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‘Cultural influences on the report readability of US-listed Asian Companies’

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Abstract

This study investigates the culture influence on report readability of Asian cross-listing firms. Asian firms listed in the US have to adapt the SEC rules and therefore provide more information in the annual report than they culture based want to. One way to hide information is provide less readable reports. For culture the secrecy score of Gray is used and readability is measured by using the Reading Ease and the Fog Index. Analyses with a sample of 72 companies reporting with the SEC from 8 Asian countries over the years 2010-2015 using Fog Index as readability measure shows that home country secrecy influences the readability of annual reports and that this influence decline over the years. Furthermore, analysis shows that differences in readability of annual reports from countries with a high secrecy culture and countries with a low secrecy culture decline over time. Analyses with Reading Ease as readability measure do not give these results. Above all, the home culture of a company influences the readability of the annual report. This influence can lead to no optimal decisions by investors, which costs the market money.

Key words: culture, cross-listing, readability, secrecy, US listed Asian Companies

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Chapter 1: Introduction

Public companies have to share financial information with their investors by providing annual reports. Research argued that the language used in these reports is difficult and therefore the human interest value very low (Pashalian & Crissy, 1950) (Heath & Phelps, 1984). One of the reasons of using difficult language by directors is hiding adverse information (Li, 2008). A consequence of this language is that only a very small group of audiences can understand the message of the board (Smith & Taffler, 1992) (Pashalian & Crissy, 1950). If the average investors can not understand the message of the board, this can lead to capital market inefficiency (Li, 2008; 2010) (Bloomfield, 2002).
Accounting institutions such as the Securities and Exchange Commission (SEC) provide rules to improve the information disclosure and readability of these reports to protect investors. Where investors want to make good en informed decisions, they need fully disclosed and readable information (U.S. Securities and Exchange Commission, 1998). An important step in this process is The Plain English Rule 421 that requires firm to write their report in plain English. The rule is accompanied by a Plain English Handbook that provides the linguistic and formatting suggestions for preparing a complete and readable annual report (U.S. Securities and Exchange Commission, 1998).

If there is a lack of rules such as those from the SEC, cultural differences have an influence on the disclosure and readability of annual reports (Kumar, 2014; Zarzeski, 1996) This can be a problem by cross listing firms where there are big differences in culture background between countries (Hofstede, 1980a; Gray, 1988).
The cultural dimensions of Hofstede help to identify these cultural differences. The dimensions are power distance, uncertainty avoidance individualistic vs collectivistic, masculine vs feminine, time perspective and indulgence vs restraint (Hofstede, 1980a; Gray, 1988).
Hofstede applied four of his dimensions on business organisations which Gray used on his turn to develop a framework for analysing the development of accounting systems based on cultural indicators. He developed four cultural dimensions for accounting systems, based on the dimensions of Hofstede, namely professionalism versus statutory control, uniformity versus flexibility, conservatism versus optimism, and secrecy versus transparency (Gray, 1988).

Zarzeski 1996 used the framework of Gray for his investigation to the influence of cultural dimensions and accounting systems on disclosure practices. The International Disclosure Model,

implying that company disclosure practices are driven by the secrecy of their home culture secrecy, but this impact declines if the company is more international orientated, is tested in his research (Zarzeski, 1996). Zarzeski (1996) found, in line with The International Disclosure Model, that especially the secrecy of a culture does underlie disclosure practices of its business enterprises. Secrecy is formulated as "the preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach" (Gray, 1988 p. 8).

Research question & sub questions

These days many Asian companies are listed in the US. A part of these companies has to report following the rules of the SEC. Asian countries have less accounting disclosure rules compared to the US and accounting disclosures in Asian markets are qualitative and quantitative low in Asian countries as compared to the US (Sami & Zhou, 2008). If there are less or no rules, cultural background is more important in the decisions people make.

There are many differences in incentives to disclose information between Asian countries and the US, some of them are cultural based. In Asian countries, like China, government has a big influence on the economy, a result from the planned economy. Companies will only provide information that is in line with the state goals (Xian, 1998; Graham, 1996). Furthermore, many companies are family businesses with no need of external influence, so they will also provide less information (Graham, 1996). In the US, the willingness to provide information in annual reports is strong related with litigation. The thread of shareholder litigation can have to effects, namely increasing disclosure of information to reduce the risk of litigation or decreasing disclosure of information to prevent their companies for being sued for disclosures that prove to be wrong ex post (Skinner, 1994).

Where the secrecy score of Asian countries is much higher than the US score, these companies have to disclose more information than they are willing to from their cultural background. There is a chance that these companies will try to hide the information by writing the annual report in complex language (Hope, Kang, Thomas, & Yoo, 2008) (Heath & Phelps, 1984).

Complex language leads to less readable information that is costlier to process and interpret by investors. Investors need more often analysts to interpret the information, but the interprets by analysts are more dispersed and disagreed. Besides analysts are less accurate and there is a greater level of uncertainty (Li 2010; Lehavy & Li, 2011). This results to investors not making the optimal decisions, leading to capital market inefficiency (Li, 2008; Rennekamp, 2012).

So, the readability of annual reports have influence of investors and analysts and therefore also on companies where they depend on investors. If cultural characteristics have influence on the readability, it is important to know these and investigate how these can be minimalized.

What is the cultural influence on the annual report's readability of Asian cross-listed companies in the US?

The answer on this main question will be found through answering a few sub-questions.
First I want to find the influence of domestic cultures on the readability in different years.

What is the cultural influence on the annual report's readability of Asian cross-listed companies in the US in different years?

Does the cultural influence on the annual report's readability became weaker if the company is listed in the US for a longer period?

Do the differences in readability between high and low secret cultures decline over time?

Contribution

Research on the readability of annual reports has become more important in the last years, but still this area is under researched. Especially the connection between readability of the annual report and cross-listing is under investigated. The connection that is investigated in these studies is mostly the association between readability and earnings management.
The connection between readability and cross-listing is thus little researched, despite of the fact that it is an interesting part to investigate. This connection is interesting because cultural differences can influence readability, seeing that countries have different cultures which differ for example on secrecy. This influence can lead to not optimal decisions by investors, which costs the market money.
This paper extends the literature about readability of financial reports, especially that about cross-listing and culture influences on readability. This paper will extent the existing research by controlling the findings by comparing these with existing data and by investigating the influence of culture on readability over years.

Research design

The sample consists of all the Asian companies that are listed in the US in the years 2010 until 2015 and reporting with the SEC. There are hundreds of ADR's (American Depository receipts), but I only choose the companies that are registered and reporting with the SEC. This results in a sample of 72 companies from 8 countries (see table 2). These countries had 909 ADR's at the beginning of 2016. 756 of these companies are listed on over-the-counter (OTC) stock and debt exchanges. The differences in disclosure rules for companies listed on OTC exchanges and national stock exchanges as the NYSE and NASDAQ are significance. Therefore, I will focus on the 72 companies listed on the NYSE and NASDAQ that are reporting with the SEC.

Dependent Variable

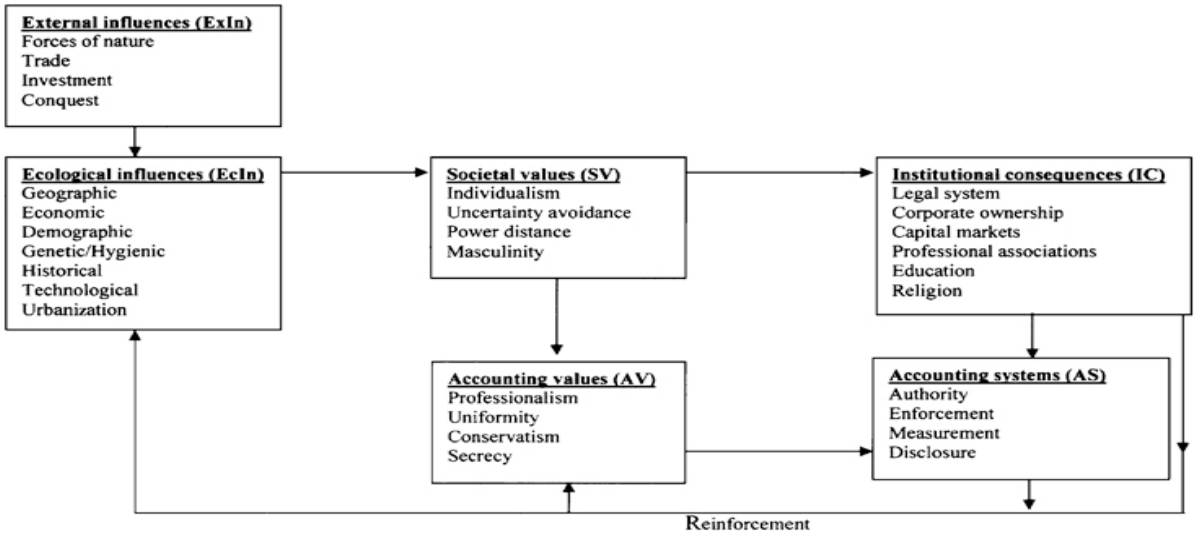
The statistical method Ordinary Least Squares (OLS) will analyse the data in this investigation. The dependent variable in this case is the Reading Ease score or the Fox Index score. These scores will be calculated of the MD&A section of the 20F-Form annual report. This study measures the readability of the MD&A section where this section is most sensible for own interpretation of the management where there are fewer rules in comparison with other sections and most information is therefore voluntary disclosed. Moreover, companies describe in the MD&A section potential effects of uncertainties that are reasonably like to have material effect on the financials of the company.

