However, the significant correlations with the IFRS-favorable profile or IFRS implementation are at the highest -0,47. A correlation of -0,47 between the IFRS-favorable profile and the corruption index means that 47% of the variation in the IFRS-favorable profile can be explained by the corruption index. This can be a problem because then there is no longer a estimation of the partial effect of each category (Wooldridge, 2003). But, the dropping of the variables because of these high correlations can also lead to bias. According to Tabachnick and Fidell (2012), variables have to be excluded from the research if they are higher than 0,7: this is not the case with the variables in this research. However, to test whether the significant correlations in this research form a problem additional tests are included. These tests can be found in the next section: variance inflation factor rest.

There are also high correlations between the control variables. This is not a problem; because high correlations among these variables do not make it more difficult to estimate the effect of the IFRS-favorable profile and the implementation of IFRS as national standards. These are factors that need to be accounted for in order to draw causal conclusions (Wooldridge, 2003). The high correlations between the IFRS-favorable profile and the six Hofstede dimensions are expected because the profile is made from these six dimensions. They will not be included in the same regression model, so the high correlations are no need for concern. What could happen is, because the six dimensions of Hofstede will be included in the same regression model (1C), that the high correlations affect each other. Therefore, each dimensions of Hofstede will also be added separately to the analysis to look at their effects independent of each other.

Other notable high correlations from the correlations matrix are that countries with a large capital market are also highly educated, have a low economic growth rate, high investor protection, and have less corruption. They have also more individualistic cultures, less power distance and a higher long term orientation than countries with smaller capital markets. Countries that experience much economic growth, have less investor protection, a lower education level and more corruption. An explanation of this could be that the countries with a higher economic growth are the more developing countries and therefore the countries with a lower education level and smaller capital market, less investor protection and more corruption. Countries with large economic growth, have also more power distance and less individualism and also experience less indulgence.

Countries with a high education level have also significantly more investor protection and less corruption. They also have a lower power distance and have more individualism in the country. They also have a more long-term oriented culture. Countries with high investor protection have less corruption, less power distance and have a more individualistic culture. They also have a more long term orientation that countries with low investor protection. Corrupt countries have more power distance, have less individualistic cultures, less long term orientation and are less indulgent and more restraint. Meaning that the people from these countries do not focus on meeting natural desires related to enjoying life and having fun. Countries with a higher power distance also have less individualistic cultures but are more indulgent and less restraint. More indulgent countries are also less long term oriented. The variable uncertainty avoidance does not significantly correlate with any of the other variables, except for the IFRS-favorable profile, which is expected, because the profile is based on this variable. The variable masculinity only has a significant correlation with the IFRS-favorable profile and capital market size. Finally, countries with larger capital markets are more male-oriented than countries with a smaller capital market.

Variance Inflation Factor Test (VIF)

To test if multicollinearity can form a problem in this research a variance inflation factor test is conducted for the variables in this research. Multicollinearity forms a problem when there is a high correlation of at least one independent variable with one or more other independent variables. Multicollinearity is tested by using variance inflation factors. In table 13 the VIF factors are shown for models 1a-2d. If the VIF value lies between 1-10 then there is no multicollinearity (O'Brien, 2007). If the value is lower than 1 or higher than 10, there is multicollinearity. All VIF of relevance in table 13 are between 1 and 10. The only variables that show multicollinearity are the interaction variables in model 2d. There seems to be multicollinearity for ifrsimplementation*ifrs profile and ifrs implementation. But this is expected because the cause was to research an interaction variable and this variable is a causation of two other variables in the model. It is expected that they measure the same.

The conclusion of the variance inflation factor test is that multicollinearity is no problem in this research, because the VIFs are acceptable.

Table 13: VIF factors

	Model 1a	Model 1b	Model 1c	Model 2a	Model 2b	Model 2c	Model 2d
IFRS_implementation					1,878		26,066
IFRS_profile		1,375				1,723	3,310
IFRS_implementation * IFRS_profile							30,800
Capital_marketsize	1,677	1,678	2,062	1,129	1,213	1,137	1,389
Growth_rate	1,339	1,421	1,493	1,775	1,984	1,944	2,432
Education_level	2,094	2,118	2,893	2,320	2,668	2,328	2,750
Investor_protection	1,611	1,611	1,727	1,327	1,440	1,333	1,596
Corruption_index	2,384	2,617	3,504	2,917	2,942	3,180	3,216
Power Distance			2,478				
Individualism			2,540				
Masculinity			1,244				
Uncertainty Avoidance			1,263				
Long Term Orientation			1,729				
Indulgence			1,610				

Test for heteroskedasticity

The second, third and fourth hypothesis will be tested with OLS regression. OLS makes the assumption that the standard error is the same for all variables. It makes the assumption that the variance of the error term is constant (Williams, 2015). When the variance is constant, this is called homoskedasticity. If the errors do not have the same variance, the errors are said to be heteroskedastic. The results of this can be that significance tests can be too high or too low. When the variance is heteroskedastic, OLS does not provide the estimate with the smallest variance. The problem is then that OLS gives equal weight to all observations, when in fact observations with larger errors have less information than observations with a small error (Williams, 2015). To be able to carry out this research, it has to be known if the models are reliable and heteroskedasticity is not a problem.

To detect heteroskedasticity in the linear regression model, the Glejser Test in SPSS is used. The Glejser Test will be conducted for each of the four regression models. If the values of the Glejser test have sig.>0,05, then there is no problem of heteroskedasticity. The significance values of the four models are presented in table 14. In this table you see that there are no significant values. The value of IFRS implementation in model 2a is close to being significant: meaning that the variance of the error terms of this variable are different in size: but are still constant enough for heteroskedasticity not being a problem, because the value is not significant.

These results make the OLS regression for the models used in this research more reliable. Based on this test of heteroskedasticity, the results of the significance tests of the linear regression are not too high or too low. So after conducting the variance inflation factor test and tests for

heteroskedasticity the models used in this research can be used for regression analysis. The regression analysis will be carried out in the following section.

