

Does the Permanently Reinvested Earnings Assertion Influence Perceptions of Credit Risk?

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ABSTRACT

In recent years, the impact of the permanently reinvested earnings (PRE) assertion on the financial reporting environment has grown tremendously. Under Accounting Standards Codification (ASC) 740, a firm making the PRE assertion is able to avoid recognizing residual U.S. taxes on earnings of its foreign subsidiaries so long as it reinvests those earnings outside of the U.S. Suboptimal reinvestment is a potential consequence for PRE-asserting firms due to limited reinvestment opportunities abroad. Suboptimal foreign reinvestment, typically high amounts of reinvestment in financial assets, may be viewed negatively by financial statement users, particularly those users concerned with the default risk of a firm.

The disclosure of PRE-related information varies substantially and the actual degree of compliance with this accounting standard has been questioned by the Securities and Exchange Commission (SEC). While firms may believe it is advantageous to obscure their PRE-related activity due to media or political concerns, recent academic literature has highlighted a negative relation between disclosure quality in financial statements and credit risk.

The purpose of this study is to examine the relations among foreign reinvestment strategy, PRE disclosure, and long-term credit ratings. First, I examine the direct effect of a firm's reinvestment strategy on its long-term credit rating. Second, I investigate the relation between a firm's reinvestment strategy and its choice to disclose PRE-related information. Third, I study the relation between a firm's choice to disclose PRE-related information and its long-term credit rating. Finally, I examine the potential attenuating effect of the PRE disclosure on the negative relation between financial reinvestment and credit ratings. Using hand collected

PRE data for Fortune 500 firms from 1997-2010, I find a negative relation between the intensity of a firm's reinvestment in financial assets and its (1) long-term credit rating and (2) choice to disclose PRE-related information. Furthermore, I find a positive relation between a firm's choice to disclose PRE and its credit rating.

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GENERAL AUDIENCE ABSTRACT

In recent years, U.S. multinational companies (MNCs) have been criticized by politicians and media members for using accounting and tax rules to avoid recognizing and paying substantial amounts of tax. Under U.S. accounting rules, U.S. MNCs include the earnings of both domestic and foreign subsidiaries in their net income for financial statement reporting purposes. Furthermore, companies are required to recognize income tax expense on the earnings from both domestic and foreign subsidiaries; this income tax expense recognition lowers companies' net income. However, companies may make the permanently reinvested earnings (PRE) assertion, allowing them to avoid recognizing income tax expense on the income earned from foreign subsidiaries so long as they reinvest those earnings outside the U.S. Therefore, companies making the PRE assertion capture the income earned from foreign subsidiaries without the penalty of recognizing income tax expense. In order to make the PRE assertion, companies must (1) have a foreign reinvestment plan or strategy and (2) disclose required PRE-related information in the footnotes to their financial statements. One consequence of making the PRE assertion is suboptimal foreign reinvestment in financial assets (cash hoarding, financial investments with low returns, etc.). This may be viewed negatively by financial statement users, particularly those users concerned with the credit risk of a company.

I investigate the relations among the effects of making the PRE assertion, (1) company reinvestment strategy and (2) financial statement disclosure quality, and the perception of a company's credit risk. First, I find that companies more heavily reinvested in financial assets than operating assets (buildings, equipment, etc.) are (1) viewed negatively by credit rating

analysts and (2) less likely to disclose PRE-related information. Second, I find that companies disclosing PRE-related information are viewed more favorably by credit rating analysts.

Collectively, the results of this study indicate that (1) a company's reinvestment strategy and its PRE disclosure quality are viewed as risk relevant by credit rating analysts and (2) a company with a reinvestment strategy focused on financial assets is less likely to disclose PRE-related information.

DEDICATION

To Sarah – You are my best friend. Without you, I would never have had the courage to embark on this journey. You pushed me to do what I wanted to do. You made so many sacrifices and supported me in every way possible. We'll always have memories of Subway sandwiches at the Virginia/North Carolina state line. Seriously, you're absolutely amazing. I can't wait to see where this takes us. I love you.

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To Dad – You gave me one piece of advice that always stuck in my head. You told me to do something that makes me happy and to be my own boss. Well, this may not have been what you envisioned but it certainly fits your criteria! Thank you for always being there for me, no matter what. The Tomassi and D'yquem are on me now. Look at the pin! Go Tigers! I love you.

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TABLE OF CONTENTS

CHAPTER ONE – INTRODUCTION.....	1
1.1 Introduction.....	1
CHAPTER TWO – BACKGROUND, LITERATURE REVIEW, AND HYPOTHESES.....	7
2.1 Permanently Reinvested Earnings Discussion.....	7
2.2 Permanently Reinvested Earnings Literature.....	10
2.3 Financial vs. Operating Reinvestment.....	13
2.4 Information Asymmetry & Agency Theory.....	15
2.5 Financial Determinants of Credit Ratings.....	16
2.6 Non-Ratio Financial Determinants of Credit Ratings.....	18
2.7 Credit Ratings and Taxes.....	19
2.8 Hypotheses.....	20
CHAPTER THREE – SAMPLE, RESEARCH METHODOLOGY, AND SUMMARY STATISTICS.....	25
3.1 Sample Selection.....	25
3.2 Credit Rating Model.....	25
3.3 Credit Rating Model: Dependent Variables.....	28
3.4 Credit Rating Model: Independent Variables – Variables of Interest.....	29
3.5 Credit Rating Model: Independent Variables – Control Variables.....	31
3.6 Ayers et al. (2015) PRE Disclosure Determinants Model.....	32
3.7 Summary Statistics.....	33
CHAPTER FOUR – RESULTS.....	35
4.1 Test of H1 – Reinvestment Strategy and Credit Ratings.....	35
4.2 Test of H2 – Reinvestment Strategy and Disclosure Choice.....	35

4.3 Test of H3 – Disclosure Choice and Credit Ratings.....	38
4.4 Test of H4 – Effects of Disclosure Choice on Reinvestment Strategy and Credit Ratings.....	38
4.5 Supplemental Testing – Tax Disclosure Information Content of PRE Disclosure.....	39
CHAPTER FIVE – CONCLUSION.....	40
5.1 Summary.....	40
5.2 Limitations.....	41
REFERENCES.....	42
APPENDIX A: Sample Form 10-K Tax Footnote Disclosures.....	46
APPENDIX B: Credit Rating Model Variable Definitions.....	47
APPENDIX C: S&P Credit Ratings, Assigned Rating Scores, and Investment Grades.....	48
APPENDIX D: Excess Cash Model (Foley et al. 2007) and Variable Definitions.....	49
APPENDIX E: PRE Disclosure Determinants Model (Ayers et al. 2015) and Variable Definitions.....	50

LIST OF FIGURES

FIGURE 1: Study Objectives.....	51
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LIST OF TABLES

TABLE 1: Sample Selection and Distribution by Industry and Year.....	52
Panel A: Sample Selection.....	52
Panel B: Sample Distribution by Industry.....	53
Panel C: Sample Distribution by Year.....	54
TABLE 2: Credit Ratings Model – Determinants of Credit Ratings.....	55
TABLE 3: Ayers et al. (2015) PRE Disclosure Determinants Model – Reinvestment Strategy Variable Included.....	56
TABLE 4: Summary Statistics – Credit Rating Model.....	57
Panel A: Full Sample: All Firm-Years.....	57
Panel B: By PRE Disclosure Choice.....	58
TABLE 5: Correlation Matrix Credit Rating Model.....	59
TABLE 6: Summary Statistics – Ayers et al. (2015) PRE Disclosure Determinants Model: By PRE Disclosure Choice.....	60
TABLE 7: Correlation Matrix – Ayers et al. (2015) PRE Disclosure Determinants Model.....	61
TABLE 8: Credit Rating Model – Test of H1: Relation between Reinvestment Strategy and Credit Ratings.....	62
TABLE 9: Ayers et al. (2015) PRE Disclosure Determinants Model – Test of H2: Relation between Reinvestment Strategy and PRE Disclosure Choice.....	63
TABLE 10: Credit Rating Model – Test of H3: Relation between PRE Disclosure Choice and Credit Ratings.....	64
TABLE 11: Credit Rating Model – Test of H4: Effects of PRE Disclosure Choice on Relation between Reinvestment Strategy and Credit Ratings.....	65
TABLE 12: Credit Rating Model – Supplemental Testing: Relation between Disclosure of Taxes and Credit Ratings.....	66
TABLE 13: Credit Rating Model – Supplemental Testing: Relation between Amount of Taxes Due and Credit Ratings.....	67

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The permanently reinvested earnings¹ (PRE) assertion allows a U.S. multinational firm to include the earnings of its foreign subsidiaries in its financial statements without recording the deferred tax expense associated with a future repatriation of its earnings. Under Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 740, firms that make an assertion of permanently reinvested earnings must first establish a reinvestment strategy, i.e. they must indicate to what extent these earnings will be reinvested in operating and/or financial assets outside of the United States. While the firm is required to substantiate this with its auditors, it is not required to disclose the details of this strategy in the financial statements. A firm is mandated under the same accounting standard to disclose in the footnotes to the financial statements (1) its cumulative amount of PRE and (2) the unrecognized tax liability associated with its PRE, if estimable.²

The quantitative impact of permanently reinvested earnings on the financial reporting landscape is significant. Companies in the Russell 1000 reported a total of more than \$2 trillion of permanently reinvested earnings as of the end of 2013 which reflects an average increase of \$204 billion per year during the preceding five year period (Grant Thornton 2015).

Consequently, it is estimated that PRE-asserting firms have avoided approximately \$620 billion in both tax expense recognition on financial statements and cash tax due upon repatriation (Office of Management and Budget – U.S. Government 2015). While there is an immediate

¹ Also referred to as Undistributed Earnings of Foreign Subsidiaries or Indefinitely Reinvested Earnings.

² Throughout this study, I use the terms “mandated” or “mandatory” to describe the reporting requirements under ASC 740. Firms failing to comply with the reporting requirements of ASC 740 could face action from the Securities and Exchange Commission (SEC). Furthermore, ASC 740-30-50-2 requires disclosure regardless of the materiality of PRE.

financial statement benefit from making the PRE assertion, recognized in the form of decreased tax expense, recent academic literature has identified that subsequent foreign reinvestment in financial assets can be value damaging (e.g., Collins et al. 2001, De Waegenaere and Sansing 2008; Bryant-Kutcher et al. 2008; Edwards et al. 2015; Hanlon et al. 2015). Suboptimal foreign reinvestment, specifically, excessive financial reinvestment, should be of particular interest to financial statement information users assigned the task of evaluating a firm's overall risk of default. Accordingly, I use the methodology presented by Bryant-Kutcher et al. (2008) to approximate a firm's reinvestment strategy, which is not required to be disclosed under ASC 740, to examine the relation between the reinvestment strategy of a PRE-asserting firm and its overall risk of default.