The readability measures that will be used in this investigation are the Fox Index and the Reading Ease formula. The Reading Ease Formula is the measure that is used in most readability studies. Besides, Kumar also used the Reading Ease Formula and by using the same readability measure I can compare my result with those of the study of Kumar. A study about the quality of the different measurement methods showed that not all measurement formulas give the same outcome. This is the reason to use the Gunning Fog Index as a second readability score in this investigation. The Gunning Fog Index is the second most used readability score in investigations.

Independent Variable

The independent variable by testing the first hypothesis is secrecy. For calculating the sense of secrecy is the framework of Gray used (figure 1).

Figure 1: Gray's Model of accounting value



Gray uses the dimensions applied to business organisations of Hofstede to develop a framework for analysing the development of accounting systems based on cultural indicators. He developed four cultural dimensions for accounting systems, based on the dimensions of Hofstede: professionalism versus statutory control, uniformity versus flexibility, conservatism versus optimism, and secrecy versus transparency (Gray, 1988).

Gray argued that secrecy is linked with uncertainty-avoidance, power-distance and individualism dimensions. Secrecy and uncertainty avoidance are positively related, because if managers want to avoid uncertainty they will share as few information as possible to avoid conflicts and competition. Secrecy and power-distance are also positively related, because if there are higher power-distance societies will restrict the information to preserve information inequalities. Secrecy is also positively linked with individualism.

Secrecy and conservatism seems to be related very closely, where both refer to reporting in a more cautious way. The big difference is that secrecy relates to the disclosure of information and conservatism relates to the measurement of information (Gray, 1988).

Control Variables

- Profitability: The relationship between profitability and readability is investigated in different studies. The outcome of these studies is that firms with lower profits in general generate more complex annual reports to hide their lower profitability. Furthermore, firms with lower earnings than previous years have more difficult annual reports (Li, 2008) (Bloomfield, 2008).

- Firm size: Different studies, among them Zarzeski (1996), argued that firm size has an influence on the complexity of accounting disclosures. In general, bigger firms have more complex operations that lead to longer and more complex language in the annual report.

- Debt Ratio: The debt ratio is a calculation by dividing the total liabilities by the total assets. The debt ratio is an important indicator for investors. A higher debt ratio implies that the company is less healthy. Therefore companies with a higher debt ratio are expected to provide less readable annual reports or less disclosed information.

Structure paper

This paper is organized as follows. This section, section 1, gives a short introduction of the research subject and a description of the research design. The next section reviews the existing literature and gives the hypotheses development. Furthermore, section 2 gives an overview of the most used readability measures, followed by an overview of the existing literature in section 3. Section 4 provides the results of the descriptive analyses and the regression analyses. The last section gives a conclusion and discussion of this research.

Chapter 2: Theoretical Framework

Chapter 2 will give a description about the relevant existing literature. Firstly, a short overview of de beginning history of culture investigation will be given. Secondly, a description of the three most important culture theories will be given followed by a comparison of these three theories. Thirdly, the link between culture background and management and readability will be made. Lastly a description of different readability measures will be given with their pros and con's.

History

In early research to differences in accounting practices affected by culture, we can distinguish the literature in deductive and inductive literature. Gray (1988) explained the difference as follows: The deductive approach tries to find a link between environmental factors and national accounting practices to propose international accounting classifications. The inductive approach tries to find development patterns, analyses accounting practices and proposes explanations by referring to various factors.

Mueller is one of the most important investigators of the deductive approach. He was the first in making classifications of accounting systems and business environments. He divided accounting systems into four patterns, namely the macroeconomic pattern, the microeconomic pattern, the independent discipline approach and the uniform accounting approach (Mueller, 1967; 1968). However, Mueller failed to explain his methods to distinguish the different patterns. Nobes (1983) based the classifications of Mueller on an evolutionary approach. Nobes added a structural approach to identify the different patterns to the literature of Mueller. Mueller as well Nobes did not explicit mention culture as an explanatory variable for differences in the accounting approach.

Nair & Frank (1980) made the biggest contribution to the inductive approach. They conducted a statistical analysis of accounting practices using the Price Waterhouse data. Measurement and disclosure practices were distinguished, identifying groups following Seidler's spheres of influence classification. However, Nair & Frank (1980) found no support for their hypothesises that cultural and economic variables might be more closely associated with disclosure practices and that trading variables might be more closely associated with measurement practices. Nair and Frank (1980) used language as proxy for culture in their investigation.

Unless the inductive and deductive approach had some interesting investigations, there where big disadvantages. The deductive approach was too general and failed to prove culture as an

explanatory variable for the differences in observed reporting practices. The inductive approach has been criticized for the weak dataset. They used the Price Waterhouse data and this data was criticized for misleading cases and errors (Nobes, 1992; Chanchani & MacGregor, 1999).

Gray (1988) expressed the critics on the deductive and inductive approach and argued that only accounting patterns and very broad country groupings are identified. Gray made a huge contribution to the investigation to a relation between culture and accounting approaches. Gray linked the cultural dimensions of Hofstede with accounting trying to find prove for cultural as explanatory variable for accounting approach.

Three most important culture theories

Hofstede (1980a) explained cultural differences by six cultural dimensions, namely individualistic vs collectivistic, masculine vs feminine, uncertainty vs avoidance, power distance, time perspective and indulgence vs restraint.

The first dimension is power distance. The main issue linked at power distance is human inequality, which can occur in different areas such as prestige, wealth and power (Hofstede, 1980a). The second dimension is Uncertainty Avoidance. People have to live with uncertainty about the future, where they cannot control what will happen then. Where uncertainty creates anxiety, human society has developed ways to cope with the uncertain future like technology and religion. The way societies cope with the uncertainty differs between traditional and modern societies, but also among modern societies (Hofstede, 1980a).

Individualism is the relationship between the individual and the collectivity in human society and is linked with social norms. Because people tried to value systems shared by the majority, issues of individualism carry strong moral overtones (Hofstede, 1980a).

Masculitnity is the dimension that describes the differences between sexes. The issue is whether the biological differences between the sexes should of should not have implications for their roles in social activities (Hofstede, 1980a).

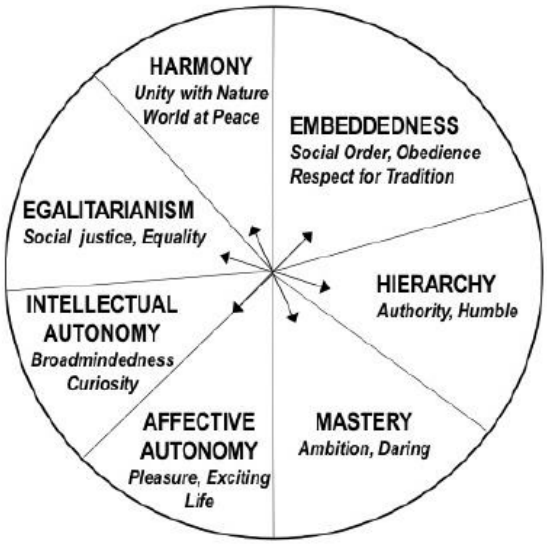
The fifth dimension is time perspective and describes how societies has some links with their own past while they are dealing with issues of the present or future. (The Hofstede Centre) The sixth en last dimension is indulgence. Indulgunce mean the extent to which people try to control their desires and impulses (The Hofstede Centre).

Hofstede (1980b) applied four of his dimensions on business organisations to indicate cultural influence in organisations. It is essential for organisations to have a certain difference of power

between employees. This results in a hierarchy between boss and subordinate that is build on the values of both boss and subordinate. The main point of Hofstede about power distance *is that the power distance, which is accepted by both boss and subordinate and supported by their social environment is to a considerable extent determined by their national culture* (Hofstede, 1980a). The level of individualism or collectivism in society affects the reasons for complying with organizational requirements by organization's members. The social dependence of organization's members is greater in collectivist societies, where more responsibility for the organization's members can be established in organisations in a society with an equilibrium between socialism and individualism. Furthermore, the level of socialism or individualism in society will affect the type of persons on positions with special influence.
Masculine of feminism in organisations can be seen in the stereotypes of some jobs, which may differ between countries and organisations and over time. The goals of an organisation influence the distribution of labour over the sexes. The goals of a business organisation concur more with the achieving role of the male. In contrast, organisations like hospitals concur more with the traditional nurturing role of the female (Hofstede, 1980b).