Table 14: Significance values of OLS regression after Glejser Test for Heteroskedasticity

	Model 2a	Model 2b	Model 2c	Model 2d
IFRS_implementation		0,088		0,783
IFRS_profile			0,441	0,753
IFRS_implementation * IFRS_profile				0,812
Capital_marketsize	0,718	0,205	0,479	0,127
Growth_rate	0,162	0,107	0,476	0,532
Education_level	0,828	0,446	0,962	0,604
Investor_protection	0,650	0,957	0,986	0,652
Corruption_index	0,181	0,576	0,409	0,972

Regression Analysis Model 1

In this section hypothesis 1 will be tested. More specifically, the regression analysis in this section will test the hypothesis if the IFRS-profile of a country is more favorable of IFRS, the country will be more likely to have adopted IFRS as national standards. First, in model 1a only the control variables are included. The model was as follows:

Model 1a: Logit (*pIFRS Implementation*) = β_0 + β_1(capital market size) + β_2(economic growth rate) + β_3(education)+ β_4(investor protection)+ β_5(corruption index) + ε.

In this model it is looked at what the influence of the different control variables is, on whether a country has adopted IFRS as national standards. The results for this logistics regression are presented in table 15. The coefficients for education level and investor protection are positively related with the implementation of IFRS. A higher education level leads to a higher change of having adopted IFRS as national standards and a higher investor protection level leads to a higher change of having adopted IFRS as national standards. Only the coefficient for education level is significant. Thus, it can be concluded that the education level of a country has a significant effect on IFRS adoption.

Table 15: Logistic regression analysis on dependent variable Logit pIFRS implementation: the chance that IFRS is implemented as national standards

	Model 1a			**Model 2b**			**Model 1c**		
	B	OR	S.E.	B	OR	S.E.	B	OR	S.E.
Constant	-1,437	,238	,273	-1,560	,210	2,709	-1,756	,173	2,855
IFRS_profile				,000	1,000	,004			
Capital_marketsize	-,543**	,581	,266	-,544**	,581	,266	-,773**	,462	,339
Growth_rate	-,073	,930	,090	-,071	,931	,093	-,087	,917	,104
Education_level	4,544**	94,107	2,174	4,562**	95,733	2,184	2,344	10,421	2,487
Investor_protection	,058	1,060	,230	,058	1,060	,230	,284	1,328	,276
Corruption_index	-,154	,858	,156	-,150	,861	,162	-,029	,971	,199
Power_distance (PD)							,019	1,019	,019
Individualism (IND)							,042**	1,043	0,018
Masculinity (MA)							-,009	,991	,016
Uncertainty_avoidance (UA)							-,019	,981	,014
Longterm_orientation (LO)							,010	1,010	,015
Indulgence (IL)							-,032*	,969	,017
Nagelkerke R^2 (N=93)	**0,217**			**0,217**			**0,376**		

*=significant at 0,10
**=significant at 0,05

The coefficients for corruption, the economic growth rate and the capital market size are negative. This means that when a country experiences more corruption, a higher economic growth rate or when a country has a bigger capital market, the chance that the country has implemented IFRS as national standards is smaller. The effect of capital market size is significant meaning that capital market size has a significant effect on whether a country has implemented IFRS as national standards. But an explanation of the negative effect of the capital market could be due to the United States, which with a capital market size of 19.447 billion dollars has by far the biggest capital market. Therefore, in the same logistic regression model, it is looked at the effect without including the United States in the analysis. However, when leaving out the United States the effect is still negative and significant. So the reason that a large capital market is associated with a lower chance of having IFRS as national standards, is not due to the United States.

Then, in model 1b, hypothesis one is tested. More specifically, this hypothesis tests whether a country is more likely to have adopted IFRS as national standards, if the IFRS-profile of a country is more favorable of IFRS. The IFRS-favorable profile is made up by six dimensions of Hofstede that correspond with the IFRS-favorable Gray dimensions. The model used was a follows:

Model 1b: Logit (*pIFRS Implementation*) = β_0 + β_1(IFRS-profile score) + β_2(capital market size) + β_3(economic growth rate) + β_4(education)+ β_5(investor protection)+ β_6(corruption index) + ε.

The results from this regression are presented in table 15. Together, the dependent variables explain 21,7% of the variance in IFRS implementation. The coefficient for the IFRS-favorable profile is 0,0 and thus not positively and not negatively related with the implementation of IFRS as national standards and not significant. The exp(B) is an odds ratio with the value of 1,0 and has the following interpretation: countries from the highest IFRS-favorable profiles are 1 times more likely to have IFRS implemented as national standards than countries from the lowest IFRS-favorable profiles. An Oddsratio of 1 means there is no relation. The absent correlation is not in accordance with the hypothesis: the hypothesis expected that a more IFRS-favorable profile would lead to a higher change of having IFRS implemented as national standards. Answering the hypothesis based on this regression gives the result: the hypothesis predicted that positive correlation between IFRS-implementation and the IFRS-favorable profile. However, the relation is not existent and not significant: thus the results are not in accordance with the prediction and hypothesis one can therefore not be confirmed. There seems to be no relation between IFRS implementation and culture.

An interpretation of this finding can be that there is no correlation between culture and the implementation of IFRS. The implementation of IFRS could solely be to other explanations. Main explanations for the adoption of IFRS in the literature include for example bonding theory (Hope, Jin & Kang, 2006). Bonding theory states that countries with weaker investor mechanisms are likelier to adopt IFRS. But in this research, investor protection does not have a significant effect on the adoption of IFRS. Hope, Jin and Kang (2006) also find that countries with better access to their domestic capital markets are likely to adopt IFRS. Another reason why countries adopt IFRS as national standards is named by Chua and Taylor (2008). They look at social and political factors. Adopting IFRS would lower economic and political costs and so the adoption of IFRS can be seen as an economically rational phenomenon. The explanation, that there is no association between culture and IFRS adoption , for not finding any evidence seems most likely because previous studies were also not able to find an association (Clements, Neill & Stovall, 2010).

Another explanation why there is no evidence for the hypothesis is that the empirical measures of culture do not adequately measure cultural diversity across countries. The Hofstede data have been critized before (Clements, Neill & Stovall, 2010).

In model 1c the IFRS-favorable profile is split up in the different Hofstede dimensions to get an idea of which dimension of culture is most important for the adoption of IFRS. The model was:

Model 1C: Logit (*pIFRS Implementation*) = β_0 + β_1(capital market size) + β_2(economic growth rate) + β_3(education)+ β_4(investor protection)+ β_5(corruption index) + β_6(power distance) + β_7(individualism) + β_8 (masculinity) + β_9(uncertainty avoidance) + β_{10}(long term orientation) + β_{11}(indulgence) + ε.