I use a firm's long-term credit rating to proxy for its overall risk of default. Credit rating agencies have a longstanding, important role in shaping capital markets by providing express, independent opinions on the creditworthiness of a firm that help investors make informed investment decisions (S&P 2014). *The Economist* stated that credit rating agencies "are among the most powerful voices in today's capital markets" (The Economist 2005) and Graham and Harvey (2001) find that chief financial officers (CFOs) are "very concerned" about the credit ratings of their firms because a low credit rating can be viewed as a sign of financial distress.³ Credit rating agencies have been shown to include many factors in setting credit ratings. Investment strategies and financial statement disclosures, as a measure of transparency, are among those factors.

³ Graham and Harvey (2001) survey 392 CFOs to investigate capital budgeting, cost of capital, and capital structure questions. They find that credit ratings are the second most important debt factor for firms (the most important factor is financial flexibility). Specifically, 57.1% of CFOs stated that their credit rating was important or very important in determining the appropriate amount of debt.

I investigate (1) the relation between reinvestment strategy and credit ratings and (2) the possible mitigating effects of the PRE disclosure on this relation. To test these relations, I use hand-collected financial statement disclosure information for Fortune 500 firms from 1997 to 2010 based on the 2005 Fortune 500 list.⁴ First, I examine whether the reinvestment strategy of a PRE-asserting firm relates to its long-term credit rating. I find a negative relation between high intensity of reinvestment in financial assets and long-term credit ratings. This suggests that credit analysts more negatively view firms with high financial reinvestment compared to firms with less financial reinvestment, perhaps because it signals a lack of positive net present value projects abroad. Furthermore, support for this relation suggests that one set of financial statement information users, credit rating analysts, (1) are able to decipher the reinvestment strategy of the firm and (2) assign negative value to significant financial reinvestment.

Second, I investigate whether the reinvestment strategy of a PRE-asserting firm relates to its choice to disclose its PRE-related information. Although PRE-related information is required to be disclosed under ASC 740, Ayers et al. (2015) find that, annually, between 9.9 and 16.7 percent of their sample firms do not disclose PRE. Ayers et al. (2015) develop a method to approximate non-disclosed PRE based on information included in the effective tax rate (ETR) reconciliation portion of the income tax footnote to the financial statements. They estimate annual aggregate unreported PRE to be anywhere from \$5.2 billion to \$99.0 billion. Ayers et al. (2015) suggest that noncompliance with mandatory disclosure of PRE may be due to politically motivated factors or costs such as increased public scrutiny, implying that firms would rather risk SEC sanctions than face possible public scrutiny. Anecdotal media evidence supports this claim of increased public scrutiny surrounding PRE and the perception that all PRE is in the

⁴ I use a sample period of 1997-2010 to be consistent with other literature in this area (e.g. Blouin et al. 2014 and Ayers et al. 2015).

form of cash that is stockpiled overseas to avoid taxes associated with repatriation. Mic.com, which self-reports an online audience of more than 30 million people each month, recently published an article titled “US Companies Are Hoarding More Cash Overseas than the GDP of the Entire Nation of India” which referred to “\$2.1 trillion of cash stashed in tax havens around the world for the purpose of evading U.S. taxes” (Levine 2015). Academic findings discount the media’s belief that PRE is strictly held in the form of cash. In fact, Blouin et al. (2014) empirically find that only 45 percent of disclosed PRE is invested in financial assets, suggesting more disclosed PRE is invested in operating assets than financial assets. Given that a firm must have a reinvestment plan in place prior to making (1) the PRE assertion and (2) the subsequent PRE-related financial statement disclosure; it is plausible that the reinvestment strategy of the firm influences the choice to disclose PRE.

While Ayers et al. (2015) identify several determinants of PRE disclosure, they do not consider the reinvestment strategy of the firm. Again, I rely on the Bryant-Kutcher et al. (2008) methodology to identify the reinvestment strategy of the firm and then use the Ayers et al. (2015) PRE disclosure model to test whether or not reinvestment strategy is related to the decision to disclose PRE. I find a negative relation between the intensity of a firm’s reinvestment in financial assets and its choice to disclose PRE. I supplement the findings of Ayers et al. (2015) and present an additional motive, firm reinvestment strategy, for disclosure (or non-disclosure) of permanently reinvested earnings.

Next, I investigate whether (1) a firm’s choice to disclose PRE relates to its long-term credit ratings. I find a positive relation between a firm’s choice to disclose PRE and its credit rating. This suggests that credit analysts positively view decreased information asymmetry between the firm and information users. Lastly, I examine the potential attenuating effect of the

PRE disclosure on the negative relation between financial reinvestment strategy and credit ratings. By meeting the disclosure requirements of ASC 740, I find that firms are not able to diminish the negative perception that credit rating agencies have about significant foreign financial reinvestment. In supplemental testing, I examine the relation between the tax disclosure information content of the PRE disclosure (i.e. the tax disclosure choice and the amount of taxes due) and credit ratings. I find that the explicit disclosure of taxes due is negatively related to a firm's long-term credit rating.

This study makes four main contributions to the existing body of research. First, it contributes to the broad spectrum of research in the area of international taxation, specifically those studies concerning permanently reinvested earnings. Research in the area of permanently reinvested earnings has developed greatly over the past two decades (e.g., Collins et al. 2001; Krull 2004; Albring 2006; Bryant-Kutcher et al. 2008; Graham et al. 2010; Blouin et al. 2014; Eiler and Kutcher 2014; Ayers et al. 2015; Blaylock et al. 2016). However, there is still much to learn about the effect of the permanently reinvested earnings assertion on external financial statement users. This study illustrates how the consequences of the permanently reinvested earnings assertion relate to the behavior of credit rating agencies.

Second, I expand on research related to credit ratings and their determinants. Although research in this area (e.g., Horrigan 1966; Pogue and Soldofsky 1969; West 1970; Pinches and Mingo 1973; Bhojraj and Sengupta 2003; Ashbaugh-Skaife et al. 2006) has identified numerous potential determinants of credit ratings, there are still many unknowns related to the credit rating process and the determinants of credit ratings. To my knowledge, this is the first study focusing on the relation between the permanently reinvested earnings assertion and credit ratings.

Third, I extend research on financial statement disclosures and their relation to financial statement user behavior. More specifically, I expand on prior research that has examined the costs of information asymmetry on a firm's cost of capital and capital market behavior (Myers and Majluf 1984; Sengupta 1998; Blaylock et al. 2016). This study examines the link between the variation in the disclosure format choice of a mandated accounting disclosure and credit ratings.

Lastly, I provide an additional motive for PRE-related disclosures in the footnotes to the financial statements. While previous research has identified various reasons for compliance with voluntary disclosure, it is somewhat limited regarding compliance with mandatory disclosure. More specifically, although the disclosure of permanently reinvested earnings is mandated by ASC 740 for PRE-asserting firms, Ayers et al. (2015) identify a nontrivial portion of PRE-asserting firms that do not comply with the mandate. Subsequently, they identify determinants of PRE-related disclosures and challenge previous research that assumes all PRE-asserting firms disclose PRE. I build on the Ayers et al. (2015) PRE-disclosure determination model by introducing firm reinvestment strategy as an additional determining factor in the decision to disclose PRE.

The remainder of the paper is organized as follows. Chapter 2 describes permanently reinvested earnings, literature surrounding permanently reinvested earnings, reinvestment strategy, and credit determinants, and the development of the hypotheses. Chapter 3 describes the methodology used in this study including the sample selection process, model development, variable descriptions and predictions, and descriptive statistics. Chapter 4 includes results for all testable hypotheses and reports supplemental test results. Chapter 5 includes concluding remarks and limitations of the study.

CHAPTER TWO

BACKGROUND, LITERATURE REVIEW, AND HYPOTHESES DEVELOPMENT

2.1 Permanently Reinvested Earnings Discussion

The U.S. has a worldwide system of taxation that requires income earned by foreign subsidiaries of domestic parent corporations to be included in the domestic parent's federal taxable income. The foreign subsidiary pays the local foreign tax at the time the income is earned but the payment of U.S. federal income taxes due is dependent upon the decision of the firm to repatriate funds back to the domestic parent.⁵ When foreign subsidiaries of domestic parent firms repatriate their foreign earnings (essentially, pay a dividend) back to their domestic parent, the domestic parent pays residual U.S. federal income tax on the difference between the local foreign statutory tax rate and the U.S. federal income tax rate. If a firm elects not to repatriate funds back to the U.S., it defers paying the U.S. taxes until future repatriation occurs.

From a financial accounting and reporting perspective, when a domestic parent firm chooses to keep its earnings overseas rather than repatriating, it records a deferred tax expense (and corresponding deferred tax liability) equal to the difference between the local foreign statutory tax rate and the U.S. statutory tax rate. When future repatriations of the foreign earnings occur, the deferred tax liability is reversed and a current income tax payable results.

⁵ Corporations with income earned in foreign countries with tax rates that exceed the U.S. tax rate generally owe no U.S. taxes on dividends from those foreign subsidiaries (Krull 2004). As of April 15, 2015, the OECD Tax Database (http://www.oecd.org/tax/tax-policy/tax-database.htm#C_CorporateCapital) reports the U.S. corporate tax rate to be the highest in the world. Although corporate income tax rates fluctuate, the U.S. corporate income tax rate has typically been one of the highest tax rates in the world. Therefore, absent excess foreign tax credits, most firms expect to face a U.S. tax liability on repatriated income from foreign subsidiaries.

However, there is one major exception to this accounting policy; under FASB ASC 740-30-25-17⁶, domestic firms can assert that an investment in a foreign subsidiary is permanent and that the foreign earnings will be indefinitely reinvested in the foreign subsidiary. This assertion allows the domestic parent firm to include the earnings of its foreign subsidiaries on its financial statements without recording the deferred tax expense associated with a future repatriation of those earnings.⁷ Instead, domestic firms record what amounts to a permanent book accounting difference in their effective tax rate reconciliation equal to the residual U.S. federal income tax. To make the PRE assertion, the U.S. parent must have (1) specific reinvestment plans such as funding capital expenditures, financing acquisitions, retiring debt, or funding organic growth and (2) sufficient liquidity and cash flow without repatriating the foreign earnings (Grant Thornton 2015).