Not only Hofstede has a complete and valued theory about cultural differences, so does Schwartz. Schwartz (1999) developed his theory about cultural differences based on seven cultural value orientations. These orientations of Schwartz are egalitarianism, intellectual autonomy, affective autonomy, mastery, hierarchy, embeddedness and harmony (figure 2). These orientations are not just autonomous, but are interrelated with each other.

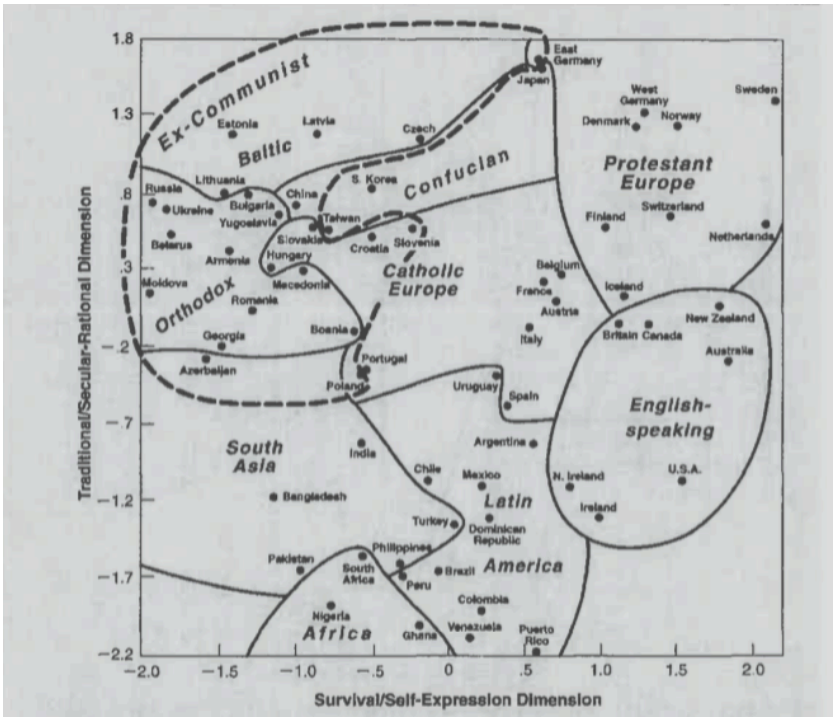
Figure 2: Schwarz' Cultural Dimensions: Prototypical Structure



Egalitarianism includes that people see each other as equals with same basic interest as humans. Intellectual autonomy encourages people to develop their own ideas and intellectual directions. Affective autonomy encourages people to develop positive experiences for themselves. Harmony includes the attitude of people to fit into the world as it is, instead of trying to change. Mastery on the other hand includes the attitude of people trying to direct and change important values and the natural environment to achieve personal of group goals. Hierarchy defines an unequal distribution of power and resources as legitimate. Embeddedness defines people as part of the collective or group. Life is about social relationships, identifying with the group and trying to achieve the group goals (Schwartz, 2006).

The theory of Schwartz specifies three bipolar cultural dimensions representing resolutions to three problems each society has, namely embeddedness versus autonomy, hierarchy versus egalitarianism, and mastery versus harmony (Schwartz, 1999; Schwartz, 2006).

Figure 3: Locations of 65 Societies on Two Dimensions of Cross-Cultural Variation: World Values Surveys, 190-1991 and 1995-1998



Inglehart and Baker (2000) researched cultural differences from a more historical perspective. They found two dimensions in which cultures differ, namely traditional versus secular-rational orientations and survival versus self-expression. Traditional orientation in the research of Inglehart and Baker means the full range of traditions of a preindustrial society. All cultures can be located on global map based of cultural differences based on these two dimenions (figure 3).

Although different research, subjects, methods and time periods, there are similarities between the theories of Hofstede, Schwarz and Inglehart. Table 1 summarizes the closely association between de dimensions of Hofstede, Schwarz and Inglehart.

Table 1: Comparison of Major Cultural Theories and Dimensions (Hsu, Woodside, & Marshall, 2013)

	Hofstede (1980a, 1980b)	Inglehart and Baker (2000)	Schwartz (1994,2006)
Authority	Power distance	Traditional vs. Secular-rational	Egalitarianism vs. hierarchy
Self and group	Individualism vs. collectivism	Survival vs. self-expression	Autonomy vs. embeddedness
Social/natural environment	Masculinity vs. femininity		Mastery vs. harmony
Uncertainty	Uncertainty avoidance		

The big difference between Schwarz and Hofstede is that Schwarz sees the cultural dimensions as forming an integrated, non-orthogonal system. Hofstede sees the cultural dimensions as independent and orthogonal factors (Schwartz, 2006). Besides, Schwarz developed his dimensions to analyse and explain behaviour of individuals in a group. Hofstede developed his dimensions to explain behaviour of groups.

In management and economic studies the framework of Hofstede is the most en widely used and validated framework to investigate the influence of cultural differences (Kirkman, Lowe, & Gibson, 2006). Not on the first place because it is the most complete theory with four dimensions instead of three by Schwarz and two by Inglehart (Hsu, Woodside, & Marshall, 2013). Therefore, and because this investigation focuses on the behaviour groups (companies), the framework of Hofstede will be used in this investigation.

Culture and readability

Gray (1988) uses the dimensions applied to business organisations of Hofstede to develop a framework for analysing the development of accounting systems based on cultural indicators. He developed four cultural dimensions for accounting systems, based on the dimensions of Hofstede: professionalism versus statutory control, uniformity versus flexibility, conservatism versus optimism, and secrecy versus transparency.

Professionalism versus Statutory control is “a preference for the exercise of individual professional judgement and the maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control” (Gray, 1988 p.8).
Uniformity versus flexibility is “a preference for the enforcement of uniform accounting practices between companies and for the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies” (Gray, 1988 p.8).
Conservatism versus Optimism is “preference for a cautious approach to measurement so as to cope with the uncertainty of future events as opposed to a more optimistic, laissez-faire, risk-taking approach” (Gray, 1988 p.8).
Secrecy versus Transparency is “preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach” (Gray, 1988 p.8).

Especially the cultural difference between secrecy and transparency influences the disclosure practices and readability of an annual report. Zarzeski (1996) used the framework of Gray for his investigation to the influence of cultural dimensions and accounting systems on disclosure practices and found, in line with The International Disclosure Model, that the secrecy of a culture does underlie disclosure practices of its business enterprises. Hope et al (2008) suggest the same point, namely that even managers which will share information for reducing information asymmetry, the secrecy of their home culture can conflict these incentives. Therefore, they will hide the information by writing the annual report in complex language. Kumar (2014) found in his investigation focused these cross-listed Asian companies that companies with a more secretive domestic culture provide less readable information in their financial statements.

Hypothesis one will investigate this relationship and is formulated as follows:
H1: Asian companies listed in the U.S. with a higher secret domestic culture provide less readable information in their annual reports

According to the Theory of Cultural Borrowing the differences in readability will decline over time (Zarzeski, 1996). Asian companies listed abroad will borrow the American culture that is more open than most of the Asian cultures, leading to less influence of domestic culture. Results of this process will be more disclosure of information and better readable information and less readability differences between companies on this case. Research showed this by stating that

firms from more secretive countries borrow global culture of competitors by less secretive disclosure results of internationally oriented firms (Zarzeski, 1996). Hope et all (2008) found similar results in his research, namely that firms are less influenced by their domestic culture if the extent of foreign activities increases (Hope, Kang, Thomas, & Yoo, 2008). Besides, there are just a few rules in Asia where more stringent accounting standards as the rules from the SEC in America lead to more textual disclosure quality (Lang & Stice-Lawrence, 2014).

This will lead to hypothesis two and three:
H2: Annual report's readability of Asian cross-listing firms increases over time.