In table 15 the results are presented. When adding the Hofstede dimensions the effect of education level is no longer significant. So education level can be explained by adding these dimensions.

Two of the dimensions seem to have a significant effect on the implementation of IFRS. A country that experiences more individualism has a higher chance to have adopted IFRS as national standards. This is in accordance with hypothesis 1. Individualism is one of the characteristics of the IFRS-favorable profile. A country that with more indulgent characteristics instead of restraint, has a smaller chance of having IFRS adopted as national standards. This is not in accordance with the first hypothesis: indulgence was one of the characteristics of the IFRS-favorable profile.

Power distance and uncertainty avoidance have a positive effect on IFRS adoption: in accordance with prediction of hypothesis 1. Less power distance will lead to a higher chance of having IFRS adopted as national standards, in accordance with the IFRS-favorable profile. And in addition a country with lower uncertainty avoidance has a higher chance of having IFRS adopted as national standards. However, the other dimensions of culture are not in accordance with the hypothesis. According to the regression, if a country is more masculine oriented it will have a lower chance of having adopted IFRS as national standards. This is not in accordance with the IFRS-favorable profile. Also, if a country has a lower long term orientation, it will have a smaller chance of having adopted IFRS, also not in accordance with the IFRS-favorable profile.

These findings can also either lead to the conclusions that the measures of culture are not adequate, or that there is simply no connection between the dimensions of culture and the adoption of IFRS. It could also be that only some dimensions of culture influence the decisions of implementing IFRS as national standards. Because the correlation analysis showed there is some collinearity between the dimensions of culture, now the dimensions of culture are added separately to the logistic regression model to see it this leads to other effects then whey they are added together. The results are shown in table 16.

Table 16: Logistic regression analysis on dependent variable Logit pIFRS implementation: the chance that IFRS is implemented as national standards, with the Hofstede dimensions added separately (Model 1C)

	Power Distance			**Individualism**			**Masculinity**		
	B	OR	S.E.	B	OR	S.E.	B	OR	S.E.
Constant	-2,265	,094	2,391	-3,305	,037	2,461	-1,268	,281	2,359
Capital_marketsize	-,511*	,600	,269	-,675**	,509	,287	-,517*	,596	,281
Growth_rate	-,040	,961	,094	-,038	,963	,094	-,075	,927	,091
Education_level	3,844*	46,274	2,191	3,260	26,061	2,222	4,502**	90,176	2,181
Investor_protection	,051	1,052	,232	,159	1,172	,241	,052	1,054	,231
Corruption_index	-,065	,937	,170	-,003	,997	,171	-,146	,864	,159
Hofstede dimension	,023	1,024	,016	,039**	1,040	,016	-,004	,996	,014
Nagelkerke R^2 (N=93)	**,242**			**,295**			**,218**		

	Uncertainty Avoidance			**Long Term Orientation**			**Indulgence**		
	B	OR	S.E.	B	OR	S.E.	B	OR	S.E.
Constant	-,834	,434	2,387	-1,497	,224	2,525	,352	1,422	2,441
Capital_marketsize	-,573**	,564	,274	-,542**	,582	,267	-,605**	,546	,275
Growth_rate	-,086	,917	,092	-,073	,930	,090	-,101	,904	,093
Education_level	4,042*	56,915	2,242	4,571**	96,634	2,228	4,531**	92,876	2,193
Investor_protection	,104	1,110	,238	,059	1,061	,230	,057	1,059	,237
Corruption_index	-,177	,838	,158	-,154	,857	,156	-,229	,795	,163
Hofstede dimension	-,010	,991	,012	,001	1,001	0,012	-,026*	,975	,014
Nagelkerke R^2 (N=93)	**,225**			**,217**			**,263**		

Table 18 shows that the same dimensions as in table 13 have a significant effect on IFRS implementation. So adding the dimensions separately had no influence on the results. The significant Hofstede dimensions are individualism and indulgence. The more individualism, and the less indulgence: the higher the chance the country has implemented IFRS as national standards.

With the inclusion of individualism, education level is no longer significant. The correlation between individualism and education level was also high with a coefficient of 0,626: these variables are highly related.

The implication of these findings is that there is some evidence that some dimensions do matter for IFRS adoption, whereas some dimensions do not. Individualism and indulgence seem to be related with the implementation of IFRS as national standards, controlled for capital market size, economic growth rate, education level, investor protection and corruption. So when people in society are less integrated in groups, people look after themselves more, the people are less happy and more focused on negative emotions, and are more focused on maintaining order in society: the country has a higher of chance of having adopted IFRS as national standards. Further research could focus more

on these dimensions of culture to get a deeper understanding of what factors influence the decisions of adopting IFRS as national standards.

Regression Analysis Model 2

In this section hypothesis 2, 3 and 4 will be tested. More specifically, with linear regression it will be tested what the effects on financial reporting quality are, regarding the adoption of IFRS and the IFRS favorable profile. In model 2a, the effect of the control variables on financial reporting quality is tested:

Model 2a: Financial Reporting Quality = $\beta_0 + \beta_1$(capital market size) + β_2(economic growth rate) + β_3(education)+ β_4(investor protection)+ β_5(corruption index) + ε.

Table 17: Linear regression analysis on dependent variable Financial Reporting Quality

	Model 2a		**Model 2b**		**Model 2c**		**Model 2d**	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Constant	-4,601	16,246	-1,938	16,253	-14,122	17,042	-7,280	18,719
IFRS_implementation			-3,867	3,116			-10,677	11,415
IFRS_profile					,030	,019	,021	,027
IFRS_implementation * IFRS_profile							,022	,037
Capital_marketsize	2,227	2,156	1,503	2,216	1,961	2,117	1,625	2,331
Growth_rate	-,861	0,612	-1,118*	,641	-,574	,627	-,983	,698
Education_level	36,880**	13,303	43,227**	14,149	35,655**	13,043	41,098**	14,124
Investor_protection	0,008	1,297	-,457	1,340	,142	1,273	-,610	1,387
Corruption_index	0,252	0,859	,155	,855	,643	,877	,520	,879
Adjusted R^2 (N=37)	**,355**		**,365**		**,382**		**,386**	

*=significant at 0,10
**=significant at 0,05

In table 17 the outcomes of the linear regression are shown. It can be seen that the only variable with a significant effect is education level. In countries with a higher education level, the financial reporting quality is significantly higher. In countries with a larger capital market, more investor protection and more corruption the financial reporting quality is also higher, controlled for the other factors, but this effect is not significant. In countries that experience a larger economic growth rate the financial reporting quality is lower.