For disclosure purposes, U.S. firms must show their cumulative amount of permanently reinvested earnings in the footnotes to the financial statements and also disclose the associated future tax liability upon repatriation, if practicable to do so (ASC 740-30-50-2). The three potential tax liability disclosures include (1) the dollar amount of tax that the firm estimates to be due upon repatriation, (2) a statement that no additional tax would be due upon repatriation due to foreign tax credits, or (3) a statement that the additional tax due upon repatriation is not practical to estimate. If a domestic firm no longer deems its foreign earnings to be permanently reinvested, it must record a deferred tax expense and deferred tax liability equal to the residual

⁶ ASC 740-30-25-17 was referred to as Accounting Principles Board Opinion No. 23 or APB 23 prior to codification.

⁷ All of a firm's foreign earnings do not need to be designated as permanently reinvested. A firm decides how much of its foreign earnings are deemed to be permanently reinvested and those earnings escape deferred tax expense recognition. The amount of foreign earnings that is not deemed to be permanently reinvested is subject to deferred tax expense recognition.

tax due on the repatriated funds. The U.S. firm is able to offset residual tax due with any available foreign tax credits.

While the initial accounting rules were most likely put in place to even the playing field for those companies involved in the early days of a globalized economy, many people believe these rules to be inadequate in today's globalized economy. In 2012 testimony before the U.S. Senate Permanent Subcommittee on Investigations of the Committee on Homeland Security and Governmental Affairs, in reference to the topic of permanently reinvested earnings, Jack T. Ciesielski, President of R.G. Associates Inc., stated that "what may have been a minor distortion in financial reporting at that time has grown tremendously in an era of global markets, instant communications, and the ability to move cash around the world in seconds (Offshore Profit Shifting and the U.S. Tax Code 2012)."

Many policy makers and regulators have indicated that the financial statement disclosure related to permanently reinvested earnings should not be a means to create confusion or greater information asymmetry between a firm and users of financial information. The SEC frequently asks registrants whether they have appropriately considered and included all disclosures required by ASC 740 and states that they expect all registrants to provide all required disclosures (EY 2012). During 2011, after facing scrutiny from the SEC, Microsoft and Google both pledged to expand their disclosures about how they are managing U.S. and foreign liquidity needs and the tax consequences of repatriating foreign earnings back to the U.S. if they were to do so (Whitehouse 2011).

An examination of tax footnote disclosures further illustrates diverse reporting among firms making the PRE assertion. For example, in its fiscal year 2010 Form 10-K, Dell Inc. (Dell)

reported that it had \$11.3 billion of PRE and an associated unrecognized tax liability of \$3.7 billion. Similarly, Hewlett-Packard Company (HP) reported \$21.9 billion of PRE in its fiscal year 2010 Form 10-K. However, HP disclosed that the determination of the amount of unrecognized tax liability related to PRE was not practicable. While Dell and HP provide financial statement users with different unrecognized tax liability information, they both meet the requirements of ASC 740 by disclosing the cumulative amount of PRE and including a statement related to the practicality of estimating the unrecognized tax liability associated with PRE. Alternatively, Whole Foods Markets, Inc. (Whole Foods) discloses that “it is the Company’s intention to utilize earnings in foreign operations for an indefinite period of time” and does not disclose its cumulative amount of PRE or the unrecognized tax liability associated with PRE. Therefore, although Whole Foods has distinctly made the PRE assertion, it has not met the reporting requirements of ASC 740 (See Appendix A for full sample footnote disclosure excerpts).⁸

2.2 Permanently Reinvested Earnings Literature

The PRE assertion is a significant consideration for firms because of its powerful impact on tax expense recognition in the financial statements. Krull (2004) finds that firms use permanently reinvested earnings to manage earnings and meet analyst forecasts. In their survey of nearly 600 business executives, Graham et al. (2010) find that nearly one-third of those executives surveyed classified tax deferral under ASC 740 (formerly APB 23) as being important in their decision to locate operations overseas. Furthermore, approximately 44% of the survey participants stated that tax deferral was important in their decision to reinvest overseas or

⁸ Dell and HP meet the reporting requirements of ASC 740 and are classified as “PRE Disclosers” in this study. Whole Foods is classified as a “PRE Non-Discloser.”

repatriate funds back to the United States. Albring (2006) finds that the probability of borrowing increases with the amount of PRE disclosed in the financial statements; suggesting that the financial reporting tax cost and cash tax cost of repatriation are so great that firms are willing to take on additional debt rather than repatriate. These findings indicate that the permanently reinvested earnings assertion is a tool to meet investor expectations as well as an important consideration for firm executives in their corporate and financial planning.

ASC 740 requires footnote disclosure of (1) the cumulative amount of permanently reinvested earnings and, if practicable to do so, (2) the associated tax liability that would be incurred if those earnings were repatriated. However, Blouin et al. (2014) find that firms rarely report the expected tax liability due upon repatriation despite the fact that approximately 95 percent of all permanently reinvested earnings have a tax cost due upon repatriation. The vast majority of firms in their sample report only the aggregate amount of permanently reinvested earnings.⁹ They argue that the footnote disclosure choice of most firms makes it difficult for investors to fully comprehend the tax consequences of permanently reinvested earnings for both firm value and liquidity purposes. Supporting the claim of Blouin et al. (2014), Ayers et al. (2015) find that between 71.6% and 83.1% of their sample firms disclose that the tax associated with PRE is not estimable.¹⁰ Furthermore, Ayers et al. (2015) find that a nontrivial portion of their sample (annually, between 9.9 and 16.7 percent) do not disclose the cumulative amount of PRE. Collectively, these findings suggest that there is substantial variation among firms regarding their tax transparency with investors and other financial statement users, such as credit rating agencies.

⁹ Sample period is from 1998 through 2009. The sample has 11,503 firm-year observations and 1,315 unique firms.

¹⁰ Sample period is from 1999 through 2010. The sample has 3,320 firm-year observations.

Collins et al. (2001) present evidence that indicates that investors discount the amount of PRE in the financial statements. Bauman and Shaw (2008) build on Collins et al. (2001) by examining the effect of disclosed and non-disclosed repatriation taxes on firm value. They estimate the amount of taxes due upon repatriation for non-disclosing firms by grossing up the cumulative amount of PRE and multiplying the grossed up amount by the estimated tax rate due upon repatriation.¹¹ Bauman and Shaw (2008) find that disclosed repatriation taxes are more useful in valuing disclosing firms than estimated repatriation taxes in valuing non-disclosing firms. The authors go as far as making formal recommendations to mandate the disclosure of estimated taxes due upon repatriation to reduce information asymmetry and improve investors' information. More recently, Eiler and Kutcher (2014) find that the materiality of the estimated tax due upon repatriation is positively related to the decision of a firm to disclose an amount of estimated tax due. While this finding helps to comprehend when firms may choose to disclose the tax liability, it does not shed light on potential consequences of the disclosure on financial statement users' decisions.

The extant literature has provided several insights regarding the impact of the permanently reinvested earnings assertion and related financial statement disclosure on firm value, firm decision making, and investor behavior. First, investors discount the cumulative amount of permanently reinvested earnings disclosed in the footnotes to the financial statements (Collins et al. 2001) and consider the future tax costs associated with repatriation when disclosed (Bauman and Shaw 2008). Second, the permanently reinvested earnings assertion impacts a firm's ability to manage earnings and its capital structure (Krull 2004; Albring 2006; Graham et

¹¹ To solve for grossed up cumulative PRE, Bauman and Shaw (2008) rely on the Albring et al. (2005) methodology and scale PRE by 1 minus the foreign effective tax rate. To estimate undisclosed tax due upon repatriation, Bauman and Shaw (2008) use grossed up PRE multiplied by the U.S. statutory tax rate (35%) minus foreign effective tax rate. This results in an estimation of the U.S. residual tax that would be due upon repatriation.

al. 2010). Finally, the lack of consistency and transparency associated with the permanently reinvested earnings disclosure is a significant issue and can inhibit investors' ability to fully comprehend the liquidity and value of a firm (Collins et al. 2001; Blouin et al. 2014; Eiler and Kutcher 2014; Ayers et al. 2015). This study extends that research by examining the impact of firms' underlying reinvestment strategies on financial statement users (specifically in this study, credit rating agencies).

2.3 Financial vs. Operating Asset Reinvestment

The prominent works in this area investigate the relation between the foreign reinvestment choice of firms and firm value. De Waegenaere and Sansing (2008) take an analytical approach to investigate the valuation of reinvestment in financial versus operating assets. They find that reinvestment in financial assets is associated with a lower value of the foreign subsidiary because of the opportunity costs associated with investing in financial assets. Bryant-Kutcher et al. (2008) utilize a model of cash determinants as outlined in Foley et al. (2007) to identify firms with excess cash holdings, which is used as a proxy for financial reinvestment. Using actual cash holdings as the dependent variable, Foley et al. (2007) attempt to explain the determinants of cash holdings. Bryant-Kutcher et al. (2008) consider the residual of the Foley et al. (2007) model to be representative of excess cash holdings, or the difference between actual and expected cash holdings. Bryant-Kutcher et al. (2008) deem that those firms in the top quintile of excess cash holdings in the Compustat universe in a given year are engaged in substantial financial reinvestment. After incorporating financial reinvestment into their study, Bryant-Kutcher et al. (2008) find that lower-valued firms are restricted to a group of firms that report a positive repatriation tax and also have high levels of excess cash, or financial reinvestment.

Two more recent studies have further analyzed the reinvestment consequences of the PRE assertion. Edwards et al. (2015) find that firms with significant amounts of cash overseas make suboptimal investments overseas. In particular, they find that overall firm value is damaged when cash-rich firms acquire foreign targets. They posit that firms choose to make suboptimal investments rather than to repatriate the overseas funds, record the associated tax expense, and pay the associated amount of tax due. Hanlon et al. (2015) complement the findings of Edwards et al. (2015) and find that the investment activity of firms with high repatriation costs is viewed less favorably by investors than for firms with low tax repatriation costs.

The findings of De Waegenaere and Sansing (2008) and Bryant-Kutcher et al. (2008) suggest that investors discount the value of firms that reinvest more heavily in financial assets. Furthermore, the findings of Edwards et al. (2015) and Hanlon et al. (2015) illustrate that firms with significant amounts of financial reinvestment tend to make suboptimal investment decisions abroad which leads to negative reactions from investors. In the context of this study, although credit rating agencies are concerned with appropriately classifying a firm's risk of default rather than determining firm value, the future profitability potential of a firm is a significant factor in this risk assessment. A firm's choice to reinvest in financial assets may limit its future profitability which could send a negative signal to a credit rating agency about its ability to repay future debt obligations. On the other hand, the presence of significant amounts of financial assets overseas may send credit rating agencies a positive liquidity signal about the ability of a firm to repay its debts.

