

学位論文及び審査結果の要旨

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学位の種類	博士（経営学）
学位記番号	国府博甲第41号
学位授与年月日	令和元年 9月13日
学位授与の根拠	学位規則（昭和28年4月1日文部省令第9号）第4条第1項及び 横浜国立大学学位規則第5条第1項
研究科(学府)・専攻名	国際社会科学府経営学専攻
学位論文題目	Whether Longer Annual Reports are Better: Evidence from Annual Reports Issued by Foreign Firms Listed on the US Stock Exchange
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論文の要旨

Annual reports are recorded as the most price-relevant disclosure of firms; therefore, such reports have attracted researchers, regulators, and practitioners over time. There has been blooming a series of research relating to the complexity of annual reports after Li's research in 2008 which provided a new solution for analyzing the complexity of annual reports with a large sample set. Most of the research recognizes the dramatic increase in the complexity of annual reports. They become longer, less readable over time. The dramatic increase in the length of annual reports can be explained by operating complexity, redundancy between the SEC and FASB in disclosure requirements, residual firm disclosures, firm performance, and stock return volatility. Because the significant increase in the length of annual reports is more likely to be determined by managerial discretion than the complexity of firms, such an increase can cause obfuscation and cautiousness. The negative impacts of such increase on stock markets are also demonstrated in relating research. For example, researchers have shown the adverse effects of the readability of annual reports on stock markets through the underreaction of investors as well as the lack of small investors trading, greater dispersion, lower accuracy, and greater overall uncertainty¹.

To mitigate the negative impacts of less readable reports on users, firms make more voluntary disclosures, users increase online searching, or regulators change accounting standards. Understanding the vital roles and complexity of annual reports, SEC soon issues the regulations on plain English for firms' disclosure. These regulations have strongly affected the behaviors of firms such as less usage of boilerplate; however, some research records a significant increase in length, stickiness, and redundancy as well as greater boilerplate text and a decrease in readability of annual reports. The tone in annual reports is negative which causes the negative impacts on returns and volumes during the window days.

Some research additionally confirms that providing accounting information or public information is the main way to reduce information asymmetry. Annual reports strictly regulated by the SEC are considered to be the main official communication of firms to

investors, which provide the equal access to information for all investors with the aim to improve the information asymmetry. However, controversial conclusions of the association between the disclosure and the information asymmetry have still existed. Some research shows that it is the negative relationship between the disclosure and the information asymmetry, in contrast, some research assumes the disclosure is positively associated to the information asymmetry. All of research concurrently agree that the level of disclosures in annual reports is associated with information asymmetry. Some research also assumes that disclosing supplementary accounting information on the share of assets, liabilities, revenues, and expenses improves information asymmetry. Additionally, high-quality auditing and accounting standards contribute to the improvement of information asymmetry. Other research shows the association between the format of annual reports and information asymmetry. In particular, Internet-based disclosures or annual reports that adopt XBRL lower information asymmetry in the stock market.

Noticeably, prior research on the readability of annual reports focuses on US firms. To my knowledge, few researchers have analyzed this topic for other samples (see Lang and Stice-Lawrence, 2015; Lundholm et al., 2014). Based on the foregoing, this dissertation aims to bridge the gap in the literature by extending the sample to annual reports of foreign firms listed on the US stock exchange. My considered firms operate in different businesses/legal environments and follow different accounting standards. This dissertation thus focuses on 20-F filings rather than the MD&A part of 20-F as Lundholm et al. (2014) as well as on standardized filing forms rather than different formats such as Lang and Stice-Lawrence (2015). By extending the sample to 20-F, I hope this research provides the complete picture of annual reports' complexity.

According to the requirements of the SEC, foreign firms, normally identified as "foreign private issuers," trade less than 50% of their shares on the US Stock Exchange and annually fill in a 20-F form. Firstly, we use Python to download all the 20-F filings of foreign firms from 2005 to 2014 from EDGAR (Electronic Data Gathering, Analysis, and Retrieval) and find 7,588 filings. We only choose filings whose fiscal year ends on December 31 and remove all filings operating in the finance and insurance industries. We also choose filings in text files that suit analysis using the Perl language. We have 5,014 firm-year observations in 10 years.