Then, in model 2b the second hypothesis is tested. Hypothesis 2 is examined to determine if a country with IFRS as national standards will have higher reporting quality than a country that does not have IFRS as national standards. The model was:

Model 2b: Financial Reporting Quality = $\beta_0 + \beta_1$(IFRS implementation) + β_2(capital market size) + β_3(economic growth rate) + β_4 (education)+ β_5 (investor protection)+ β_6 (corruption index) + ε.

The coefficient of IFRS implementation is -3,867. This means that when a country has implemented IFRS as national standards, the financial reporting quality will become 3,867 lower, controlled for the other variables in the analysis. This is in contradiction with the hypothesis: that predicted financial reporting quality to become higher, but the effect is not significant. Therefore no conclusions can be made about hypothesis 2.

A possible explanation for the effect being negative instead of positive is the size of the sample. There are only 37 countries in the sample for financial reporting and this can bias the results. For further research more countries should be included in the analysis.

Another explanation can be that countries with high financial reporting quality do not see the need to adopt IFRS. They could already have high financial reporting, and therefore do not change to IFRS. Countries that do switch to IFRS could do this because of financial reporting quality concerns. And even if IFRS increases financial reporting quality, they could still not be on the same level as the high financial reporting quality countries that did not switch to IFRS. In further research this can be looked at by doing time analysis: by looking at the change in financial reporting quality pre- and post IFRS.

A third explanation for the negative, not-significant effect, in contradiction with hypothesis could be that there is no relation between financial reporting quality and IFRS.

Also, when adding IFRS implementation to the model, the effect of the economic growth rate becomes significant. Meaning that when there is controlled for IFRS implementation, financial reporting quality goes up with 1,118 if the economic growth rate goes down with 1.

Furthermore in model 2c the third hypothesis is tested. This hypothesis predicted that if the IFRS-profile of a country is more favorable of IFRS: the financial reporting quality would be higher. The model was:

Model 2c: Financial Reporting Quality = β_0 + β_1(IFRS-profile score) + β_2(capital market size) + β_3(economic growth rate) + β_4(education)+ β_5(investor protection)+ β_6(corruption index) + ε.

Table 17 shows that IFRS_profile has a coefficient of 0,030. This means that when the IFRS-profile of a country goes one up, the financial reporting quality goes up with 0,030. This is line with hypothesis that predicted that the financial reporting quality is higher if the IFRS-profile is more favorable of IFRS. However, this effect is not significant. Thus the prediction of hypothesis 3 is correct, but note that the effect is not significant.

The effect of education level is still significant. Meaning that controlled for culture, this effect still matters in explaining financial reporting quality. The effect of economic growth rate is no longer significant. Controlled for culture, the economic growth rate has no relation with financial reporting quality.

To test whether the missing significant effect of culture on financial reporting quality could be because of the control variables, the linear relationship between culture and financial reporting quality is also investigated. When leaving out all control variables, the effect of the score on the IFRS-favorable profile is significant. The effect of culture on financial reporting disappears when controlling for the other variables. Thus, variations in culture and the effect on financial reporting quality can possibly be explained by variations in education level.

Finally, in model 2d the interaction effect between the IFRS-profile and the implementation of IFRS is researched. Hypothesis 4 predicted that the relationship between IFRS as national standards and financial reporting quality would be stronger if a country has an IFRS-favorable profile. Thus, in model 2d an interaction variable has been added:

Model 2d: Financial Reporting Quality = β_0 + β_1(IFRS implementation) + β_2(IFRS-favorable profile) + β_3(IFRS implementation*IFRS-favorable profile) + β_4(capital market size) + β_5(economic growth rate) + β_6(education)+ β_7(investor protection)+ β_8(corruption index) + ε.

Adding this interaction term changes the interpretation of all the coefficients. The interaction means that the effect of IFRS implementation on financial reporting quality is different for different values of the IFRS favorable profile. The coefficient in the regression model of the interaction variable is -0,022. This means that the effect of IFRS implementation of financial reporting quality is 0,022 *higher* for countries with a higher IFRS favorable profile. Thus, the effect of IFRS implementation on financial reporting quality is *weaker* for countries that have a less IFRS favorable profile. This means that when a country has a culture that is more favorable of implementing IFRS as national standards, IFRS implementation has a greater influence on financial reporting quality.

More specifically, the coefficient for IFRS implementation was -10,677. When a country has more IFRS-favorable profile: this coefficient grows with 0,022. So the effect becomes stronger. This is in line with hypothesis 4, that predicted a stronger effect for countries with a more IFRS-favorable profile. But note that the interaction effect is not significant.

5. Conclusion

In this paper, an examination is made to find a relationship between culture of countries and IFRS implementation, and between IFRS implementation, culture and financial reporting quality on country level. Culture was defined by using Hofstede's dimensions. By relating Hofstede's dimensions to Gray's accounting dimensions and making up an IFRS-favorable profile these examination were carried out. The assumption was made that certain Hofstede dimensions were more predictive of the implementation of IFRS, and these dimensions were combined to make up the IFRS-favorable profile. These dimensions were: a low power distance, high individualism, high masculinity, low uncertainty avoidance, a low long term orientation and high indulgence. To do this research, data were found for 94 countries. Data on Hofstede dimensions were used and different data from different sources for the other used variables. The research was carried out on data of 2008 and proxies for financial reporting quality for 2006 and 2007. The question this research tried to answer was: *what extent does culture influence the International Financial Reporting Standards adoption decision and the resulting financial reporting quality?*

For the relation between culture and the decision to adopt International Financial Reporting Standards, this study found a non-existing relationship. Not finding a relationship between culture and IFRS implementation supports the study of Clements, Neill and Stovall (2010) and gives more evidence that there is no relation between culture and the implementation of IFRS. However, by adding the Hofstede dimensions separately to the research it can be seen that two dimensions of culture have a significant influence on the IFRS adoption decision: individualism and indulgence. When a country has more individualistic features, it is more likely to have adopted IFRS as national standards. Also, a country with more indulgent characteristics, is less likely to have adopted IFRS as national standards. This indicates that culture has an effect on the decision to adopt International Financial Reporting Standards. However not all Hofstede dimensions of culture have an influence.