2.4 Information Asymmetry & Agency Theory

Given the complexities of the U.S. tax system and accounting for income taxes, more transparent disclosures of a firm's tax planning strategies should enable the users of financial statements to make more accurate assessments of the firm's tax position. Furthermore, less opacity as to the tax position results in less information asymmetry. Myers and Majluf (1984) show that a firm's cost of capital decreases as the information asymmetry gap narrows between a firm and its financial statement users. For example, less transparency and greater uncertainty requires more interpretation by financial statement users which, in turn, yields a less favorable interpretation than what would be developed with full transparency. Although firms must disclose the amount of their permanently reinvested earnings, they are able to limit the content and transparency of the deferred tax liability disclosure. This may be especially useful for firms that are in need of external financing, such as debt or equity, and wish to be less than transparent as to their future tax obligations.

While globalization gives managers access to more markets to which to allocate firm resources, agency theory suggests that the globalization of our economy also makes it more difficult for financial institutions to monitor management decisions (Ater 2015). Additionally, Jensen (1986) suggests that, theoretically, any threat to the ability to fund projects internally, such as cash payments to shareholders or cash payments for taxes, should lead to increased monitoring from capital markets as the potential need for external financing increases. Taken together, these two statements seem to indicate that monitoring should increase in a globalized society when a threat to internally funded projects exists; however, the monitoring is arduous due to the globalization and geographic spread of a firm's investments. Therefore, it may be beneficial in the case of the self-serving manager to reinvest overseas and maximize globalized

wealth rather than repatriate back to the United States, which would (1) result in paying additional taxes, (2) concentrate wealth/earnings geographically, and (3) simplify capital markets' ability to monitor the firm for external financing needs. This holds true even if the manager decides to reinvest in substandard projects overseas which may damage the firm's profitability in the long run. *Ceteris paribus*, this type of managerial behavior should raise doubts from credit rating agencies as to the ability of the firm to meet its future obligations.

2.5 Financial Determinants of Credit Ratings

To compete in a globalized economy, it is likely necessary for firms to secure external financing via debt or equity markets. In the case of public debt financing, a firm must first establish a credit rating before acquiring external funds. Credit ratings express a credit rating agency's opinion about the ability and willingness of an issuer to meet its financial obligations in full and on time (S&P 2014). In their "Guide to Credit Rating Essentials," S&P states that "the credit analysis of a corporate issuer typically considers many financial and non-financial factors, including key performance indicators, economic, regulatory, and geopolitical influences, management and corporate governance attributes, and competitive position." S&P provides slightly more detail relating to these factors later in the same document, identifying the following factors: country risk, industry risk, competitive position, cash flow, leverage, diversification, capital structure, financial policy, liquidity, management/governance, comparable ratings analysis, and group/government influence. Over the past 60 years, academic research has attempted to identify a more direct relation between accounting information and credit ratings.

Research on credit ratings and their determinants goes as far back as the 1960s. Horrigan (1966) was the first to explore the determination of bond ratings with financial ratios. The main

interest of the paper was to evaluate the “utility of accounting data in long-term credit administration.” Horrigan used a somewhat exploratory approach to identify the financial ratios that explain long-term bond ratings and also to predict future long-term bond ratings. This area of research boomed over the next two decades and led to numerous papers that modeled the cost of debt as a function of accounting and non-accounting data (e.g., Pogue and Soldofsky 1969; West 1970; Pinches and Mingo 1973). Kaplan and Urwitz (1979) summarized much of this research and determined that approximately two-thirds of bond ratings can be explained and predicted by various accounting-based financial ratios and other financial items that they deem to be “the best independent variables.” These factors include firm size, debt-to-assets ratio, return-on-assets ratio, interest coverage ratio, and presence of subordinated debt.

Another related stream of research that evolved during this time studied the role of accounting information in setting bond market prices (e.g., Fisher 1959; Katz 1974; Boardman and McEnally 1981; Lamy and Thompson 1988; Ziebart and Reiter 1992). Although this research does not directly identify determinants of credit ratings, the link between bond yields and credit ratings is relevant. Ziebart and Reiter (1992) use a simultaneous equation approach to show that financial information directly affects bond ratings which, in turn, affects bond yields. In other words, bond yields are affected by financial accounting information but only indirectly through the bond yield’s relation with its debt rating. This line of research speaks to the importance of credit ratings for firms when they go to market to offer debt to the general public, suggesting accounting information influences credit ratings.

2.6 Non-Ratio Financial Determinants of Credit Ratings

Research on non-ratio financial-based factors influencing credit ratings has focused on disclosure quality and corporate governance. Sengupta (1998) examines the overall disclosure quality of a firm and its relation to credit ratings and bond yields. Sengupta (1998) finds that firms are rated favorably by financial analysts for the overall transparency and quality of their disclosures and are remunerated with a lower cost of debt. The study is motivated by the assumption that lenders and underwriters inspect accounting disclosures to make default risk assessments. The firm disclosure quality rating used in Sengupta (1998) was obtained from the Financial Analysts Federation (FAF), a branch of the Association for Investment Management and Research (AIMR). The FAF disclosure quality ratings measure the overall quality of a firm's disclosures which includes financial statement disclosures, proxy statements, and other published information. While the FAF disclosure quality rating is an aggregate evaluation of disclosures, the findings of Sengupta (1998) suggest that one could expect the positive relation between disclosure quality and credit ratings to generalize to specific disclosures such as the PRE disclosure. Due to the potential dollars involved and the effects on cash flows, the increased attention from governing bodies and financial statement users on the PRE disclosure (e.g. Whitehouse 2011; EY 2012) makes the quality of this disclosure an important decision for firms.

Bhojraj and Sengupta (2003) study the relation among outside board members, institutional ownership, and credit ratings. They conclude that firms with a higher percentage of outside board membership and greater institutional ownership possess higher credit ratings. Ashbaugh-Skaife et al. (2006) extend this line of research by assessing the effect of a broad set of corporate governance variables on credit ratings. They find that credit ratings are negatively

associated with blockholders with at least 5% ownership and CEO power on the board and positively related to weaker shareholder rights (takeover defenses), financial transparency, overall board independence, board stock ownership, and board expertise. Collectively, this research illustrates how non-ratio financial driven factors, specifically financial transparency and independent oversight, can affect the credit rating process.

2.7 Credit Ratings and Taxes

Ayers et al. (2010) investigate whether credit analysts use tax information when issuing credit ratings. More specifically, they analyze the relation between changes in book-tax differences and credit ratings. They find that large positive or negative changes in book-tax differences lead to less favorable credit rating changes and that this relation weakens when book-tax differences are suggestive of tax planning strategies rather than decreased earnings quality. The authors identify high tax planning firms as those firms in the lowest quintile of accumulated effective tax rates each year following the methodology provided in Dyreng et al. (2008) which outlines that tax avoidance firms are those firms that are able to sustain low effective tax rates over multiple years or long-run tax avoidance. One common example of long-term tax planning strategies is shifting income overseas to lower tax countries and reinvesting in overseas assets. More recently, a working paper by Bonsall et al. (2014) finds that credit rating agencies experience difficulty in agreeing on the benefits and costs of tax avoidance. Their paper examines disagreements in credit ratings between S&P and Moody's. In particular, they use five different tax avoidance measures: five-year GAAP effective tax rates, five-year cash effective tax rates, five-year cash tax avoidance, unrecognized tax benefits, and likelihood of tax shelter involvement. They conclude that these credit rating agencies are not able to easily quantify the cost and benefits of tax avoidance which leads to different credit ratings from the two agencies.

While Ayers et al. (2010) and Bonsall et al. (2014) look at broad measures of tax avoidance, they do not examine the mechanisms that allow firms to lower their effective tax rates. One strategy used to lower a firm's effective tax rate is for a firm to keep foreign earnings overseas and make the permanently reinvested earnings assertion. In its firm guide to deferred taxes, PricewaterhouseCoopers reports that a majority of large companies make the PRE assertion with respect to much, if not all, of their foreign earnings which has the effect of generally reducing their overall effective tax rate (PwC 2012).

2.8 Hypotheses

A firm with foreign earnings that has decided to reinvest overseas has two main reinvestment options: (1) financial assets (cash, cash holdings, investments, etc.) or (2) operating assets (property, plant, and equipment, land, etc.). Blouin et al. (2014) find that approximately 45 percent of permanently reinvested earnings, on average, were invested in financial assets from 1998 to 2009. Additionally, the findings of De Waegenaere and Sansing (2008) and Bryant-Kutcher et al. (2008) suggest that reinvestment in operating assets is preferred by investors. Furthermore, the findings of Edwards et al. (2015) and Hanlon et al. (2015) indicate that a foreign acquisition using reinvested funds is sometimes suboptimal and the acquisition is viewed negatively by investors. So, if reinvestment in financial rather than operating assets is related to a firm's valuation, does it also relate to a firm's credit rating?

While academic literature has found that larger reinvestment in financial assets sends a negative signal to investors, it is unclear whether the same signal is sent to credit rating analysts. Rationally, larger reinvestment in financial assets may send a positive or negative signal to credit rating analysts. The positive signal is the fact that a firm has sufficient funds to repay its

creditors and should have a lower risk of default. However, finance theory suggests that there are costs to firms that choose to hold excess cash. Faulkender and Wang (2006) find that excess cash is most valued by shareholders when the firm has low leverage and constraints in accessing the financial markets. The absence of these specific firm characteristics suggests that the excess cash should be distributed to shareholders rather than held by the firm. Additionally, Archaya et al. (2012) oppose what they describe as a “naïve” prediction that cash-rich firms should have a lower probability of default and lower credit spreads. They present empirical evidence which shows that conservative cash balances are likely to be pursued by firms that are close to financial distress.

Larger reinvestment in operating assets sends a positive signal that the firm intends to keep earnings overseas in expectation of future profits. Therefore, excess cash, a proxy for financial asset reinvestment, may be more negatively viewed than operating reinvestment by creditors due to its limiting effect on future cash flows. When future profitability is jeopardized due to suboptimal reinvestment choices, additional default risk is assumed by the firm. Additionally, a firm heavily reinvested in financial assets is signaling a lack of positive net present value investment options abroad; this implies that a firm is retaining earnings overseas to benefit from the PRE assertion and the associated tax savings by not repatriating earnings. Overall, more negative theoretical and empirical evidence exists related to information users’ interpretation of financial reinvestment. Therefore, I test the following hypothesis investigating the direct relation between reinvestment strategy and credit ratings:

H1: Larger reinvestment in financial assets is negatively associated with a firm’s long-term credit rating.