H3: Differences in readability of the annual reports of U.S.-listed Asian firms from less en high secret domestic cultures will decline over time

Readability measures

In the broadest sense of the word, readability is "the sum total (including the interactions) of all those elements within a give piece of printed material that affect the success a group of readers have with it. The success is the extent to which they understand it, read it at an optimum speed, and find it interesting" (Subramanian, Insley, & Blackwell, 1993, p. 49-50). Readability is hard to measure and therefore several readability measurements consist. Examples are the Cloze procedure, the Fog Index, the Grade Level and the Reading Ease formula. All of them having their own advantages and disadvantages.
The Cloze procedure was the first way to measure readability. By this measure the investigator skips words from the text and sends the text to readers. These readers should fill in the missing words that are classified in easy, medium and hard. One disadvantage of the Cloze procedure is that the investigator has to use individual readers. Thereby, the answers and response of these readers depend not only on the readability of the text, but also on the ability to read and the understandability of the text by the reader (Taylor, 1956).
The Fog index is another index to measure readability and indicates how many years a reader had follow education for understanding the text (Li, 2008). It measures the readability by combining the number of words per sentence and the number of syllables per word. The fog index assumes that the higher the number of words per sentences and/or the higher the number of syllables per word, the more difficult to read the text.
The Grade, developed by Flesch and Kincaid, looks like the Fog Index and indicates the minimum level of education required for the reader to understand the meaning of the message (Kumar, 2014)

The Reading Ease formula is one of the most used readability indexes and measures the readability of a document by counting the number of syllables per 100 words and the average number of words per sentence. The outcome of the formula is normally a score between 0 en 100 (Klare, Rowe, & Stolurow, 1969).
A study about the quality of the different measurement methods showed that not all measurement formulas give the same outcome. The comparison of The Flesch Reading Ease, The Flesh-Kincaid index and the Gunning Fox Index indicates that the Gunning Fox Index assessed documents as the most difficult to read followed by the Flesh Reading Ease (Smith & Taffler, 1992; Mailloux, Johnson, Fisher, & Pettibone, 1995). The comparison of software programs shows that the results of Microsoft Word are different from other analytical programs. The results of the Flesch Reading Ease, the flesh-Kincaid Index and the Gunning Fox Index were by using Microsoft Word most inconsistent in comparison to Corporate Voice, Grammaix IV and Rightwriter (Mailloux, Johnson, Fisher, & Pettibone, 1995). Rightwriter will calculate the Reading Ease and Fog Index scores in this research, where the scores of this program are reliable and in line with other programs.

Summary

In short, from all cultural investigation three main theories are developed, one form Hofstede, one from Schwartz and one from Inglehart. Hofstede's theory is the most comprehensive theory with four dimensions instead of three or two. Therefore, most researched used Hofstede's theory for their cultural investigations and so do we in this investigation. Gray applied the dimensions of Hofstede on accounting and particularly secrecy influences the disclosure practices of management. Secrecy can be calculated from the scores of Hofstede as in table 1.
Readability can be measured with different readability scores, such as the Fog Index, the Flesh Reading Ease and the Flesh-Kincaid Index. The comparison of these three measurements shows that the Fog Index indicates texts in general as more difficult and the Flesh-Kincaid Index as les difficult than the Flesh-Kincaid Index. The Flesh Reading Ease is also a trustful measurement and used in many investigations. Also in this investigation, the Flesh Reading Ease will be used for these reasons. Where research has proved that the score of a readability measure are not always consistent, we will control the findings of the Flesh Reading Ease by also calculating the Fog Index.

Chapter 3: Literature Review

Chapter 3 gives an overview of the existing literature about the cultural influence on readability. In chapter 2 some literature is mentioned, chapter 3 gives a deeper analysis of the most important investigations.

Impact of increased accounting disclosures

Sami & Zhou (2008) investigated the impact of increased accounting disclosures on the information environment through the first set of auditing standards in China.
The first set of auditing standards was implemented in China on January 1, 1996. Therefore, the sample of Sami & Zhou includes the companies with A-shares and A and B-shares on the Shanghai Stock Exchange or the Shenzhen Stock Exchange on January 1995. The companies for the sample were selecting following 5 criteria, resulting in a sample of 271 companies with 542 company period observations in total.
From the descriptive statistics of the regression of trading volume and price volatility, ordinary least squares of the cross sectional regression of trading volume and price volatility and the univariate and multivariate analysis, Sami & Zhou (2008) made 3 conclusions. The first conclusion is that trading volume and price volatility increase under the new auditing standards. Secondly, results show a decrease in earnings management, leading to the conclusion that earnings quality increased by the new standards. Thirdly they conclude that the new standards lead to an increase in the quality of firm-specific information available to investors, showed by a decrease in synchronicity of stock prices.

Lang and Lawrence (2014) also investigated the influence of new standards and increased disclosures on quantity and complexity of disclosure, the use of boilerplate disclosure and the comparability. The Gunning Fox Index is used as indicator for complexity, the annual report length for quantity, the use of standardized discussion for boilerplate disclosure, and similarity of disclosure for the comparability.
The sample consists of 42 countries that have at least 1.000 annual reports on September 2012. From the 194.973 English reports, only 87.608 passed our criteria and have the appropriate accounting data. The time range is from 1998 till 2011 and the data is spread across 43 countries, including emerging economic markets. The analyses are conducted to understand cross-sectional determinants of disclosure attributes and trends over time. Besides the effects of an exogenous shock on disclosure is investigated by focusing on the IFRS adoption using a difference-in-

difference design.
Descriptive statistics lead to the conclusion that accounting disclosure is higher, comparability between non-US and US is greater, and there is less boilerplate when there are increased accounting rules.

Culture and accounting

Zarzeski (1996) tried to investigate the influence of new standards on the quality of annual report a bit further by investigating the role of culture background. The research of Zarzeski was mentioned to investigate the influence of culture on the readability of annual reports in the time that the SEC tried to harmonize readability standards.
Zarzeski (1996) used a random sample of selected enterprises form Compustat Global Vantage (1990) or the International Brokers' Estimate System (1986-1992). The sample includes companies of different size from the manufacturing industry, where this industry is foreign focused. There was a 33 percent response rate for sending the English version of the annual report, resulting in 256 useful annual reports for the study from seven different countries. There was no bias in the response. Zarzeski tested his hypotheses with descriptive analysis, ordinary least squares determine whether market forces and culture correlate with disclosure practices and a Wald test determines the relation between culture and disclosure under high or low international dependence.
Ordinary Least Squares shows results of the relationship between culture indicators, individualism, masculinity, uncertainty avoidance and power distance. Three of the four relationships are highly significant. As expected individualism and masculinity have a positive coefficient and uncertainty avoidance a negative. These results are evidence for the hypothesis that secrecy of a country is associated with the disclosure practices.
The Wald test shows evidence that companies that are more international orientated disclose less like their home culture. Companies that are less international orientated disclose information consistent with their home culture.

Kumar (2014) investigated in line with Zarzeski the readability of Asian companies in the US, namely focused on companies listed in other countries than their home country. His investigation focused on the effect of domestic culture, the agency theory and profitability on the readability. The sample consists of US-listed Asian companies in the year 2010 excluding ADR's and companies listed on OTC exchanges. After these eliminations, the sample includes 68 companies from 9 countries.

Ordinary Least Squares with as depend variable the Flesh Reading Ease test the hypotheses. A negative significant coefficient for secrecy proves the hypotheses that domestic culture (secrecy) affects the readability of annual reports. The results of testing the influence of the agency theory and profitability on the readability are not significant and therefore fail to reject the hypotheses. Kumar (2014) mentioned some limitations of his investigation, namely the companies are not evenly distributed over the 9 countries, it could be that the characteristics of Asian companies are changed since the Hofstede scores and the Flesh Reading Ease reliability is criticized different times.

Hope et all (2008) investigated the relation between the national culture of companies and their auditor choice. In general, the audit quality and therefore the credibility of the accounting information increases with the auditor size. Hope et all tried to find a relation between secrecy (culture) and the choice for an big4 firm or non-big 4 firm (auditor size and quality).
Hope et all used Compustat North America for selecting their US firms and Compustat Global for selecting their non-US firms. The exchange rate from IMF International Financial Statistics is used to adjust local currency into common currency. After selecting firms following 6 different criteria, the final sample consists of 91.030 firm-year observations fro 37 countries during the years 1992-2004.
The results of this investigation confirm the expectations. Firms with a more secret home culture are less likely to hire a Big 4 audit firm. This association between secrecy and auditor size reduces when firms are operating more internationally. These results suggest that multinational firms are less influenced by their home country cultural norms than domestic firms do.

Readability

Li (2008) examined the readability of annual report in relation with firm performance and earnings persistence. Li collected the annual reports for his sample from the Edgar system of the SEC following two criteria. The firm-years with no electronic 10K-filings, the 10-K filings with less than 3.000 words of 100 lines after deleting heading items, paragraphs with maximum ones line and tables and the companies which have operating earnings grater than 1 or less than -1 are excluded from the sample. The final sample includes 55.719 firm-years with report dates between 1994 and 2004. Regression analysis with as depending variable the Fog-index shows a significant negative coefficient on earnings, indicating that companies with higher earnings have better readable reports. A low score on the Fog-index stands for better readability. Besides, Li

found evidence that profits of companies with annual reports that are easier to read are more persistent.