To identify the length and Fog Index of 20-F forms, we need to clean the raw text files downloaded from EDGAR. To do so, we use the packages of Perl and follow the guidelines of Bonsall et al. (2017), Li (2008), and Loughran and McDonald (2014a, 2014b). The details of cleaning the 20-F forms are mentioned in Appendices. We use the `Lingua::EN::Fathom` package of Perl and other packages such as `File::Slurp`, `Excel::Writer::XLSX`, and `File::Basename` to calculate the length of reports and Fog Index.

In terms of the Bog Index and the elements of plain English, we use the StyleWriter Professional Edition to analyze the text of 20-F forms after cleaning. This software is also used by Bonsall et al. (2017) and Miller (2010), with the former adopting a quasi-experiment design to validate the results extracted from the StyleWriter software. Through this experiment, they find no statistical difference between the conclusion of the StyleWriter software and participants for testing.

Finally, I choose observations of firms listed on the NASDAQ and NYSE which own RIC codes available on Thomson Reuters Datastream. All data of financial performance and stock market used in my dissertation is downloaded from Thomson Reuters Datastream. Noticeably, the bid-ask spread of foreign firms listed on the US Stock Exchange is available from June 2006, therefore, the period of research in Chapter 4 diminish to 9 years. I remove all filings having missing data from my final samples.

Overall, this dissertation focuses on the complexity of annual reports issued by foreign

firms listed on the US Stock Exchange. The structure of my dissertation is included as follows: introduction, three main chapters, and conclusion. The key findings and our contributions are summarized in the introduction and conclusion. The limitation and future research are included in the conclusion. The three main chapters are equivalent to three research papers discussing more details about research issues which are solved throughout this dissertation. Chapter 2 presents the tendency of the length of 20-F over time and the determinants of the number of words in 20-F. The next chapter mentions how the regulations of SEC on plain English affect the length of 20-F. Chapter 4 demonstrates the associations among the disclosure characteristics of 20-F and the information asymmetry. The summary of key findings displayed in the three main chapters are mentioned in the next sections:

Chapter 2: The Determinants of the Length of Annual Reports: Evidence from 20-F Filings.

Continuing the previous research relating to the length of annual reports, I use the sample set of 20-F rather than 10-K to test the length of annual reports and its respective determinants. My sample is not popular in previous research; therefore, my findings show some interesting contributions to practice and academic research because of different sample with different characteristics. Understanding the length of 20-F forms is expected to widen the knowledge on the length of annual reports. My findings add one more piece to the whole picture of the significant increase in the length of annual reports occurring not only in 10-K but also in 20-F.

As shown in this chapter, the increase in the length of 20-F is more serious than it in the length of 10-K. In addition to operating complexity and firm performance, I also record three more new and crucial determinants of length of annual reports, namely volatility, accounting standards, and language for a sample set of 20-F which is issued by firms operating in different business, law environment as well as the different accounting standards. Realizing new determinants help users and standard setters to deeply understand the behaviors of foreign firms in issuing their annual reports.

Chapter 3: How Plain English Use Affects the Length of Annual Reports: Evidence from the Annual Reports of Foreign Firms listed on the US Stock Exchange.

Previous research shows that annual reports become extremely more complex over time. To reduce the complexity of annual reports, the Securities and Exchange Commission (SEC) regulates firms to adopt plain English in their disclosures. The SEC also provides guidelines for firms on how to use plain English in disclosures; however, it admits that adopting plain English can increase the length of annual reports (SEC, 1998a). This chapter focuses on identifying the impacts of these regulations on the length of annual reports.

I use a sample of annual reports issued by foreign firms listed on the US stock exchange (termed 20-F forms) to record the impacts of plain English use on the length of annual reports. To measure plain English in these 20-F forms, we use the *Lingua::EN::Fathom* package of the Perl language and *StyleWriter Professional* software. As the first researcher identifying the impacts of plain English on the length of annual reports, this chapter contributes to practice and academic research in three main ways.