Also, for hypotheses 2,3 and 4 regarding financial reporting quality no significant effects are found. This indicates that there is no relationship between IFRS adoption and financial reporting quality, no relation between culture and financial reporting quality and that the effect of IFRS adoption on financial reporting quality is not stronger with countries that have a more favorable IFRS profile. Thus, the expected positive effects of IFRS implementation on financial reporting quality are not supported by this research. However, International Financial Reporting Standards still make cross-country comparisons more easy and transparent (Holthausen, 2009). Also markets become more

efficient and multinationals send a more unified message to the market (Ding, Jeanjean & Stolowy, 2005).

There are also a few limitations of this research. First, the Hofstede dimensions have been often criticized (Clements, Neill & Stovall, 2010). It could be, that they are not adequate measures of culture. So, in further studies other measures of culture could be added, to see whether this makes any difference for the effects of culture on IFRS implementation and financial reporting quality. Also, further research regarding individualism and indulgence is necessary: because these variables seem to impact the IFRS adoption decision.

Second, for financial reporting quality the sample consists of 38 countries. For the other hypothesis 94 countries have been used. A larger sample can make more accurate predictions. So for further research it would be wise to have proxy for financial reporting quality that is available for more countries.

Furthermore, a limitation of this research is that the relationship between IFRS implementation and financial reporting quality is looked at with cross-sectional research. In this way, no explanation can me made about if the financial reporting quality is a result of the implementation of IFRS, or was already better or worse pre-IFRS. In further research, time analysis can look at differences in the pre- and post IFRS environment to see whether financial reporting quality changed because of the implementation of IFRS. Because some countries just recently, or have not yet adopted IFRS as national standards it could also work to compare financial reporting quality just after implementation of IFRS: and again in a few years to see whether financial reporting quality changed long term.

6. References

Ball, R. Robin, A. & Wu, J. (2003). Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of Accounting & Economics,* 36, 235-270.

Borker, D.R. (2013). Is there a favorable cultural profile for IFRS? An examination and extension of Gray's accounting value hypotheses. *International Business & Economics Research Journal,* 12(2), 167-178.

Borker, D.R. (2013). Accounting and cultural values: IFRS in 3G economies. *International Business & Economics Research Journal,* 12(6), 671-686.

Carmona, S. & Trombetta, M. (2008). On the global acceptance of IAS/IFRS accounting standards: the logic and implications of the principles-based system. *Journal of Accounting & Public Policy,* 27, 455-461.

Chanchani, S. & MacGregor, S. (1999). A synthesis of cultural studies in accounting. *Journal of Accounting,* 18, 1-30.

Chen, H., Tang, Q., Jiang, Y. & Lin, Z. (2010). The role of international financial reporting standards in accounting quality: evidence from the European Union. *Journal of International Financial Management and Accounting,* 21(3), 220-278.

Chua, W.F. & Taylor, S.L. (2008). The rise and rise of IFRS: an examination of IFRS diffusion. *Journal of Accounting and Public Policy,* 27, 462-473.

Clements, C.E., Neill, J.D. & Stovall, O.S. (2010). Cultural diversity, country size and the IFRS adoption decision. *The Journal of Applied Business Research,* 26(2), 115-126.

Cohen, D.A., Dey, A. & Lys, T.Z. (2007). Real and accrual-based earnings management in the pre- and post-Sarbanes Oxley periods. *The Accounting Review,* 83(3), 757-787.

Collier, M.W. (2002). Explaining corruption: an institutional choice approach. *Crime, Law, and Social Change,* 10, 1-31.

Daske, H. & Gebhardt, G. (2006). International Financial Reporting Standards and experts perceptions of disclosure quality. *Abacus,* 42(3/4), 461-498.

Deloitte. (2012). Use of IFRS by jurisdiction. Retrieved from: http://www.iasplus.com/en-gb/resources/ifrs-topics/use-of-ifrs#totals on 20-04-2016.

Ding, Y., Jeanjean, T. & Stolowy, H. (2005). Why do national GAAP differ from IAS? The role of culture. *The International Journal of Accounting,* 40, 325-350.

Doupnik, T.S. & Tsakumis, G.T. (2004). A critical review of Gray's theory of cultural relevance and suggestions for further research. *Journal of Accounting Literature,* 23, 1-48.

Doupnik, T.S. (2008). Influence of culture on earnings management: a note. *Abacus,* 44(3), 317-340.

Financial Accounting Standards Board. (2013). Comparability in International Accounting Standards – A brief history. Retrieved from http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176156304264 on 18-04-2016.

Francis, J.R. & Khuruna, I.K. (2008). The role of firm-specific incentives and country factors in explaining voluntary IAS adoptions: evidence from private firms. *European Accounting Review,* 17(2), 331-360.

Gao, P., Sapra, H. & Xue, H. (2016). A model of principles-based vs. rules-based standards. *Working paper, NYU Stern & Chicago Booth.*

Gebhardt, G., Mora, A. & Wagenhofer, A. (2014). Revisiting the fundamental concepts of IFRS. *Abacus,* 50(1), 107-116.

Gray, S.J. (1988). Towards a theory of cultural influence on the development of accounting systems internationally. *Abacus*, 24, 1-16.

Gregg, P.M. & Banks, A.S. (1965). Dimensions of political systems: factor analysis of a cross-polity survey. *American Political Science Review,* 59, 602-614.

Guler, I., Guillen, M. & Macpherson, J. (2002). Global competition, institutions, and the diffusion of organizational practices: The international spread of ISO 9000 quality certificates. *Administrative Science Quarterly,* 47, 207-232.

Han, S., Kang, T. Salter, S. & Yoo, Y.K. (2010). A cross-country study on the effects of national culture on earnings management. *Journal of International Business Studies,* 41, 123-141.

Hariss, J. (2003). Institutions, politics and culture: a polanyian perspective on economic change. *International Review of Sociology,* 13(2), 343-355.

Hermann, D. & Thomas, W. (1996). Segment reporting in the European Union: Analyzing the effects of country, size, industry, and exchange listing. *Journal of International Accounting & Taxation,* 5(1), 1-20.