Leavy & Li (2011) investigated as a sequel to his earlier research the effects of the readability quality of companies' annual reports, especially on the behavior of sell-side analysts.
Li collected the data with the help of the Compustat Fundamental Annual table and the SEC's EDGAR filings database. 10K filings with less than 300 words or 100 lines are dropped for quality, leading to 57.642 observations. Matching these observations with matching analyst data, leads to a sample of 33.704 observations. The readability of the 10K filings is measured using the Fog Index. The fog index is a readability measure that measures the overall syntactic complexity instead of the complexity of individually financial terms.
The coefficient of the Fog Index in the linear model regression with as dependent variable analysts following has a positive and significant value. This finding suggests that analyst following in greater for firms with less readable annual reports. Besides Leavy & Li (2011) found evidence that analyst covering firms requires 1.45 days longer if the information is less readable. These results are obtained by classifying the Fog indexes in higher or lower than the sample median. Lastly, Leavy & Li (2011) found evidence for his third hypothesis that the informativeness of analyst reports is positively related to the readability of firms' reports. In the ordinary least-squares regression the coefficient on the Fog Index is significant and positive, suggesting that the informativeness of analyst reports is increasing when the complexity of the firm report disclosure raise.

Summary

From earlier literature, we can conclude that culture has influence on the readability of annual reports. Besides, culture has influence on auditor choice caused by how much information a company will share with his shareholders. This literature also suggests that this influence decreases if companies are orientated more internationally. Other factors that influence readability are earnings and earnings persistence.
Described investigations have some similarities in their investigation method. These investigations measure culture by secrecy. Gray developed the secrecy measure, based on the cultural indicators of Hofstede. The secrecy measure shows the willingness of a culture to share information. In most investigations, the Fog Index measures readability. Besides, most studies investigate the readability by using the 10K-format, where rules for this format are equal for all companies.

Chapter 4: Methodology

Chapter four discusses the methodology of the research. First, the sample will be discussed, followed by the model, validity and reliability.

Sample

The sample consists of all the Asian companies that are listed in the US in the years 2010 until 2015 and reporting with the SEC. There are hundreds of ADR's (American Depository receipts), but I only choose the companies that are registered and reporting with the SEC. This results in a sample of 72 companies from 8 countries (see table 2).

Table 2: Sample companies

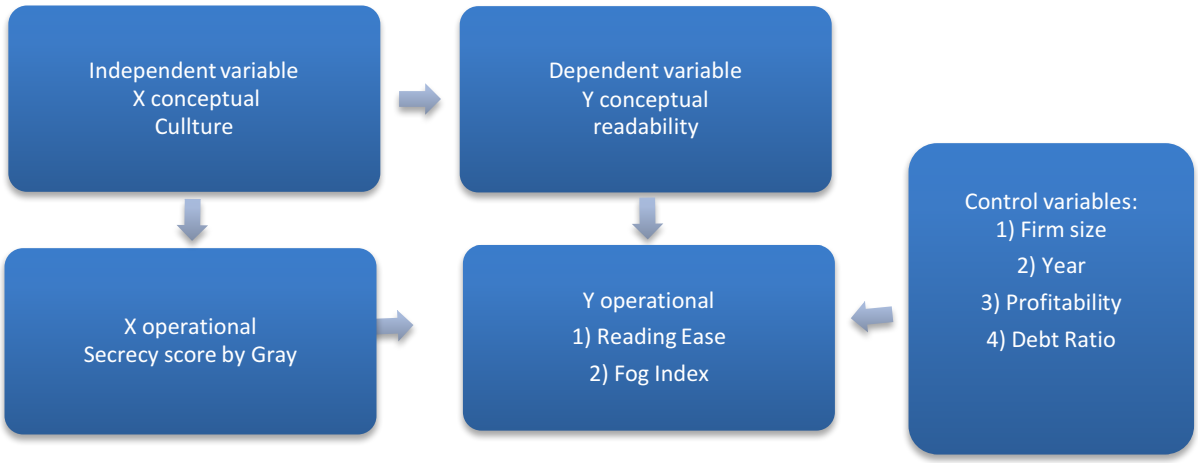
Country	**Number of Companies listed in the US begin 2016**	**Number of OTC Companies/Data Unavailable 2010-2015**	**Included in Sample**
China	299	240	59
Hong Kong	170	167	3
India	13	5	8
Indonesia	51	50	1
Japan	310	295	15
Philippines	47	46	1
South-Korea	11	2	9
Taiwan	8	0	8
Total	**919**	**847**	**72**

These countries had 909 ADR's at the beginning of 2016. 756 of these companies are listed on over-the-counter (OTC) stock and debt exchanges. The differences in disclosure rules for companies listed on OTC exchanges and national stock exchanges as the NYSE and NASDAQ are significance. Therefore, I will focus on the 72 companies listed on the NYSE and NASDAQ that are reporting with the SEC.

Variables

The variables used in this research are presented in the Libby boxes below. In the upper row the conceptual independent and dependent variable are presented, in het lower row the operational independent and dependent variable.

Figure 4: Libby boxes



Dependent Variable

The conceptual dependent variable in this research is report readability. There are different measurements for readability for example the Cloze procedure, the Fog Index, the Grade Level and the Reading Ease formula. Besides the length of the text is an indicator of the readability. In this research, the operational dependent variables are the Reading Ease score and the Fox Index score, where these two are most used in other studies as operational variable for the conceptual variable readability. The Reading Ease Formula is the measure that is used in most readability studies. Besides, Kumar also used the Reading Ease Formula and by using the same readability measure I can compare my result with those of Kumar (2014). A study about the quality of the different measurement methods showed that not all measurement formulas give the same outcome (Mailloux, Johnson, Fisher, & Pettibone, 1995). This is the reason to use the Gunning Fog Index as a second readability score in this investigation. The Gunning Fog Index is the second most used readability score in investigations.

The formula to calculate the Flesch Reading Ease is as follows:

$$FRE = 206.835 - 0.846wl - 1.015sl$$

Wl stands for the number of syllables per 100 words and Sl stands for the average length of the sentences and these two factors determine the readability of a text according to the Flesch Reading Ease. The formula of the Flesh Reading Ease gives a score between 0 and 100. A score of 0 implies a very unreadable text and a score 0f 100 implies a readable text (Courtis, 1995).

The formula to calculate the Gunner Fog Index is as follows:

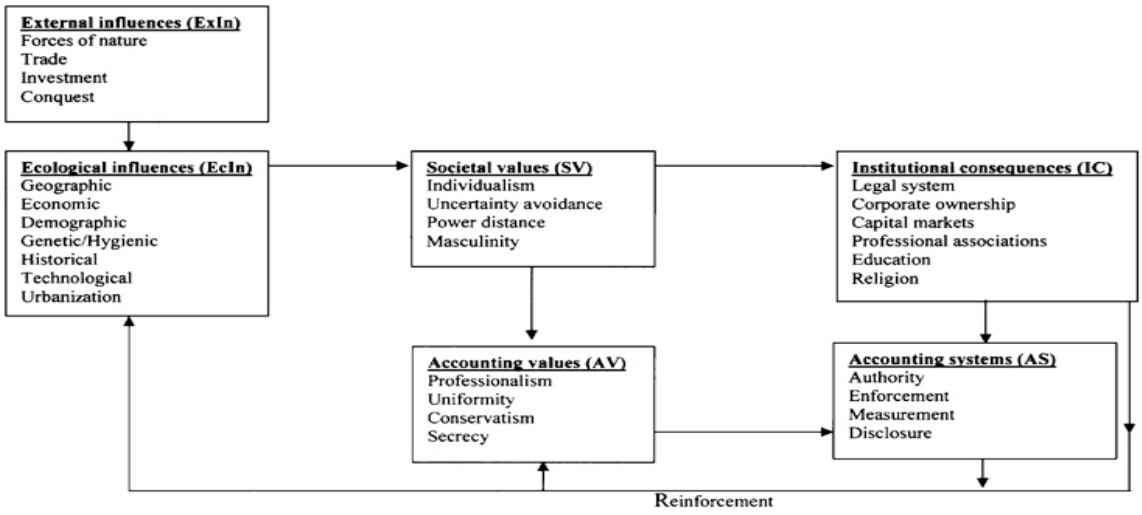
Fog Index = 0.4 (A + T)

According to the Fog Index, the average numbers of words per sentence, the A in the formula, and the percentage of hard words, words with more than three syllables, in the passage, the T in the formula, determine the readability of a text. A score greater than 17 corresponds with technical literature that is hard to read by most of the private investors (Courtis, 1995).