The second objective of this study is to investigate the relation between a firm's reinvestment strategy and its choice to disclose PRE-related information. Ayers et al. (2015) establishes a methodology to approximate the amount of PRE (and the associated unrecognized tax liability) for both disclosers and non-disclosers of PRE. The authors identify various determinants of PRE disclosure, I posit that a firm's reinvestment strategy is an additional factor in a firm's choice to disclose its PRE. Given that a firm must first have a reinvestment strategy in place before (1) making the PRE assertion and (2) disclosing its PRE, it is logical that the reinvestment strategy of a firm may impact its willingness to disclose PRE. As suggested by Ayers et al. (2015), public misconception and scrutiny may play a role in a firm's willingness to disclose its PRE. In reference to the public misconception about the composition of reinvested foreign earnings being in the form of cash, Scholes et al. (2012) conclude that tax due upon repatriation may lead to increased financial asset holdings overseas, but the earnings are not always held in the form of cash.

To elude media scrutiny, a firm may choose not to disclose its PRE information. For example, firms with successful foreign reinvestment in operating assets may choose not to disclose PRE due to the assumption by users that their PRE reinvestment is simply in the form of cash hoarding overseas. Alternatively, a firm heavily reinvested in financial assets may be more willing to disclose PRE to benefit from greater information symmetry between the firm and investment users. So, I state the second hypothesis in alternate form:

H2a: There is a relation between reinvestment strategy and the decision to disclose PRE-related information.

H2b: There is no relation between reinvestment strategy and the decision to disclose PRE-related information.

Although PRE-asserting firms are mandated to disclose their cumulative amount of PRE and, if estimable, the associated unrecognized tax liability, prior research has indicated that some firms are not in compliance with this mandate (Blouin et al. 2014; Eiler and Kutcher 2014; Ayers et al. 2015). Prior research also indicates that less financial statement transparency leads to lower credit ratings (Sengupta 1998; Ashbaugh-Skaife et al. 2006). Although a firm may want to obscure their foreign earnings and tax position via ambiguous language in its PRE disclosure due to associated media and political costs, academic research suggests that this disclosure strategy could be detrimental for a firm in the form of lower credit ratings (e.g. Sengupta 1998; Ashbaugh-Skaife et al. 2006). The way that financial statement users interpret information from PRE-asserting firms that do not disclose PRE has not been investigated; therefore, I test the following relation between PRE disclosure and credit ratings:

H3: There is a positive relation between a PRE-asserting firm's decision to disclose PRE-related information and its long-term credit rating.

To address whether or not credit rating analysts are able to see through the possibly opaque PRE-related disclosure in the notes to the financial statements, I investigate whether a firm's PRE disclosure choice diminishes the relation between its foreign reinvestment strategy and its long-term credit rating. If H1 is supported, it suggests that credit rating analysts (1) determine the reinvestment strategy of the firm and (2) consider a substantial reinvestment in

financial assets negatively when assigning credit ratings. If H3 is supported, it indicates that credit rating analysts positively view the choice of a firm to disclose its PRE-related information when assigning a credit rating. The purpose of the last hypothesis is to investigate whether the negative relation between considerable financial reinvestment and credit ratings is weakened by the firm's decision to disclose PRE. Therefore, I test the following hypothesis presented in alternate form:

H4a: The relation between reinvestment strategy and long-term credit ratings is attenuated by the choice to disclose PRE-related information.

H4b: The relation between reinvestment strategy and long-term credit ratings is not attenuated by the choice to disclose PRE-related information.

CHAPTER THREE

SAMPLE, RESEARCH METHODOLOGY, AND SUMMARY STATISTICS

3.1 Sample Selection

I obtain data for all Fortune 500 firms for the years 1997-2010 based on the Fortune 500 list from 2005. I require (1) that the firms have a long-term issuer credit rating from S&P and (2) that firms have made the permanently reinvested earnings assertion. I hand collect PRE data for all Fortune 500 firms from 1997-2010. This data includes whether or not the firm discloses PRE, the amount of PRE, the type of tax disclosure associated with PRE, and, if disclosed, the estimated amount of taxes due upon repatriation. The type of tax disclosure can be (1) a disclosed amount of U.S. tax due upon repatriation, (2) a disclosure stating it is not practicable to estimate U.S. tax due upon repatriation, or (3) a disclosure stating that no U.S. taxes are due upon repatriation. To replicate the Ayers et al. (2015) model, I hand collect data from the effective tax rate reconciliation portion of the income tax footnote. S&P long-term credit ratings and all other necessary financial statement information are retrieved from the Compustat database. Table 1 details the sample selection process and the number of observations lost because of data requirements. My final sample consists of 2,639 firm-year observations for 271 firms in the Fortune 500 list from 2005. Of the 2,639 total firm-year observations, 2,361 disclose PRE while the remaining 278 do not disclose PRE.

3.2 Credit Rating Model

The tests are derived from a general model that denotes credit ratings as a function of reinvestment strategy, permanently reinvested earnings disclosure, and firm characteristics previously identified in academic research (e.g., Horrigan 1966; Pogue and Soldofsky 1969; West 1970; Pinches and Mingo 1973; Bhojraj and Sengupta 2003; Ashbaugh-Skaife et al. 2006).

$$\text{Credit Rating} = f(\text{Reinvestment strategy, PRE disclosure, firm characteristics})$$

I use three different logit based models to analyze the effect of reinvestment strategy and PRE disclosure information content on credit ratings. For the first model, I utilize an ordered logit model with the dependent variable equal to the S&P long-term credit rating using a ranked system from 22 (AAA – highest investment grade) to 1 (D/SD – lowest speculative grade – in default). This model allows me to analyze the overall effects of the permanently reinvested earnings disclosure on credit ratings. For the second model, I follow Ashbaugh-Skaife et al. (2006) and implement an ordered logit model with the dependent variable equal to the S&P long-term credit rating using the Ashbaugh-Skaife (AS) Index rating score. This model allows me to analyze the overall effects of the permanently reinvested earnings disclosure on credit ratings across rating categories rather than across individual credit ratings. These two dependent variables are not in continuous variable form and thus ordered logit models are appropriate.¹² For the third model, I use a logit model with the dependent variable equal to 1 for investment grade credit rated firms and 0 for speculative grade credit rated firms. An investment grade credit rating is important for borrowers because it ensures full market access, helps to achieve flexible or attractive covenants, and creates a level of prestige (Santos 2007). Therefore, it is important to use a dichotomous variable to investigate the differences between investment grade credit rated firms and speculative grade credit rated firms.

A version of the following ordered logit/logit model (see Appendix B for variable definitions) is used to test hypotheses 1, 3, and 4:

¹² In testing, I analyzed whether multinomial logit or generalized ordered logit models were superior to the ordered logit model suggested by prior research (Ashbaugh-Skaife et al. 2006). AIC, BIC, and Likelihood-Ratio testing all indicate that the ordered logit model is preferred over multinomial logit or generalized ordered logit models.

$$CrRating_{it} = \beta_0 + \beta_1 FinReinv_{it-1} + \beta_2 DisclosePRE_{it-1} + \beta_3 FinReinv_{it-1} * \quad (1)$$

$$DisclosePRE_{it-1} + \sum \beta_4 FC_{it-1} + \sum \beta_5 Year_{it-1} + \sum \beta_6 Industry_{it-1} + \varepsilon_{it}$$

FC represents a vector of firm characteristics controls and *Year* and *Industry* represent vectors of indicator variables for year and one-digit SIC codes, respectively.

To address H1, H2 and H4, I utilize the model described in Foley et al. (2007) to identify firms with excess cash holdings. Following prior research (Bryant-Kutcher et al. 2008), I use excess cash holdings as a proxy for reinvestment in financial assets. The Foley et al. (2007) model (see Appendix D for full model and variable descriptions) uses the natural log of cash scaled by total assets minus cash and short-term investments, referred to as net assets, as the dependent variable. The explanatory variables are: pre-tax domestic net income (scaled by net assets), pre-tax foreign net income (scaled by net assets), natural log of net assets, indicator variable for cash dividend payment during the year (1 if cash dividend paid, 0 otherwise), book-to-market equity ratio, standard deviation of operating income, research and development expenses (scaled by net assets), capital expenditures (scaled by net assets), and market leverage (long- and short-term debt divided by long and short-term debt plus market value of equity). The residual from this equation is used as a proxy for financial reinvestment. Bryant-Kutcher et al. (2008) identify firms that have high reinvestment in financial assets as those firms with a residual (excess cash) in the upper quintile of all Compustat firms over the sample period. After identifying these firm-years with financial reinvestment, I test whether or not the high financial reinvestment firm-years have lower credit ratings than the non-high financial reinvestment firm-years.

3.3 Credit Rating Model: Dependent Variables

S&P has 22 distinct credit ratings from AAA to D/SD (lowest speculative grade – in default). My first dependent variable (*GradeRating*) is a ranked system of credit ratings from 22 (AAA) to 1 (D/SD). The second dependent variable in this study (*ASIndex*) relies on the Ashbaugh-Skaife et al. (2006) rating methodology which creates a rating score system that collapses the 22 distinct credit ratings into 7 assigned rating categories from 7 (AAA rated credit) down to 1 (CCC+ rated credit and below) (referred to as A-S Index in this study). This rating score system yields an ordinal variable. S&P classifies long-term credit ratings below (at or above) BBB as speculative (investment) grade. Therefore, the credit rating can also be treated as an indicator variable to signify whether the issuer has investment grade credit or speculative grade credit. So, as a third dependent variable (*InvestmentGrade*), I use an indicator variable equal to 1 for firms with investment grade ratings and 0 for firms with speculative grade ratings (See Appendix C for dependent variable definitions). The long-term credit ratings used in this study are those credit ratings released four months after the end of the firm's fiscal year. This lag period should be sufficient for credit rating agencies to fully incorporate year-end accounting data when assigning credit ratings without having much influence from first quarter accounting data.¹³

¹³ I do not consider it appropriate to use a contemporaneous model given the necessary time for credit analysts to decompose fiscal year-end financial statement data. Capital markets studies frequently calculate buy-and-hold returns from the fourth month after the fiscal year-end of year t through a certain number of consecutive months. Studies begin with the fourth month after the fiscal year-end to avoid capturing data from year $t-1$. In this study, I want credit rating agencies to capture all relevant financial statement data from year $t-1$. Therefore, I capture the credit rating from the fourth month in year t which should capture all relevant financial statement data from year $t-1$.