Hodgdon, C., Hughes, S.B. & Street, D.L. (2011). Framework-based teaching of IFRS Judgments. *Accounting Education: an International Journal,* 20(4), 415-439.

Hofstede, G. (1980). *Culture's consequences: international differences in work-related values.* Beverly Hills, CA; Sage.

Hofstede, G. (2001). *Cultures's consequences: comparing values, behaviors, institutions, and organizations across nations.* New York, New York: McGraw Hill.

Hofstede, G. (2011). Dimensionalizing cultures: the Hofstede model in context. *Online Readings in Psychology and Culture,* 2(1).

Hogg, R.V., Tanis, E. & Zimmerman, D. (2015). *Probability and Statistical Inference, 9th edition.* London, England: Pearson Education.

Holthausen, R.W. (2009). Accounting standards, financial reporting outcomes and enforcement. *Journal of Accounting Research,* 47(2), 447-458.

Hope, O.K. (2003). Firm-level disclosure and the relative roles of culture and legal origin. *Journal of International Financial Management and Accounting,* 14, 218-248.

Hope, O.K., Jin, J. & Kang, T. (2006). Empirical evidence on jurisdictions that adopt IFRS. *Journal of International Accounting Research,* 5(2), 1-20.

Houqe, M.N., Dunstan, K., Karim, W. & van Zijl, T. (2012). The effect of IFRS adoption and investor protection on earnings quality around the world. *The International Journal of Accounting,* 47(3), 333-355.

House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W. & Gupta, V. (2004). *Culture, leadership and organizations: the globe study of 62 societies,* London; Sage.

Humphries, M. (2013). Missing data & how to deal: an overview of missing data. *Population Research Center:* University of Texas.

International Financial Reporting Standards Foundation. (2010). International Financial Reporting Standards: framework-based understanding and teaching. *IFRS Foundation,* retrieved from http://www.ifrs.org/documents/qassimhandout.pdf on 18-04-2016.

Jaggi, B. & Low, P.Y. (2000). Impact of culture, market forces, and legal system on financial disclosures. *The International Journal of Accounting,* 35(4), 495-519.

Joshi, M., Yapa, P. & Kraal, D. (2016). IFRS adoption in ASEAN countries. *International Journal of Managerial Finance,* 12(2), 211-239.

Judge, W., Li, S. & Pinsker, R. (2010). National adoption of international accounting standards: an institutional perspective. *Corporate Governance: An International Review,* 18(3), 161-174.

Koleśnik, K. (2013). The role of culture in accounting in the light of Hofstede's, Gray's and Schwartz's cultural dimensions theories – a literature review. *Financial Internet Quarterly e-Finance,* 9(3), 33-41.

Kluckhohn, C. (1962). Universal categories of culture. *Anthropology today: Selections.* Chicago, IL: University of Chicago Press.

Kwok, C.Y. & Tadesse, S. (2006). National culture and financial systems. *Journal of International Business Studies,* 37, 227-247.

Leuz, C., Nanda, D. & Wysocki, P.D. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics,* 69, 505-527.

Licht, A.N., Goldschmidt, C. & Schwartz, S.H. (2007). Culture rules: the foundations of the rule of law and other forms of governance. *Journal of Comparative Economics,* 35, 659-688.

Louwers, T.J. (2014). *Auditing and Assurance Services.* London, England: McGraw-Hill Education.

Lynn, R. & Hampson, S.L. (1975). National differences in extraversion and neuroticism. *British Journal of Social and Clinical Psychology,* 14, 223-240.

Markus, H.R. & Kitayama, S. (1991). Culture and the self: implications for cognition, emotion, and motivation. *Psychological Review,* 98(2), 224-253.

McGuire, S.T., Omer, T.C. & Sharp, N.Y. (2012). The impact of religion on financial reporting irregularities. *The Accounting Review,* 87(2), 645-673.

Mooij, de., M. & Hofstede, G. (2010). The Hofstede model: applications to global branding and advertising strategy and research. *International Journal of Advertising,* 29(1), 85-110.

Mueller, G., Gernon, H. & Meek, G.K. (1994). *Accounting: an International Perspective: a Supplement to Introductory Accounting Textbooks.* Illinois, Boston, Massachusetts, Sydney, Australia: IRWIN Burr Ridge.

Nabar, S. & Boonlert-U-Thai, K.K. (2007). Earnings management, investor protection, and national culture. *Journal of International Accounting Research,* 6(2), 35-54.

Nelson, M.W. (2003). Behavioral evidence on the effects of principles- and rules based standards. *Accounting Horizons,* 17, 91-104.

Noravesh, I., Dianati Dilami, Z. & Bazaz, M.S. (2007). The impact of culture on accounting: does Gray's model apply to Iran? *Review of Accounting and Finance,* 6(3), 254-272.

North, D.C. (1990). *Institutions, institutional change, and economic performance.* New York: Free Press.

North, D.C. (1991). Institutions. *The Journal of Economic Perspectives,* 5(1), 97-112.

O'Brien, R.M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & quantity,* 41, 673-690.

Orij, R. (2010). Corporate social disclosures in the context of national cultures and stakeholder theory. *Accounting, Auditing and Accountability Journal,* 23(7), 868-889.

Perera, H., Cummings, L. & Chua, F. (2012). Cultural relativity of accounting professionalism: evidence from New Zealand and Samoa. *Advances in Accounting, incorporating Advances in International Accounting.* 28, 138-146.

Pope, P.F. & McLeay, S.J. (2011). The European IFRS experiment: objectives, challenges, and some early evidence. *Accounting and Business Research,* 41(3), 233-266.

PWC. (2011). *IFRS adoption by country.* Retrieved from http://www.pwc.com/us/en/cfodirect/assets/pdf/pwc-ifrs-by-country-2015.pdf on 10-04-2016.

Quandl. (2008). *Stock market capitalization by country.* Retrieved from https://www.quandl.com/collections/economics/stock-market-capitalization-by-country on 24-11-2016.

Ramanna, K. & Sletten, E. (2009). Why do countries adopt International Financial Reporting Standards? *Harvard Business School Accounting & Management Working Paper,* No 09-102.

Salter, S.B. & Lewis, P.A. (2011). Shades of Gray: an empirical examination of Gray's model of culture and income measurement practices using 20-F data. *Advances in Accounting, incorporating Advances in International Accounting,* 27, 132-142.