Firstly, we deeply understand how issuers adhere to the SEC's regulations on plain English. Overall, foreign firms better comply with the SEC's plain English guidelines in their disclosures over the period from 2004 to 2013. They write shorter sentences, use less jargon, and adopt friendlier writing styles that improve the readability of 20-F forms; however, this significantly increases the length of their annual reports. In other words, the greater length of annual reports issued by foreign firms is also due to plain English use.

Secondly, I recognize that the impacts of plain English use on the length of annual reports are mixed. For instance, writing short sentences and adopting friendly writing styles can increase the length of annual reports, whereas using the active voice and less jargon can reduce the length of annual reports. Hence, applying the SEC's regulations on plain English use has mixed effects on the length of annual reports. This chapter provides empirical evidence of the types of plain English that lengthen annual reports for regulators. To reduce costs, standard setters should aim to review and modify the guidelines on plain English to improve the readability of annual reports but not significantly increase their length.

Finally, I find significant differences in how foreign firms in various countries disclose information. Firms in English-speaking countries use shorter sentences, less jargon, and less readable writing styles to shorten their annual reports compared with firms in other countries. Similarly, annual reports following different accounting standards show significant differences in length and plain English adherence level. Most importantly, language and accounting standards can affect the relationship between plain English use and the length of annual reports. In other words, the extent to which the elements of plain English affect the length of annual reports depends on the language and accounting standards used; These findings thus explain the impacts of plain English on the length of annual reports under different accounting standards and in different languages.

Chapter 4: Disclosure Characteristics of Annual Reports and Information Asymmetry: Evidence from the Annual Reports of Foreign Firms Listed on the US Stock Exchange.

Compared with previous research, this chapter focuses on the two main disclosure characteristics of annual reports, which are the level of disclosure (how much is disclosed) and the readability of annual reports (how information is disclosed). In particular, it uses a different approach to measure the amount of disclosure via the number of words in annual reports. My approach thus overcomes the disadvantages of previous measurements, as it is objective, is less costly, has high availability for all users and firms, and is easy to apply to a large sample. Moreover, I also test the relationship between the transparency of annual reports and information asymmetry using readability, which has not thus far been attempted in previous research. Using different measurements for the readability of annual reports, different proxies of information asymmetry, and different windows in our tests, we also test the robustness of our results.

This chapter shows that the level of disclosure of annual reports, measured by the number of words in 20-F forms, is negatively associated with information asymmetry, while the readability of annual reports does not improve information asymmetry among investors. As the first research on the associations among the disclosure characteristics of annual reports and information asymmetry, we provide optimistic views about the recent tendency of annual reports to improve in terms of information asymmetry. In detail, we show that an increase in the length of annual reports helps reduce information asymmetry. This means that longer annual reports provide more information to investors and reduce the gaps between informed and uninformed investors. We also use a different approach to confirm the negative association between the level of disclosure and information asymmetry.

Moreover, this is the first empirical research to show that investors pay more attention to the amount of information than to how that information is displayed. In other words, investors need information regardless of the level of complexity. The association between the readability of annual reports and information asymmetry is negative or insignificant. We thus confirm that complex annual reports still contain more information, as mentioned by Bushee, Gow, and Taylor (2018).

Previous research shows that the performance of firms correlates with their disclosure

policies. The annual reports of loss-making firms are longer and more complicated than those of profit-making firms (Li, 2008; Aymen, Mhamed, & Badreddine, 2016). We also test whether the associations among disclosure characteristics and information asymmetry differ between loss-making and profit-making firms. Although loss-making firms have higher information asymmetry than profit-making firms, the level of disclosure in their annual reports improves information asymmetry more than for profit-making firms. The longer annual reports of loss-making firms provide more information to investors with the aim of reducing information asymmetry among investors; by contrast, the less readable annual reports provided by those firms cannot influence information asymmetry.