3.4 Credit Rating Model: Independent Variables – Variables of Interest

To address H1, I use an indicator variable (*FinReinv*) equal to 1 if the firm-year observation has excess cash, identified from the Foley et al. (2007) model, in the top quintile of all Compustat firms over the sample period, 0 otherwise. *FinReinv* is a proxy for high financial reinvestment using the Bryant-Kutcher et al. (2008) methodology. Prior research has indicated a negative relation between reinvestment in financial assets and firm valuation (De Waegemaere and Sansing 2008; Bryant-Kutcher et al. 2008; Edwards et al. 2015; Hanlon et al. 2015). In particular, De Waegernaere and Sansing (2008) suggest that a negative relation exists because of opportunity costs of reinvestment choices, such as decreased long-run profitability. Therefore, I predict a negative relation between financial reinvestment and credit ratings. (See Section 3.6 for discussion on H2).

To address H3, I include a variable to indicate whether or not a PRE-asserting firm discloses its permanently reinvested earnings (*DisclosePRE*). This variable is an indicator variable equal to 1 if the firm discloses PRE, 0 if the firm does not disclose PRE. Disclosure literature suggests more transparency is rewarded by credit rating analysts. Therefore, I predict a positive relation between a firm's decision to disclose PRE and its long-term credit rating.

H4 studies the possible attenuating effects of PRE disclosure choice on the relation between reinvestment strategy and credit ratings. H1 predicts a negative relation between reinvestment strategy (*FinReinv*) and credit ratings while H3 predicts a positive relation between PRE disclosure and credit ratings. To test whether the choice to disclose PRE weakens the predicted negative relation between financial reinvestment and credit ratings, I create a variable (*FinReinv*DisclosePRE*) to account for the interaction between high financial reinvestment

(*FinReinv*) and PRE disclosure (*DisclosePRE*). A significant positive coefficient on the interaction term (*FinReinv*DisclosePRE*) would indicate an incremental credit rating benefit for firms engaged in high financial reinvestment overseas by disclosing their respective amount of PRE. This finding would support H4a and suggest that firms choose to disclose PRE if they are reinvested heavily in financial assets to counteract the negative relation between financial reinvestment and credit ratings. An insignificant coefficient on the interaction term (*FinReinv*DisclosePRE*) would support H4b and potentially indicate that credit rating analysts regard the reinvestment strategy of the firm to be more risk relevant in terms of assigning credit ratings than the decision to disclose PRE. Furthermore, firms do not receive an incremental benefit by disclosing PRE when they heavily reinvest in financial assets.

In supplemental testing, I study the relation between the tax disclosure information content of the PRE disclosure and credit ratings. I include an indicator variable (*DiscloseTax*) equal to 1 if the firm discloses an estimate of the taxes due upon repatriation, 0 otherwise. The type of tax disclosure can be (1) a disclosed amount of U.S. tax due upon repatriation, (2) a disclosure stating it is not practicable to estimate U.S. tax due upon repatriation, or (3) a disclosure stating that no U.S. taxes are due upon repatriation. I also include an indicator variable (*NoTaxDue*) equal to 1 if the firm explicitly discloses that no U.S. taxes are due upon repatriation, 0 otherwise. Therefore, the base group of this indicator variable is composed of firms that state it is not practicable to estimate U.S. tax upon repatriation. Although greater disclosure quality is associated with more favorable credit ratings, a firm that explicitly states future taxes due upon repatriation is presenting information which may negatively affect the future liquidity of the firm. I predict a negative relation between *DiscloseTax* and *CrRating*. Lastly, I include a variable equal to the amount of taxes due upon repatriation (*TaxDue*) scaled

by total assets. I expect a negative relation between *TaxDue* and *CrRating* because this is a potential future cash flow strain. This negative relation indicates that higher amounts of tax due are associated with lower credit ratings.

3.5 Credit Rating Model: Independent Variables – Control Variables

I turn to previous research (e.g., Horrigan 1966; Pogue and Soldofsky 1969; West 1970; Pinches and Mingo 1973; Bhojraj and Sengupta 2003; Ashbaugh-Skaife et al. 2006) to help determine those variables that have a significant effect on credit rating. The most common factors identified in previous research are: firm size (*Size*), leverage (debt-to-asset ratio) (*Leverage*), profitability (return on assets) (*ROA*), current period loss (*Loss*), presence of subordinated debt (*Subordinated*), interest coverage ratio (*InterestCoverage*), and firm capital intensity (*CapIntensity*). *Size* is measured by the natural log of a firm's assets. Larger firms have been shown to face less overall risk and are expected to have higher credit ratings (Fama and French 1993; Ashbaugh-Skaife et al. 2006). Consequently, I expect a positive relation between *Size* and *CrRating*. Debt-to-asset ratio, return on assets, and the interest coverage ratio are included to proxy for a firm's risk of default. High debt-to-asset, low return on asset, and low interest coverage ratios are indicative of greater risk of default. Therefore, I predict a negative relation between *Leverage* and *CrRating* and a positive relation between *ROA/InterestCoverage* and *CrRating*. I include an indicator variable (*Loss*) to control for default risk for firms that are unprofitable. *Loss* is set to 1 if a firm reports an operating loss in the current year, 0 otherwise. Less profitable firms are more risky and thus I predict a negative relation between *Loss* and *CrRating*. Lenders are likely to require other debt to be subordinated if the overall default risk is higher. Due to this fact, I expect *CrRating* to have a negative relation with *Subordinated*. Subordinated debt is accounted for in the model as an indicator variable

equal to 1 if subordinated debt is present, 0 otherwise. The final control variable is *CapIntensity* which is equal to the ratio of gross property, plant, and equipment to total assets. I include this variable to control for a firm's asset structure. Firms with greater capital intensity present lower risk to debt issuers and are expected to have higher credit ratings (Ashbaugh-Skaife et al. 2006); therefore, I expect a positive relation between *CapIntensity* and *CrRating*. I also include indicator variables for year (*Year*) and industry (*Industry*) to address credit rating variability differences across time and industry.

3.6 Ayers et al. (2015) PRE Disclosure Model

Ayers et al. (2015) establish a methodology to estimate a PRE-asserting firm's amount of PRE and the associated unrecognized tax liability. The effective tax rate reconciliation included in the footnotes to the financial statements shows the foreign tax rate reduction achieved by PRE-asserting firms.¹⁴ This rate reduction appears in the effective rate reconciliation regardless of the firm's decision to disclose PRE-related information. Ayers et al. (2015) use this information to create estimates for PRE and the associated unrecognized tax liability. Their estimates of PRE and the associated unrecognized tax liability are correlated with actual PRE disclosures at the 1% level. After establishing the estimation methodology, Ayers et al. (2015) use the estimates of PRE and the associated unrecognized tax liability as determinants of PRE disclosure (See Appendix E for full model and variable definitions). They also control for five other factors: (1) market pressure, (2) firm performance, (3) external information environment,

¹⁴ Ayers et al. (2015) use two other ETR reconciling items. First, they record any current year repatriations of PRE. Second, they record any current year reclassifications of PRE. PRE reclassifications can be one of two different forms: (1) reclassifying prior year earnings as PRE in the current year or (2) reversing earnings previously designated as PRE.

(4) firm operating environment, and (5) reporting discretion.¹⁵ I follow all variable predictions made by Ayers et al. (2015) (see Table 3 for variable predictions). I posit that the reinvestment choice of the firm is a potential determinant which is not included in the Ayers et al. (2015) PRE disclosure model. To test H2, I include *FinReinv* as a proxy for high financial reinvestment. I am unable to make a prediction on the direction of the relation due to the opposing factors discussed in Section 2.8.

3.7 Summary Statistics

Table 4, Panel A, presents univariate statistics for the full sample of firm-year observations for the dependent variables, all independent variables of interest, and all firm characteristic control variables. Table 4, Panel B, presents univariate statistics partitioned by PRE-discloser status. The median *GradeRating* for the full sample is 15.0 which corresponds to a median credit rating BBB+. The mean credit rating is statistically significantly higher for PRE-disclosing firms than for firms that do not disclose PRE. Also, 80.8% of the sample has investment grade credit which seems appropriate given that the sample firms analyzed in this study are from a Fortune 500 list. Similar to overall credit rating, PRE-disclosing firms are more likely to achieve an investment grade level credit rating. I find that approximately 89.5% of the full PRE-asserting sample discloses PRE (*DisclosePRE*) and 11.5% of the sample discloses the tax associated with PRE (*DiscloseTax*). These PRE-related sample statistics are in line with prior research (e.g. Bauman and Shaw 2008; Blouin et al. 2014; Eiler and Kutcher 2014; Ayers

¹⁵ Market pressure is controlled for by ratio of EPS to share price (*E/P*). Firm performance is controlled for by firm leverage (*Leverage*) and pre-tax return on assets (*PROA*). External information environment is controlled for by the number of analyst forecasts at year-end (*NAnalyst*), % of shares owned by institutional investors (*Inst*), and natural log of sales (*LnSales*). Firm operating environment is controlled for by percentage of pre-tax income earned overseas (*Foreign%*), industry level proprietary costs (*HHI*), and number of disclosed foreign segments (*Segments*). Reporting discretion is controlled for by the absolute value of performance-matched discretionary accruals (*AbsDiscAcc*) using the Kothari, Leone, and Wasley (2005) and Hribar and Collins (2002) methodologies. For purposes of this study, I drop *Inst*, *HHI*, and *Segments* from the model. The results are unchanged when including these variables and all five PRE disclosure factors are controlled for by other variables shown above.

et al. 2015). Lastly, approximately 41.1% of the full sample is deemed to have a high financial reinvestment strategy (*FinReinv*). Within the PRE-disclosing group, 40.3% of firms are deemed to have a high financial reinvestment strategy. Within the PRE non-disclosing group, 47.5% of firms are deemed to have a high financial reinvestment strategy. This difference is significant at a 5% level and suggests that high financial reinvestment firms are less likely to disclose PRE.

Table 6 presents univariate statistics for the Ayers et al. (2015) model variables partitioned by PRE-discloser status. Similar to the descriptive statistics presented in Ayers et al. (2015), the mean amount of estimated taxes due upon repatriation is statistically significantly larger (at the 1% level) for PRE disclosers than for PRE non-disclosers. This finding suggests that the materiality of tax due upon repatriation significantly influences PRE disclosure. Additionally, on average, PRE non-disclosing firms are larger in size and derive more of their income from foreign sources than their PRE-disclosing peers.