Independent Variable

The propose of this research is to investigate the influence of culture on readability. Hereby, the conceptual independent variable is culture. The corresponding operational variable is secrecy calculated by the framework of Gray (figure 1).

Figure 1: Gray's Model of accounting value



Gray uses the dimensions applied to business organisations of Hofstede to develop a framework for analysing the development of accounting systems based on cultural indicators. He developed four cultural dimensions for accounting systems, based on the dimensions of Hofstede: professionalism versus statutory control, uniformity versus flexibility, conservatism versus optimism, and secrecy versus transparency (Gray, 1988).

Gray argued that secrecy is linked with uncertainty-avoidance, power-distance and individualism dimensions. Secrecy and uncertainty avoidance are positively related, because if managers want to avoid uncertainty they will share as few information as possible to avoid conflicts and competition. Secrecy and power-distance are also positively related, because if there is higher

power-distance societies will restrict the information to preserve information inequalities. Secrecy is also positively linked with individualism.

The formula of Gray to calculate the secrecy score is:
Secrecy = Uncertainty Avoidance +Power Distance –Individualism

Tabel 3: Secrecy scores per country calculated by the formula of Gray

Countries	**Uncertainty Avoidance (UA)**	**Power Distance (PD)**	**Individualism / Collectivism (INDIV)**	**Secrecy (UA+PD-INDIV)**
China	30	80	20	90
Hong Kong	29	68	25	72
India	40	77	48	69
Indonesia	48	78	14	112
Japan	92	54	46	100
Philippines	44	94	32	106
Singapore	8	74	20	62
South Korea	85	60	18	127
Taiwan	69	58	17	110
US	46	40	91	-5

A possible problem is that there is a possibility that other components of culture, not included in the formula of Gray has influence on the readability.

Control Variables

- Profitability: The relationship between profitability and readability is investigated in different studies. The outcome of these studies is that firms with lower profits in general generate more complex annual reports to hide their lower profitability. Furthermore, firms with lower earnings than previous years have more difficult annual reports (Li, 2008) (Bloomfield, 2008).

- Firm size: Different studies, among them Zarzeski 1996, argued that firm size has an influence on the complexity of accounting disclosures. In general, bigger firms have more complex operations that lead to longer and more complex language in the annual report.

- Debt Ratio: The debt ratio is a calculation by dividing the total liabilities by the total assets. The debt ratio is an important indicator for investors. A higher debt ratio implies that the company is less healthy. Therefore, companies with a higher debt ratio are expected to provide less readable annual reports or less disclosed information.

Chapter 5: Results & Discussion

In the previous chapter, the methodology of the research is discussed. In this chapter, the results of the test will be described, followed by a discussion of the results in chapter 6.

Table 4 shows the descriptive analyses of all the variables in this study. The Flesch Reading Ease has a minimum of 30,5 and a maximum of 50,6 with a mean of 40,161. A score of 30,5 indicates a reading level of 'difficult / very difficult'. A score of 50,6 indicates a reading level of 'fairly difficult'.

The fog Index has a minimum of 8,4 and a maximum of 18,8 with a mean of 15,571. A score of 8,4 indicates an education level of 'eight grade'. A score of 18,8 indicates an education level of 'college graduate' and the level of an academic paper. The secrecy of the countries is divided from 69 to 127. The higher the secrecy score, the more secret the home culture.

Table 5 shows the means of all the variables by country to get an indication of hypothesis one. If this hypothesis is true South Korea, with the highest secrecy score, should have the least readable reports. India with the lowest secrecy score should have the best readable reports.

Japan has the lowest Reading Ease mean with 39,097, meaning that the reports from Japanese companies are on average the hardest to read. Taiwan has the highest Reading Ease mean with 42,763, meaning that the reports of Taiwanese companies are on average the easiest to read. The Philippines has the highest Fog Index mean with 16,033, meaning that the reports form the Philippines are the hardest to read. The lowest Fog Index mean is 13,933 by Indonesia, meaning that the reports from this country are the easiest to read.

These results imply that hypothesis one should be rejected on country level. Further analyses will test the effect on company level, also to eliminate other relevant factors.

Table 4: Descriptive Statistics

Variables	Minimum	Maximum	Mean	25%	Median	75%	Standard
Flesch	30,5	50,6	40,161	37,8	40,1	42,7	3,309
Fog Index	8,4	18,8	15,	15	15,6	16,2	0,951
Secrecy	69	127	94,456	90	90	100	14,021
Firmsize	8,636	21,696	15,402	13,005	14,941	17,615	2,742
Debt Ratio	0,0004	1,735	0,485	0,282	0,45	0,637	0,260
Profitabillity	-2,836	5,071	0,688	0,213	0,463	1,084	2,887

Table 5: Variable mean and standard deviation divided by country

Country (secrecy)	Reading Ease	Fog Index	Firmsize	Debetratio	Profitability
China (90)	39,836	15,693	14,169	0,446	0,056
	3,1655	0,8095	2,297	0,253	1,043
Hong Kong (72)	40,183	15,444	14,723	0,383	-0,016
	1,6724	0,5469	1,945	0,214	0,087
India (69)	41,400	15,146	16,104	0,535	0,063
	3,3602	0,7308	2,161	0,271	0,076
Indonesia (112)	41,033	13,933	16,242	0,423	0,153
	4,7597	2,7134	0,043	0,021	0,009
Japan (100)	39,097	15,681	18,454	0,604	0,048
	2,8237	0,9140	2,222	0,272	0,207
Philippines (106)	40,800	16,033	16,568	0,715	0,074
	1,4683	0,2066	1,465	0,114	0,046
South-Korea (127)	40,206	16,020	17,477	0,631	-0,002
	4,3686	1,2169	2,436	0,235	0,086
Taiwan (110)	42,763	14,610	15,467	0,346	0,073
	2,5607	0,6711	1,568	0,159	0,065
Total	40,161	15,571	15,402	0,485	0,051
	3,3088	0,9511	2,742	0,260	0,785

The bivariate correlation analysis is shown in table 6. Reading Ease is positively correlated with secrecy. This relation has a correlation coefficient of 0,020. A higher score of the reading ease implies a report that is easier to read. A positive relationship does not support hypothesis one in that case. The correlation between Fog Index and Secrecy has a correlation coefficient of 0,046 so these two variables are positively correlated. This result supports hypothesis one, where a higher fog index implies a report that is harder to read. Fog Index and Reading Ease are negatively correlated with a coefficient of -0,8. This is an expected correlation where Fog Index has a high score and the Reading Ease a low score if the text is difficult to read.
Year is significant negative correlated with Reading Ease and significant positive correlated with Fog Index. This implies that reports become less readable over time. This is contrary to the expected association. Expected was that readability improves over the years, where the secrecy of the American culture is way lower than most Asian cultures.

Table 6: Pearson Correlations

	Secrecy	Reading Ease	FogIndex	Year	FirmSize	Debet Ratio	Profitability
Secrecy	1,000						
Reading Ease	0,020	1,000					
FogIndex	0,046	-0,800**	1,000				
Year	0,000	-0,099*	0,132**	1,000			
FirmSize	0,283**	-0,003	-0,051	0,064	1,000		
Debet Ratio	0,116**	-0,050	0,150**	0,161**	0,425**	1,000	
Profitability	-0,009	0,008	-0,026	-0,035	0,014	-0,094*	1,000
* significant at the 5% level ** significant at the 1% level							

The regression of secrecy on the reading ease gives a intercept of 39,724 and a coefficient of 0,005. This coefficient has a signification coefficient of 0,627, implying this relation is not significant at a 5% level. With a adjusted R2 of -0,001 shows that the data do not fit the regression model very well.

The model improves if the independent variable 'year' is added. The adjusted R2 improves from -0,001 to 0,007, but the model has still a low explanation power. In this model the intercept is 158,539, the Secrecy coefficient 0,005 and the variable 'year' -0,193. In this model, the variable 'year' is significant at a 5% level with a signification coefficient of 0,014. Secrecy is not significant with a coefficient of 0,618. Profitability has no significant influence if we extent the model with this independent variable.

Adding the independent variables firmsize and debtratio to the model increases the value of the adjusted R2 to 0,017 as table 9 shows. Secrecy is still insignificant, so are firmsize, debtratio and profitability. The variable year is still significant at a 5% level.