Salter, S.B. & Niswander, F. (1995). Cultural influence on the development of accounting systems internationally: a test of Gray's (1988) theory. *Journal of International Business Studies,* 26(2), 379-397.

Schipper, K. (2003). Principles-based accounting standards. *Accounting Horizons,* 17(1), 61-72.

Schneper, W. & Guillen, M. (2004). Stakeholder rights and corporate governance: A cross-national study of hostile takeovers. *Administrative Science Quarterly,* 49, 263-295.

Schultz, J.J. & Lopez, T.J. (2001). The impact of national influence on accounting estimates: implications for International Accounting Standard-setters. *The International Journal of Accounting,* 36, 271-290.

Stultz, R.M. & Williamson, R. (2003). Culture, openness, and finance. *Journal of Financial Economics,* 70, 313-349.

Tabachnick, B.G. & Fidell, L.S. (2012). *Using Multivariate Statistics.* London, England: Pearson Education.

Tang, Q., Chen, H. & Lin, Z. (2016). How to measure country-level financial reporting quality? *Journal of Financial Reporting and Accounting,* 14(2), 230-265.

Tendeloo, B. & Vanstraelen, A. (2011). Earnings management under German GAAP versus IFRS. *European Accounting Review,* 14(1), 155-180.

Transparency International. (2008). *Corruptions Perceptions Index.* Retrieved from http://www.transparency.org/research/cpi/overview on 24-11-2016.

Tsakumis, G.T. (2007). *The influence of culture on accountant's application of financial reporting rules.* Abacus, 43(1), 27-48.

United Nations Development Programme. (2008). *Education Index.* Retrieved from http://hdr.undp.org/en/content/education-index on 24-11-2016.

Van der Meulen, S., Gaeremynck, A. & Willekens, M. (2008). Attribute differences between US GAAP and IFRS earnings: an exploratory study. *International Journal of Accounting,* 42(2), 123-169.

Violet, W.J. (1983). The development of international accounting standards: an anthropological perspective. *International Journal of Accounting Education and Research,* 18(1), 1-12.

Williams, R. (2015). *Heteroskedasticity.* University of Notre Dame: https://www3.nd.edu/~rwilliam/stats2/l25.pdf , retrieved on 28-11-2016.

Williamson, O.E. (1993). Transaction cost economics and organization theory. *Industrial & Corporate Change,* 2(2), 107-156.

Wooldridge, J.M. (2003). *Introductory Econometrics.* Michigan State University, Michigan: Thomson-South-Western.

World Bank. (2008). *GDP growth (annual %).* Retrieved from http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG on 24-11-2016.

World Bank. (2008). *Doing Business Report, protecting minority investors.* Retrieved from http://www.doingbusiness.org/data/exploretopics/protecting-minority-investors on 24-11-2016.

Zeghal, D. & Mhedhbi, k. (2006). An analysis of the factors affecting the adoption of International Accounting Standards by developing countries. *The International Journal of Accounting,* 41: 373-393.

7. Appendix

Table 1: Capital Market Size per country in billion dollars in 2008

Country	Size	Country	Size	Country	Size
Sierra Leone	0	Serbia	24,0	Greece	265,0
Bhutan Dominican Republic	0,1	Slovenia	29,0	Denmark	278,0
Guatemala Uruguay	0,2	Iceland	41,0	Malaysia Taiwan	326,0
Fiji	0,5	Jordan	41,2	Singapore	353,0
Honduras Malawi	0,6	Romania	45,0	Norway	357,0
Namibia	0,7	Iran	45,6	Finland	369,0
Burkina Faso Mozambique Senegal	1,0	New Zealand	47,0	Belgium	386,0
Suriname Tanzania	1,3	Hungary	48,0	Mexico	398,0
Costa Rica	2,0	Croatia	66,0	Saudi Arabia	515,0
Ghana Zambia	2,4	Pakistan	70,3	Sweden	612,0
Libya	3,0	Czech Republic	73,0	South Africa	834,0
Latvia	3,1	Morocco	75,5	Netherlands	956,0
Ecuador	4,3	Nigeria	86,0	Italy	1073,0
Nepal	4,9	Argentina	87,0	South Korea	1124,0
Malta	5,6	Colombia	102,0	Hong Kong	1163,0
Estonia	6,0	Philippines	103,0	Switzerland	1275,0
Panama	6,2	Peru	105,9	Australia	1298,0
El Salvador	6,7	Ukraine	112,0	Brazil	1370,0
Bangladesh	6,8	Portugal	132,0	Russia	1503,0
Venezuela	8,0	Egypt	139,3	Spain	1800,0
Iraq	9,5	Ireland	144,0	India	1819,0
Lithuania	10,1	Luxembourg	166,0	Germany	2105,0
Lebanon	10,9	Kuwait	188,0	Canada	2187,0
Jamaica	12,3	Thailand	196,0	France	2771,0
Kenya	13,4	Poland	207,0	United Kingdom	3859,0
Trinidad & Tobago	15,7	Chile	212,9	Japan	4453,0
Sri Lanka	17,0	Indonesia	213,0	China	6226,0
Vietnam	19,5	Austria	229,0	United States	19947,0
Bulgaria	22,0	Israel	236,4		

Source: Quandl (2008)

Table 2: Economic growth rate (annual percentage growth rate of GDP at market prices based on the local currency) in 2008