CHAPTER FOUR

RESULTS

4.1 Test of H1 – Reinvestment Strategy and Credit Ratings

Table 8 reports the results of the test of H1 which examines the impact of financial reinvestment on credit ratings. Consistent with my hypothesized prediction, I find a significant negative association between a firm identified as having significant financial reinvestment (*FinReinv*) per the Bryant-Kutcher et al. (2008) methodology and its long-term credit rating. This significant negative association is constrained to the ordered logit models that use *GradeRating* (p-value = <0.001) and *ASIndex* (p-value = <0.001) as the dependent variables. A firm that does not have a significant reinvestment in financial assets has 1.37 times better odds of achieving a higher credit rating than a firm with significant financial reinvestment. Similarly, using the *ASIndex* dependent variable, a firm that does not have a significant reinvestment in financial assets has 1.27 times better odds of achieving a higher credit rating category than a firm with significant financial reinvestment. These findings suggest that financial reinvestment strategy has an overall negative association with credit ratings but is not a direct indicator of investment grade or speculative grade credit. More importantly, this finding establishes a direct relation between reinvestment strategy and credit ratings.

4.2 Test of H2 – Reinvestment Strategy and Disclosure Choice

The purpose of H2 is to test whether or not the political and media costs of PRE disclosure are considered when a firm has a significant reinvestment in financial assets. To test H2, I use the Ayers et al. (2015) PRE disclosure choice model and include the financial reinvestment indicator variable (*FinReinv*). I hand collect all necessary information from the effective tax rate reconciliation portion of the income tax footnote and follow the methodology

described in Ayers et al. (2015) and in Section 3.6 of this study. Table 9, Column 1 reports the results of a replication of the Ayers et al. (2015) PRE disclosure choice model using the data described in this study. I find that the estimated amount of PRE ($PRE_{Estimated}$) is significantly negatively associated with a firm's decision to disclose PRE (p-value = <0.001). This finding suggests that firms consider the political and media costs associated with PRE when choosing to disclose PRE. Furthermore, I find that the estimated amount of taxes due associated with PRE ($TAX_{Estimated}$) is significantly positively associated with a firm's decision to disclose PRE (p-value = <0.001). While $PRE_{Estimated}$ and $TAX_{Estimated}$ are both significant predictors of PRE disclosure, the absolute value of the coefficient on $TAX_{Estimated}$ (11.822) is much greater than the absolute value of the coefficient on $PRE_{Estimated}$ (0.638). This suggests that firms are more concerned with the materiality of taxes due upon repatriation than the actual amount of PRE itself when deciding whether or not to disclose PRE. Both of the main findings of this replication coincide with the predictions and findings of the Ayers et al. (2015) study; furthermore, the findings provide a level of assurance in my estimation procedures in calculating (1) the estimated PRE ($PRE_{Estimated}$) and (2) the associated amount of taxes due upon repatriation ($TAX_{Estimated}$).¹⁶

Additionally, I find that highly leveraged firms are less likely to disclose PRE (p-value = 0.017); this is consistent with the prediction and results of Ayers et al. (2015) as they posit that it is more costly for highly leveraged firms to disclose PRE because it indicates the presence of additional, unrecorded liabilities. I find that more profitable firms, proxied for by the ratio of pre-tax income to total assets ($PROA$), are more likely to disclose PRE (p-value = 0.017). This finding coincides with the prediction made by Ayers et al. (2015) based on the findings of Miller (2002) which illustrates that firms are more likely to disclose information during periods of

¹⁶ The estimates of PRE using the Ayers et al. (2015) estimation process are significantly correlated with my hand collected reported PRE amounts from the footnotes to the financial statements at the 1% level.

strong performance. Also, I find that firms with significant foreign operations, proxied for by the ratio of foreign pre-tax income to worldwide pre-tax income (*Foreign%*), are more likely to disclose PRE (p-value = 0.009). Ayers et al. (2015) predict and find a negative relation between *Foreign%* and *DisclosePRE* based on the potential propriety costs associated with disclosures related to foreign operations. However, I suggest that a positive association between foreign operations and PRE disclosure may indicate that firms view PRE disclosure to be necessary when they have substantial foreign operations. Finally, I find that firms exhibiting greater financial reporting discretion are significantly less likely to disclose PRE (p-value = <0.001) which follows the prediction and results of Ayers et al. (2015). Financial reporting discretion is proxied for using the absolute value of performance-matched discretionary accruals (*AbsDiscAccr*) based on the methodologies of Kothari, Leone, and Wasley (2005, Equation 7) and Hribar and Collins (2002).

Table 9, Column 2 presents results of the test of H2, which investigates the relation between PRE disclosure (*DisclosePRE*) and the reinvestment strategy of the firm (*FinReinv*). To test this relation, I add the financial reinvestment indicator variable, *FinReinv*, to the model used in Table 9, Column 1. I find that firms with a reinvestment strategy more heavily focused on financial assets are less likely to disclose PRE (p-value = 0.011); this finding supports H2a. This finding suggests that the costs of disclosure (i.e. political costs or SEC sanctions) outweigh the benefits of disclosure (i.e. gains from reduced information asymmetry) for firms that have a reinvestment strategy focused on financial assets.

4.3 Test of H3 – Disclosure Choice and Credit Ratings

Table 10 reports the results of the test of H3 which investigates the relation of PRE disclosure (*DisclosePRE*) and credit ratings and, in accordance with my hypothesized prediction, I find that a firm's decision to disclose PRE is significantly positively associated with its credit rating. This finding is significant for all three dependent variables (*GradeRating* (p-value = 0.083), *ASIndex* (p-value = 0.015) and *InvestmentGrade* (p-value = 0.001)). The results of Table 10 show that a PRE-disclosing firm has approximately 1.35 times better odds of achieving a higher credit rating category than a non-PRE-disclosing firm. Additionally, the odds of a PRE-disclosing firm achieving an investment grade credit rating are about 1.85 times higher than a non-PRE-disclosing firm. Collectively, these results support the prediction that firms are rewarded by credit rating agencies for providing more information which reduces the information asymmetry between firms and information users. These findings also establish a direct relation between PRE disclosure and credit ratings.

4.4 Test of H4 – Effects of Disclosure Choice on Reinvestment Strategy and Credit Ratings

The results of H1 and H3 suggest that financial reinvestment strategy is negatively related to a firm's credit rating and the choice to disclose PRE is positively related to its credit ratings. H4 examines the potential mitigating effects of the PRE disclosure on the negative relation between reinvestment strategy and credit ratings. To test this effect, I add an interaction term (*FinReinv*DisclosePRE*) and use the credit rating model described in section 3.2. Table 11 reports the results of the test of H4. While I find a positive relation between a firm (1) with a reinvestment strategy focused on financial assets and (2) that discloses PRE-related information and its long-term credit rating, the relation is not statistically significant. This finding supports

H4b; by disclosing PRE-related information, a firm with a reinvestment strategy focused on financial assets is not able to mitigate the negative relation between financial reinvestment strategy and long-term credit ratings. This finding suggests that credit rating analysts view the reinvestment strategy of the firm to be more risk relevant in terms of assigning credit ratings than the decision to disclose PRE.

4.5 Supplemental Testing – Tax Disclosure Information Content of PRE Disclosure

Tables 12 and 13 report the results of supplemental tests which investigate the relation between the tax disclosure information content of the PRE disclosure and credit ratings. The tax disclosure information content of the PRE disclosure includes (1) the choice to disclose the tax associated with PRE (*DiscloseTax*) and (2) the disclosed amount of taxes due associated with PRE (*TaxDue*).¹⁷ Table 12 shows the results testing the relation between the choice to disclose the tax associated with PRE (*DiscloseTax*) and credit ratings. I find a significant negative relation between the explicit disclosure of tax due associated with PRE and credit ratings (p-value <0.001). This finding is significant (p-value = <0.001) for all three dependent variables (*GradeRating*, *ASIndex*, and *InvestmentGrade*). Table 13 reports the results testing the relation between the total taxes due associated with PRE (*TaxDue*) and credit ratings. I do not find support for the predicted negative association between the amount of taxes due and credit ratings. Collectively, these findings suggest that any mention of tax due associated with PRE, an indicator of future cash strain on the firm, is negatively related to credit ratings. Furthermore, this finding may suggest that firms violate the mandatory disclosure requirements under ASC 740 to avoid the negative consequence of a lower credit rating.

¹⁷ I include the variable *NoTaxDue* to control for firms disclosing that no tax due upon repatriation. The coefficient on this variable is insignificant and I do not include the variable in regression results for brevity purposes.

CHAPTER 5

CONCLUSION

5.1 Summary

Recent literature has attempted to answer the call from academia and governing bodies, such as the SEC, to examine the consequences of the permanently reinvested earnings assertion related to the behavior of capital markets and financial statement users. However, a meaningful gap in the literature exists where the relation between the permanently reinvested earnings assertion and a firm's overall default risk has not yet been examined. My results suggest that the two main requirements of ASC 740 related to the PRE assertion, reinvestment strategy and PRE disclosure, are considered by credit rating agencies when assessing the overall default risk of a firm. I find that a reinvestment strategy centered on financial assets is viewed negatively by credit rating agencies. Also, I find that firms that comply with the mandated PRE disclosure requirements under ASC 740 are rewarded by credit rating agencies with higher credit ratings than their non-disclosing peers. Furthermore, I find that a firm's reinvestment strategy focused on financial assets influences a firm's decision to (1) comply with mandatory PRE requirements and, consequently, (2) disclose PRE-related information in the footnotes to its financial statements.

My results contribute to the literature in the following ways. I add to the literature surrounding the permanently reinvested earnings assertion and show that the accounting requirements of the PRE assertion are considered by financial statement information users. Similarly, I add to financial statement disclosure literature and show that variation in disclosure reporting is associated with the way credit rating agencies and others assess the risk of a firm. I also contribute to credit rating determinant literature by adding previously unidentified

determinants to the study of credit rating models. Lastly, I build on the Ayers et al. (2015) PRE disclosure determinants model by introducing firm reinvestment strategy as an additional determining factor in the decision to disclose PRE.