Table 7: Regression with dependent variable Reading Ease

Variable	Coëfficiënt	t	P-value
Intercept	39,724	43,704	0,000
Secrecy	0,005	0,486	0,627
Model Summary	**Adjusted R2**	**F**	**p-value**
	-0,001	0,236	0,627
OLS regression is performed with the dependent variable Reading Ease. * significant at the 5% level ** significant at the 1% level Expected sign: secrecy (-)			

Table 8: Regression with dependent variable Reading Ease

Variable	**Coëfficiënt**	**t**	**P-value**
Intercept	428,505	2,703	0,007
Secrecy	0,005	0,499	0,618
Year	-0,193*	-2,452	0,014
Model Summary	**Adjusted R2**	**F**	**p-value**
	0,007	3,126	0,045
OLS regression is performed with the dependent variable Reading Ease. * significant at the 5% level ** significant at the 1% level Expected signs: secrecy (-), year (-)			

Table 9: Regression with dependent variable Reading Ease

Variable	**Coëfficiënt**	**t**	**P-value**
Intercept	404,595	2,514	0,012
Secrecy	0,005	0,490	0,624
Year	-0,181*	-2,267	0,024
Profitability	0,007	0,000	1,000
Firmsize	0,020	0,349	0,727
Debtratio	-0,562	-0,973	0,331
Model Summary	**Adjusted R2**	**F**	**p-value**
	0,004	1,438	0,209
OLS regression is performed with the dependent variable Reading Ease. * significant at the 5% level ** significant at the 1% level Expected signs: secrecy (-), year (-), profitability (+), firmsize (-), debtratio (-)			

The regression of secrecy on the Fog Index gives a intercept of 15,28 and a coefficient for secrecy of 0,03. Hereby secrecy is not significant with a signification coefficient of 0,261. The model has an adjusted R2 of 0,000, so the model has a predication value of zero. Therefore, we add the independent variable 'year' to the model. The R2 of the model improves to 0,016. The variable year has a coefficient of 0,074 and is significant at a 1% level. Secrecy has a coefficient of 0,003 and is still insignificant.

Adding the variables profitability, firmsize and debetratio to the model improves the adjusted R2 of the model from 0,016 to 0,047. The signification coefficient of secrecy improves from 0,261 to 0,102, but the variable is still insignificant. The insignificant variable profitability has a coefficient of -0,001 and the significant variables at a 1% level year, firmsize and debetratio have coefficients of 0,062, -0,055 and 0,702.

Table 10: Regression with dependent variable Fog Index

Variable	Coëfficiënt	t	P-value
Interecept	15,280	58,535	0,000
Secrecy	0,003	1,125	0,261
Model Summary	**Adjusted R2**	**F**	**p-value**
	0,000	1,265	0,261
OLS regression is performed with the dependent variable Fog Index. * significant at the 5% level ** significant at the 1% level Expected sign: secrecy (+)			

Table 11: Regression with dependent variable Fog Index

Variable	Coëfficiënt	t	P-value
Intercept	-132,983	-2,932	0,003
Secrecy	0,003	1,119	0,264
Year	0,074**	3,269	0,001
Model Summary	**Adjusted R2**	**F**	**p-value**
	0,016	5,985	0,003
OLS regression is performed with the dependent variable Fog Index. * significant at the 5% level ** significant at the 1% level Expected signs: secrecy (+), year (+)			

Table 12: Regression with dependent variable Fog Index

Variable	Coëfficiënt	t	P-value
Intercept	-108,983	-2,409	0,016
Secrecy	0,005	1,639	0,102
Year	0,062**	2,754	0,006
Profitability	-0,001	-0,027	0,979
Firmsize	-0,055**	-3,494	0,001
Debetratio	0,702**	4,320	0,000
Model Summary	**Adjusted R2**	**F**	**p-value**
	0,047	6,969	0,000
OLS regression is performed with the dependent variable Fog Index. * significant at the 5% level ** significant at the 1% level Expected signs: secrecy (+), year (+), profitability (-), firmsize (+), debtratio (+)			

Table 13 shows the reading ease mean and the fog index mean for every year of the sample. The average reading ease decreases every year from 40,862 in 2010 to 39,760 in 2015. The average Fog Index score increases over the years from 15,345 in 2010 to 15,729 in 2015. A decreasing Reading Ease score and an increasing Fog Index score both imply that reports became less readable over the years.

Table 13: Mean and Standard Deviation divided by year

Year		FogIndex	Reading Ease
2010	Mean	15,345	40,862
	Standard Deviation	1,1373	3,5555
2011	Mean	15,481	40,215
	Standard Deviation	0,9927	3,3745
2012	Mean	15,583	40,169
	Standard Deviation	0,8757	3,2003
2013	Mean	15,611	40,091
	Standard Deviation	0,8384	3,1757
2014	Mean	15,687	39,837
	Standard Deviation	0,8603	3,1982
2015	Mean	15,729	39,760
	Standard Deviation	0,9393	3,2976
Total	Mean	15,571	40,161
	Standard Deviation	0,9511	3,3088

Table 14 shows the results of the regressions analyses from every year in the sample. The regression analysis calculates the influence of culture secrecy on the readability of the annual report. To eliminate other factors that can influence the results, the same control variables as by testing hypothesis one are used.

The secrecy coefficient in 2010 was 0,001, in 2011 0,008, and after 2011 the coefficient drops to 0,003 in 2015 by the regression of secrecy on Fog Index. All the coefficients are not significant. A decreasing coefficient implies a decreasing influence of secrecy on the Fog Index score.

The regression of secrecy on Reading Ease does not give the same results. The secrecy coefficient is in 2010 0,009, in 2011 -0,020, in 2012 0,013, in 2013 0,06, in 2014 0,09 and in 2015 0,017. This regression shows not the same trend as the regression of secrecy on the Fog Index.

Table 14: Secrecy coefficient from regression on readability (Reading Ease / Fog Index) divided by year

Year		Coefficient	T	P-value
2010	Reading Ease	0,009	0,337	0,737
	Fog Index	0,001	0,082	0,935
2011	Reading Ease	-0,020	-0,786	0,434
	Fog Index	0,008	1,161	0,249
2012	Reading Ease	0,013	0,539	0,591
	Fog Index	0,007	1,055	0,294
2013	Reading Ease	0,006	0,257	0,798
	Fog Index	0,005	0,801	0,425
2014	Reading Ease	0,009	0,368	0,714
	Fog Index	0,005	0,792	0,430
2015	Reading Ease	0,017	0,711	0,479
	Fog Index	0,003	0,380	0,705

Chapter 6: Discussion

The previous chapter presented the results of the regression and other tests. This chapter will analyze the results and discuss them.

The analyses of the association of secrecy and Fog Index score gives the expected results, namely that companies from more secret countries has annual reports with a higher Fog Index. This implies that companies with a more secret domestic culture provide less readable reports. Analyses of the association of secrecy and Reading Ease did not give the expected results. Companies with a more secret domestic culture provide annual reports with a higher Reading Ease score, so an annual report that is easier to read. The analyses controlled the connection of readability and secrecy on Firmsize, Profitability, Debetratio and Year. Bivariate correlation give the same results, but the correlation of Reading Ease and Fog Index is negative as expected.
Hypothesis one '*Asian companies listed in the U.S. with a higher secret domestic culture provide less readable information in their annual reports*' can be rejected on basis of the results of the regression analyses with Reading Ease as readability variable. The analysis with Fog Index shows prove for this hypothesis. The means of the Reading Ease and the Fog Index selected by countries also do not support hypothesis one.
The difference in results can be caused by the difference between the Fog Index formula and the Reading Ease formula. The score of the Reading Ease is more variable where 'wl' in the formula indicates the number of syllables par 100 words. In the Fog Index formula, not the number of syllables but only number of hard words is presented, an ordinal variable. A hard word counts 3 of more syllables, with less it is no hard word. The value of a word with 1 or 2 syllables is in the Fog Index formula 0 and in the Reading Ease formula 1 or 2. A word with 3 or more syllables has a value of 1 in the Fog Index formula and 3 of more in the Reading Ease formula.
This difference in the formulas can be one of the reasons for the different results in the regression with the Reading Ease and the Fog Index. The Reading Ease represent the worth length in a better way, but if people experienced no difference in readability between words with 1 or 2 syllables and between words with 3 or more syllables the Fog Index represent readability better. The outcome of the Fog Index is more sensible for the word choice and jargon.

Hypothesis two stated that the readability of annual reports increases over time. Analyses of the annual readability mean did not support this hypothesis and even show the opposite. Annual reports became less readable over the years, showed by an increasing Fog Index and a decreasing Reading Ease.
Hypothesis two was formulated based on the Theory of Cultural Borrowing and results of the research of Zarzeski 1996. The results suggest that company boards react on another way than expected on the more stringent accounting standards and difference in culture. A possible variable that influenced the results is the changing rules of the SEC. Each year, the SEC add and changed some rules. In the sample period 2010-2015 there was a financial crisis in the United States. The SEC changed many rules, especially in case of financial risks. Another possible explanation is that the cultural influence declined in the years before the sample period and is just barely present.