Country	Rate	Country	Rate	Country	Rate
Estonia	-5,17	El Salvador	0,97	Malta	3,23
Ireland	-4,14	Switzerland	0,99	Nigeria	3,48
Kuwait	-3,84	Guatemala	1,02	Venezuela	3,61
		Hungary			
Singapore	-3,49	Namibia	1,07	Lithuania	3,69
Luxembourg	-2,60	Austria	1,23	Poland	3,91
Latvia	-2,58	Israel	1,25	Mozambique	3,92
Kenya	-2,37	Germany	1,28	Brazil	4,02
New Zealand	-2,14	Netherlands	1,30	Burkina Faso	4,05
Italy	-1,70	Costa Rica	1,34	Malawi	4,50
Sweden	-1,33	Hong Kong	1,52	Taiwan	4,54
				Vietnam	
Denmark	-1,30	Thailand	1,57	Ecuador	4,58
United Kingdom	-1,24	Australia	1,65	Indonesia	4,63
United States	-1,23	Dominican Republic	1,73	Zambia	4,69
		South Africa			
Japan	-1,09	Czech Republic	1,86	Morocco	4,74
Jamaica	-1,07	Croatia	2,09	Nepal	5,05
		South Korea			
Norway	-0,86	Chile	2,16	Sri Lanka	5,15
Greece	-0,60	Tanzania	2,31	Egypt	5,29
				Russia	
Spain	-0,48	Colombia	2,33	Iraq	5,48
Iceland	-0,39	India	2,38	Saudi Arabia	5,75
Pakistan	-0,38	Honduras	2,43	Serbia	5,82
France	-0,36	Philippines	2,62	Ghana	6,37
Mexico	-0,22	Bhutan	2,73	Bulgaria	6,39
Iran	-0,20	Jordan	2,76	Bangladesh	6,50
Canada	-0,09	Ukraine	2,86	Panama	6,74
Belgium	-0,05	Sierra Leone	2,90	Uruguay	6,82
Fiji	0,02	Trinidad & Tobago	2,91	Peru	7,81
Portugal	0,06	Suriname	2,97	Lebanon	8,46
Finland	0,25	Argentina	3,03	China	9,06
		Malaysia			
Senegal	0,86	Slovenia	3,14	Romania	10,28
Libya	0,90				

Source: World Bank (2008)

Table 3: Education index (mean years of schooling index and expected years of schooling index)

Country	Index	Country	Index	Country	Index
Burkina Faso	0,21	China Dominican Republic	0,58	Hong Kong Luxembourg Romania	0,75
Sierra Leone	0,29	Ecuador Suriname Thailand	0,59	Spain	0,76
Pakistan Senegal	0,34	Colombia	0,60	Austria Russia	0,77
Mozambique	0,37	Iran Mexico Philippines	0,61	Italy Ukraine	0,78
Bangladesh Malawi Nepal Tanzania	0,40	Kuwait	0,62	Greece	0,79
Bhutan Nigeria	0,42	Costa Rica Lebanon Peru	0,63	Belgium France Hungary Japan Poland	0,80
Guatemala India Morocco	0,43	Saudi Arabia	0,64	Finland Latvia Sweden	0,82
Iraq	0,46	Brazil Jamaica Malaysia Panama	0,66	Switzerland	0,83
Honduras	0,48	South Africa Venezuela	0,67	Iceland	0,84
Vietnam	0,49	Libya	0,68	Canada Czech Republic Estonia Israel Slovenia South Korea	0,85
Kenya	0,50	Malta Portugal	0,69	Netherlands United Kingdom	0,86
Ghana Namibia	0,52	Serbia Trinidad & Tobago	0,70	Denmark Lithuania Taiwan	0,87
El Salvador	0,53	Jordan Singapore Uruguay	0,71	Germany Ireland United States	0,88
Egypt	0,55	Argentina Bulgaria	0,73	Norway	0,90
Zambia	0,56	Chile Croatia Fiji Sri Lanka	0,74	Australia New Zealand	0,91
Indonesia	0,57				

Source: United Nations Human Development Index (2008)

Table 4: Level of investor protection per country in 2008

Country	Level	Country	Level	Country	Level
Libya	1,7	Bhutan Ecuador Iraq Kenya Malawi	4,7	Austria Chile Italy Japan Malta Thailand Trinidad & Tobago	6,3
Venezuela	3,2	Fiji	4,8	Brazil Croatia France Spain United States	6,5
Guatemala	3,3	Morocco Switzerland	5,0	Pakistan Taiwan	6,7
Costa Rica Suriname	3,5	Mozambique Saudi Arabia	5,2	Denmark Iceland Nigeria	6,8
Jordan	3,7	Bangladesh Indonesia Sierra Leone Ukraine Zambia	5,3	Bulgaria Colombia Norway South Africa Sweden	7,2
El Salvador Philippines Senegal	3,8	Dominican Republic Estonia Hungary Serbia	5,5	India Ireland Israel South Korea	7,3
Iran	4,0	Australia Finland Ghana Kuwait Namibia Netherlands Panama Portugal Russia	5,7	Slovenia	7,5
Burkina Faso	4,2	Belgium Czech Republic Jamaica Mexico Nepal Romania	5,8	Canada	7,7
China Honduras Lebanon	4,3	Argentina Germany Latvia Peru Poland Sri Lanka	6,0	Malaysia United Kingdom	7,8
Egypt Luxembourg Tanzania Uruguay Vietnam	4,5	Greece Lithuania	6,2	Hong Kong New Zealand Singapore	8,3

Source: World Bank's Doing Business Report (2008)

Table 5: Perceived corruption level per country in 2008

Country	Level	Country	Level	Country	Level
Denmark New Zealand Sweden	0,7	Taiwan	4,3	Sri Lanka	6,8
Singapore	0,8	South Korea	4,4	Guatemala Jamaica	6,9
Finland Switzerland	1,0	Bhutan Czech Republic	4,8	Dominican Republic Lebanon Tanzania	7,0
Iceland Netherlands	1,1	Costa Rica Hungary Jordan Malaysia	4,9	Argentina	7,1
Australia Canada	1,3	Latvia	5,0	Egypt Malawi Zambia	7,2
Luxembourg	1,7	South Africa	5,1	Nepal Nigeria Vietnam	7,3
Austria Hong Kong	1,9	Italy	5,2	Honduras Indonesia Libya Mozambique	7,4
Germany Norway	2,1	Greece	5,3	Pakistan Ukraine	7,5
Ireland United Kingdom	2,3	Lithuania Poland	5,4	Iran Philippines	7,7
Belgium Japan United States	2,7	Namibia	5,5	Bangladesh Kenya Russia	7,9
Chile France Uruguay	3,1	Croatia	5,6	Ecuador	8,0
Slovenia	3,3	Kuwait	5,7	Sierra Leone Venezuela	8,1
Estonia	3,4	El Salvador Ghana	6,1	Iraq	8,7
Spain	3,5	Colombia Romania	6,2	Fiji	9,0
Portugal	3,9	Bulgaria China Mexico Peru Suriname Trinidad & Tobago	6,4		
Israel	4,0	Brazil Burkina Faso Morocco Saudi Arabia Thailand	6,5		
Malta	4,2	India Panama Senegal Serbia	6,6		

Source: Transparency International (2008)