Finally, we test the relationships among the disclosure characteristics of annual reports on information asymmetry under different accounting standards. Although there is no difference in the impacts of the level of disclosure and readability of annual reports on the information asymmetry between annual reports following IFRS and those adopting US-GAAP, we find that firms following IFRS have lower information asymmetry than firms adopting US-GAAP. Moreover, we find that the fact that annual reports under IFRS are statistically longer than those under US-GAAP generally makes the information asymmetry of the former lower than that of the latter because of the negative association between the length of annual reports and information asymmetry.

In summary, the sample set of annual reports issued by foreign firms listed on the US Stock Exchange shows the similar results with annual reports of the US firms, however, it looks more serious in the terms of complexity. They are longer, less readable as compared to annual reports of the US firms; since they are issued by firms located in different countries with different policies, thus, the annual reports of those firms still own distinguishing characteristics. For example, the length of these reports also depends on the accounting standards and language that firms follow. Interestingly, the increase in the length of annual reports is contributed to regulations on plain English of SEC. However, such increase is recorded as the factor for the reduction of the information asymmetry among investors, therefore, increasing the length of annual reports does not mean to cause the negative impacts in all circumstance. This dissertation has some contributions to the practice and academic research; however, it still contains some limitations and open issues such as using the indirect comparison, size of the sample, the cost of capital. I leave them for future research.

1 Citations of research mentioned in this summary are referred to the reference in the dissertation.

審査結果の要旨

本論文は、アメリカの証券市場に上場する外国企業をサンプルとして、①それらの企業が開示するアニュアル・レポートの長さが何によって決まるか、② Securities and Exchange Commission (SEC) が示した Staff Legal Bulletin No.7 “Plain English Disclosure” がアニュアル・レポートの長さにとどのような影響を与えているか、そして、③アニュアル・レポートの長さは投資家間の情報の非対称性の程度にとどのような影響を与えているかについて、それぞれ OLS 回帰分析によってあきらかにすることを目的としている。本論文は、Introduction と①～③の主題の検証、そして Conclusion の全 5 章で構成されており、主要な検証結果は以下のとおりである。

まず、主題①に関する検証は第 2 章でおこなわれた。結果は、事業が複雑であるほど、企業の業績が悪いほど、そして不確実性が高いほど、アニュアル・レポートが長くなることを示唆する

ものであった。また、IFRS 採用企業のほうがアニュアル・レポートは長くなり、英語圏の企業のほうがアニュアル・レポートは短くなるという結果も得られた。つぎに、主題②に関する検証は第 3 章でおこなわれた。結果は、Plain English の要素に、アニュアル・レポートを長くするものと短くするものが混在していることを示唆するものであった。最後に、主題③に関する検証は第 4 章でおこなわれた。結果は、アニュアル・レポートが長くなるほど、情報の非対称性は小さくなることを示唆するものであった。

本論文は、外国企業を対象とすることで、アニュアル・レポートの長さの決定要因について、国内企業を対象としていた先行研究では検証することのできなかった、新しい要因の存在をあきらかにしている。また、SEC による規制がアニュアル・レポートの長さに与える影響については、先行研究にはなかった視点からの検証であり、本論文には高い独創性が認められる。

なお、本論文の一部は、『横浜国際社会科学研究所』第 23 巻第 2 号に “The Determinants of the Length of Annual Reports: Evidence from 20-F Filings” として掲載されているほか、査読付き国際学会 The 8th International Conference of THE JAPANESE ACCOUNTING REVIEW での研究報告もおこなっている。さらに、本論文の一部は、この分野で著名な学術誌である Journal of Accounting and Public Policy の一次レビューを通過し、現在レフェリーコメントに対応した修正をおこなっている。これらは、本論文の質の高さを裏付けるものといえる。

以上のことから、本論文審査委員一同は、本研究科の博士号審査基準②に照らして、Nguyen Thi Thuy Phuong 氏の学位請求論文「Whether Longer Annual Reports are Better: Evidence from Annual Reports Issued by Foreign Firms Listed on the US Stock Exchange」が博士（経営学）の学位を授与するに値するものとして、判断する。