Analysis of the difference of in the influence of secrecy of the domestic culture on readability over the years also shows different results for Fog Index and Reading Ease as readability variable. Analysis with the Fog Index as readability variable shows a declining influence of secrecy of the domestic culture on the readability. The analysis of the Reading Ease shows no trend. On basis of the Fog Index results, hypothesis three can be accepted, but on basis of the Reading Ease results, hypothesis one should be rejected. This result suggests, just a in case of hypothesis one, that there is a possibility of another variable that influence the connection between secrecy and Reading Ease. Where also the secrecy scores are not very recent, maybe this can also have influenced the results.

Overall, the results reject hypothesis two. Hypotheses one and three are confirmed by the analysis with Fog Index as secrecy variable. Analysis with Reading Ease as secrecy variable shows opposite results by hypothesis one and total different results by hypothesis three. This can be caused by the fact that there exists another variable not included in this investigation that influence the connection.

Chapter 7: Conclusion

This is the closing chapter of this paper. This chapter consists a short summary of the research, followed by the answers of the subquestions and research question. Finally, the contribution, limitations and suggestion are described.

Summary

This research investigated the influence of the secrecy of domestic culture on readability, especially if this relation exists, if this relation changed over time and if the readability increased over time.

From earlier literature, we can conclude that culture has influence on the readability of annual reports. Besides, culture has influence on auditor choice caused by how much information a company will share with his shareholders. This literature also suggests that this influence decreases if companies are orientated more internationally. Other factors that influence readability are earnings and earnings persistence.

Described investigations have some similarities in their investigation method. These investigations measure culture by secrecy. Gray developed the secrecy measure, based on the cultural indicators of Hofstede. The secrecy measure shows the willingness of a culture to share information. In most investigations, the Fog Index measures readability. Besides, most studies investigate the readability by using the 10K-format, where rules for this format are equal for all companies.

From all cultural investigation three main theories are developed, one form Hofstede, one from Schwartz and one from Inglehart. Hofstede's theory is the most comprehensive theory with four dimensions instead of three or two. Therefore, most researched used Hofstede's theory for their cultural investigations and so do we in this investigation. Gray applied the dimensions of Hofstede on accounting and particularly secrecy influences the disclosure practices of management. Secrecy can be calculated from the scores of Hofstede as in table 1.

Readability can be measured with different readability scores, such as the Fog Index, the Flesh Reading Ease and the Flesh-Kincaid Index. The comparison of these three measurements shows that the Fog Index indicates texts in general as more difficult and the Flesh-Kincaid Index as les difficult than the Flesh-Kincaid Index. The Flesh Reading Ease is also a trustful measurement and used in many investigations. Also in this research the Flesh Reading Ease will be used for these reasons. Where research has proved that the score of a readability measure are not always consistent, we will control the findings of the Flesh Reading Ease by also calculating the Fog Index.

Research question and subquestions

Hypothesis one was formulated as follows:

Asian companies listed in the U.S. with a higher secret domestic culture provide less readable information in their annual reports

Hypothesis one is tested with a regression of culture secrecy value on readability. For readability, the variables Fog Index and Reading Ease are used, for culture secrecy the Gray secrecy score. On basis of the results of the regression analysis with the Reading Ease, hypothesis one should be rejected. On basis of the regression with the Fog Index, hypothesis one should be accepted.

Hypothesis two is formulated as follows:

H2: Annual report's readability of Asian cross-listing firms increases over time.

Hypothesis two is tested by calculating and compare the readability scores in different years. Results showed an increasing Fog Index score and decreasing Reading Ease score, implying less readable reports over the years. Therefore, hypothesis one should be rejected.

Hypothesis three is formulated as follows:

H3: Differences in readability of the annual reports of U.S.-listed Asian firms from less en high secret domestic cultures will decline over time

Results of testing hypothesis three are divided, as by testing hypothesis one. Results with Fog Index as readability variable shows a declining influence of the secrecy of domestic culture. The results with Reading Ease as readability variable shows no trend. On basis of the analysis with Fog Index, hypothesis three should be accepted. On basis of the analysis with Reading Ease hypothesis three should be rejected.

The results of testing hypotheses give us the answer on the subquestions:

What is the cultural influence on the annual report's readability of Asian cross-listed companies in the US in different years?

The cultural influence of home countries is not very big. The choice of the readability measure influence the results. There is some influence, but this research can not exactly answer the question how big the influence is.

Does the cultural influence on the annual report's readability become weaker if the company is listed in the US for a longer period?

The average readability of annual report decreases during the years. The expected outcome based on the Theory of Culture Borrowing is not found. Besides the tests showed divided results on the analyses of the changing influence of culture on readability during the years.
Overall the influence of home culture became weaker, but the result is less convincing that expected.

Do the differences in readability between high and low secret cultures decline over time?
Expected was that due declining influence of home culture on readability the differences will also decline. Tests showed divided results on the analyses of the changing influence of culture on readability during the years. On basis of Fog Index as readability variable, the differences decline, on basis of Reading Ease as readability variable they do not.

The answers on the subquestions leads to the answer on the main research question of this research:
What is the cultural influence on the annual report's readability of Asian cross-listed companies in the US?
The cultural influence on annual reports readability is less than expected. In this research, the choice of readability measure has a big influence on the results. Fog Index as readability measure shows that home culture has influence on the readability of annual reports. This influence decline if a company is listed in the United States for a longer period.
Reading Ease as readability measure did not give these results. The analysis with the Reading Ease did not give a strong connection between readability and culture. It is likely that the connection between readability and culture is influenced by other factors.

Contribution

The connection between readability and cross-listing is little researched, despite of the fact that it is an interesting part to investigate. This connection is interesting because cultural differences can influence readability, seeing that countries have different cultures which differ for example on secrecy. This influence can lead to not optimal decisions by investors, which costs the market money.
This research extends the existing literature by testing the connection between readability and culture with different readability measurements and over different years, where existing literature only tested this relationship with the Reading Ease and with a sample period of one year. This study showed that the choice of readability measurement influences the found results

of the influence of culture's secrecy on readability, but also that the home country culture has influence on the readability. This is an important thing to know for investors by making decisions on basis of annual reports.

Besides this study showed that the effect of the theory of cultural borrowing is not as strong as claimed in earlier papers (Kumar, 2014; Zarzeski, 1996). The readability does improve over the years, but not that much. This is an interesting fact for the rulemaking authorities as the SEC. If the differences between American companies and companies from countries with a more secret culture are too big, maybe they should adapt the rules for foreign companies for more similarities. Future research should investigate these differences.

Limitations and suggestions

There are some limitations on this study. The sample is relatively small and unevenly distributed over the Asian countries. Despite of removing the countries with only one company in the sample did not influence the results, a larger and evenly distributed sample can give different results and will increase the reliability. A longer sample period maybe also give different results. The found connection not very strong, so it could be that the cultural influence declined past years and is just barely present. Furthermore, future research can further influence the association between the secrecy of domestic culture and readability of annual reports with a bigger sample over a longer period.

Another limitation is the cultural scores of Hofstede published by the Hofstede institute, which are possibly outdated. The scores are published in 1980 and the world and cultures changed since then, with the consequence that the scores may not represent the culture values correctly. A more recent version does not exist, so this research used the most up-to-date scores of the Hofstede institute.

This study found different results by using the Reading Ease or the Fog Index, but cannot explain the difference in results exactly. Further research can focus on the validity of the different readability measurements, especially in case of financial reports of companies. The Reading Ease represent the worth length in a better way, but if people experienced no difference in readability between words with 1 or 2 syllables and between words with 3 or more syllables the Fog Index represent readability better. This is an interesting subject for future research. Furthermore, the explanation power of the models, shown by the value of the R2, is not very high. It seems that some other factor influences the relation between home culture's secrecy and readability or the readability measures do not fit for annual reports. Future research can use the relative new BOG-Index. This index is not used a lot, but seems to be reliable. It is an interesting

index for research in annual reports, where this index uses a wordlist with difficulty qualification per word. This can influence the results of research in annual reports where writers use jargon. Lastly, another interesting future investigation is the connection between readability and secrecy in another part of the world instead of Asia. Research in another field than accounting can investigate new culture values that can replace the values of Hofstede from 1980. This can improve other research in the future.

Appendix

Table 15: Cultural dimensions by Hofstede

Individualistic / Collectivistic	How personal needs and goals are prioritized vs. the needs and goals of the group/clan/organization.
Masculine / Feminine	Masculine societies have different rules for men and women, less so in feminine cultures.
Uncertainty Avoidance	How comfortable are people with changing te way they work or live (low UA) or prefer the known systems (high UA).
Power Distance	The degree people are comfortable with influencing upwards. Accept the inequality in distribution of power in society.
Time Perspective	Long-term perspective, planning for future, perseverance values vs. short time past and present orientated.
Indulgence / Restraint	Allowing gratification of basic drives related to enjoying life and having fun vs. regulating it through strict social norms.

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