5.2 Limitations

My study is not without limitations. While I rely on prior literature (Foley et al. 2007; Bryant-Kutcher et al. 2008) to approximate the reinvestment strategy of the firm, the proxy used, excess cash, may or may not be the actual amount of financial reinvestment of PRE and could be subject to measurement error. Another limitation of this study is the assumption that firms are simply choosing not to report PRE and the associated information required by ASC 740. It is possible that a firm's foreign structure might be so complex that it is actually impractical to calculate the cumulative amount of PRE and/or estimate the associated amount of taxes due. While the PRE estimation methodology shown in Ayers et al. (2015) claims to debunk this possibility because firms are able to report their effective tax rate benefit from foreign earnings kept overseas, I acknowledge that a firms' structural complexity may be a contributing factor that explains non-compliance with the disclosure requirements of ASC 740. Lastly, my sample is derived from the Fortune 500 which ranks the 500 largest U.S. firms by revenue. Therefore, sample selection bias is a limitation of this study and limits the generalizability of the study to all firms. However, I believe the firms included in this study are likely to be of the most interest to governing bodies such as the SEC due to their size and the amount of earnings located overseas.

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APPENDIX A
Sample Form 10-K Tax Footnote Disclosures

PRE Non-Discloser: Whole Foods Markets, Inc. (FY 2010 Form 10-K)

It is the Company's intention to utilize earnings in foreign operations for an indefinite period of time, or to repatriate such earnings only when tax-efficient to do so. If these amounts were distributed to the United States, in the form of dividends or otherwise, the Company would be subject to additional U.S. income taxes. Determination of the amount of unrecognized deferred income tax liabilities on these earnings is not practicable because such liability, if any, is dependent on circumstances existing if and when remittance occurs.

PRE Discloser with Tax Due: Dell Inc. (FY 2010 Form 10-K)

Deferred taxes have not been recorded on the excess book basis in the shares of certain foreign subsidiaries because these basis differences are not expected to reverse in the foreseeable future and are expected to be permanent in duration. These basis differences in the amount of approximately \$11.3 billion arose primarily from the undistributed book earnings of substantially all of the subsidiaries in which Dell intends to reinvest indefinitely. The basis differences could reverse through a sale of the subsidiaries or the receipt of dividends from the subsidiaries, as well as various other events. Net of available foreign tax credits, residual income tax of approximately \$3.7 billion would be due upon reversal of this excess book basis as of January 29, 2010.

PRE Discloser with Tax Not Estimable: Hewlett-Packard Company (FY 2010 Form 10-K)

HP has not provided for U.S. federal income and foreign withholding taxes on \$21.9 billion of undistributed earnings from non-U.S. operations as of October 31, 2010 because HP intends to reinvest such earnings indefinitely outside of the United States. If HP were to distribute these earnings, foreign tax credits may become available under current law to reduce the resulting U.S. income tax liability. Determination of the amount of unrecognized deferred tax liability related to these earnings is not practicable. HP will remit non-indefinitely reinvested earnings of its non-US subsidiaries for which deferred U.S. federal and withholding taxes have been provided where excess cash has accumulated and it determines that it is advantageous for business operations, tax or cash management reasons.

APPENDIX B

Credit Rating Model Variable Definitions

Variable	Definition	Data Source
<i>CrRating (GradeRating)</i>	Equal to the long-term credit rating from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) using S&P Ratings	Compustat Annual
<i>CrRating (ASIndex)</i>	Assigned rating score (7-1) from Figure 3 using S&P Ratings	Compustat Annual
<i>CrRating (InvestmentGrade)</i>	Equals 1 if investment grade rating, 0 otherwise	Compustat Annual
<i>FinReinv</i>	Equals 1 if residual from Foley et al. (2007) is in upper quintile in all Compustat firms in given year, 0 otherwise	Compustat Annual/Residual from Foley et al. (2007) Model
<i>DisclosePRE</i>	Equals 1 if PRE-asserting firm discloses PRE, 0 otherwise	Hand Collected Data and Compustat Annual
<i>PRE</i>	Ratio of permanently reinvested earnings to total assets	Hand Collected Data and Compustat Annual
<i>DiscloseTax</i>	Equals 1 if amount of tax due upon repatriation is disclosed, 0 otherwise	Hand Collected Data
<i>NoTaxDue</i>	Equals 1 if amount of tax due upon repatriation is zero, 0 otherwise	Hand Collected Data
<i>TaxDue</i>	Ratio of tax due upon repatriation to total assets	Hand Collected Data and Compustat Annual
<i>Size</i>	Natural log of total assets	Compustat Annual
<i>Leverage</i>	Ratio of long term debt to total assets	Compustat Annual
<i>ROA</i>	Ratio of net income to total assets	Compustat Annual
<i>Loss</i>	Equals 1 if firm has operating loss during year, 0 otherwise	Compustat Annual
<i>Subordinated</i>	Equals 1 if firm has subordinated debt during year, 0 otherwise	Compustat Annual
<i>InterestCoverage</i>	Ratio of EBIT to interest expense	Compustat Annual
<i>CapIntensity</i>	Ratio of Gross PPE to total assets	Compustat Annual
<i>Year</i>	Year dummy variables	Compustat Annual
<i>Industry</i>	Industry dummy variables (1 digit SIC Code)	Compustat Annual

APPENDIX C **S&P Credit Ratings, Assigned Rating Scores, and Investment Grades**

S&P Rating	<i>GradeRating</i>	<i>ASIndex</i>	<i>InvestmentGrade</i>
AAA	22	7	Investment
AA+	21	6	Investment
AA	20	6	Investment
AA-	19	6	Investment
A+	18	5	Investment
A	17	5	Investment
A-	16	5	Investment
BBB+	15	4	Investment
BBB	14	4	Investment
BBB-	13	4	Investment
BB+	12	3	Speculative
BB	11	3	Speculative
BB-	10	3	Speculative
B+	9	2	Speculative
B	8	2	Speculative
B-	7	2	Speculative
CCC+	6	1	Speculative
CCC	5	1	Speculative
CCC-	4	1	Speculative
CC	3	1	Speculative
C	2	1	Speculative
D/SD	1	1	Speculative

Firm credit ratings (*CrRating*) are the long-term credit ratings compiled by Standard & Poor's (S&P). S&P has 22 distinct credit ratings from AAA (highest rating) to D/SD (lowest speculative grade – in default). The ratings reflect the creditworthiness of an issuer and the issuer's ability and willingness to repay its obligations (S&P 2014). *GradeRating* is an assigned score to each credit rating from 22 (AAA – highest rating) to 1(D/SD – lowest rating). Additionally, *ASIndex* is an assigned score following the Ashbaugh-Skaife et al. (2006) methodology which collapses the ratings into seven categories. Finally, S&P classifies long-term credit ratings at and above (below) BBB- as Investment (Speculative) grade; therefore, *InvestmentGrade* is an indicator variable equal to 1 if the credit rating is investment grade, 0 otherwise.

APPENDIX D

Excess Cash Model (Foley et al. 2007) and Variable Definitions

Model:

$$\ln\left(\frac{Cash}{NetAssets}\right) = \beta_0 + \beta_1 DomesticPTI + \beta_2 ForeignPTI + \beta_3 \ln(NetAssets) + \beta_4 CashDiv + \beta_5 BkMktEq + \beta_6 OpIncSD + \beta_7 RD + \beta_8 CapEx + \beta_9 Leverage + \varepsilon$$

* Note: Firm i and time t subscripts are purposely omitted. Variables are contemporaneous.

Variable Definitions:

Variable	Definition	Data Source
<i>Cash</i>	Cash and short-term investments	Compustat Annual
<i>NetAssets</i>	Total assets minus cash and short-term investments	Compustat Annual
<i>DomesticPTI</i>	Ratio of pre-tax domestic net income to net assets	Compustat Annual
<i>ForeignPTI</i>	Ratio of pre-tax foreign net income to net assets	Compustat Annual
<i>Ln(NetAssets)</i>	Natural log of <i>NetAssets</i>	Compustat Annual
<i>CashDiv</i>	Equals 1 if cash dividend payment during year, 0 otherwise	Compustat Annual
<i>BkMktEq</i>	Ratio of book value of equity to market value of equity	Compustat Annual
<i>OpIncSD</i>	Ratio of standard deviation of operating income by industry to net assets	Compustat Annual
<i>RD</i>	Ratio of research and development expenses to net assets	Compustat Annual
<i>CapEx</i>	Ratio of capital expenditures to net assets	Compustat Annual
<i>Leverage</i>	Ratio of long- and short-term debt to sum of long- and short-term debt plus market value of equity	Compustat Annual

APPENDIX E
PRE Disclosure Determinants Model (Ayers et al. 2015) and Variable Definitions

$$\begin{aligned}
 DisclosePRE_{it} = & \beta_0 + \beta_1 \frac{PRE_{Estimated}}{PI_{it}} + \beta_2 \frac{TAX_{Estimated}}{PI_{it}} + \beta_3 \frac{E}{P_{it}} + \beta_4 Leverage_{it} + \beta_5 PROA_{it} \\
 & + \beta_6 NAnalyst_{it} + \beta_7 LnSales_{it} + \beta_8 Foreign\%_{it} + \beta_9 AbsDiscAccr_{it} + \sum \beta_{10} Year_{it} \\
 & + \sum \beta_{11} Industry_{it} + \varepsilon_{it}
 \end{aligned}$$

Variable	Definition	Data Source
<i>DisclosePRE</i>	Equals 1 if firm discloses the amount of PRE, 0 otherwise	Hand Collected Data
<i>PRE_{Estimated}</i>	Equals cumulative PRE for year t-2 to year t. Calculated by estimating TAX on earnings designated as PRE in year t based on ETR reconciling items.	Hand Collected Data
<i>TAX_{Estimated}</i>	Equals cumulative TAX balance from year t-2 to year t	Hand Collected Data
<i>PI</i>	Sum of absolute value of pre-tax income (PI) from year t-2 to year t	Compustat Annual
<i>E/P</i>	Ratio of EPS to share price at end of year t	Compustat Annual
<i>Leverage</i>	Ratio of total debt to assets	Compustat Annual
<i>PROA</i>	Ratio of pre-tax income to total assets	Compustat Annual
<i>Nanalyst</i>	Number of analysts issuing earnings forecasts	Compustat Annual
<i>LnSales</i>	Natural log of sales	Compustat Annual
<i>Foreign%</i>	Ratio of foreign pre-tax income to worldwide pre-tax income	Compustat Annual
<i>AbsDiscAccr</i>	Absolute value of performance-matched discretionary accruals computed following Kothari, Leone, and Wasley (2005, 174, Equation 7), where total accruals are calculated based on the statement of cash flows, as suggested in Hribar and Collins (2002).	Compustat Annual
<i>Year</i>	Year dummy variables	Compustat Annual
<i>Industry</i>	Industry dummy variables (1 digit SIC Code)	Compustat Annual

FIGURE 1
Study Objectives

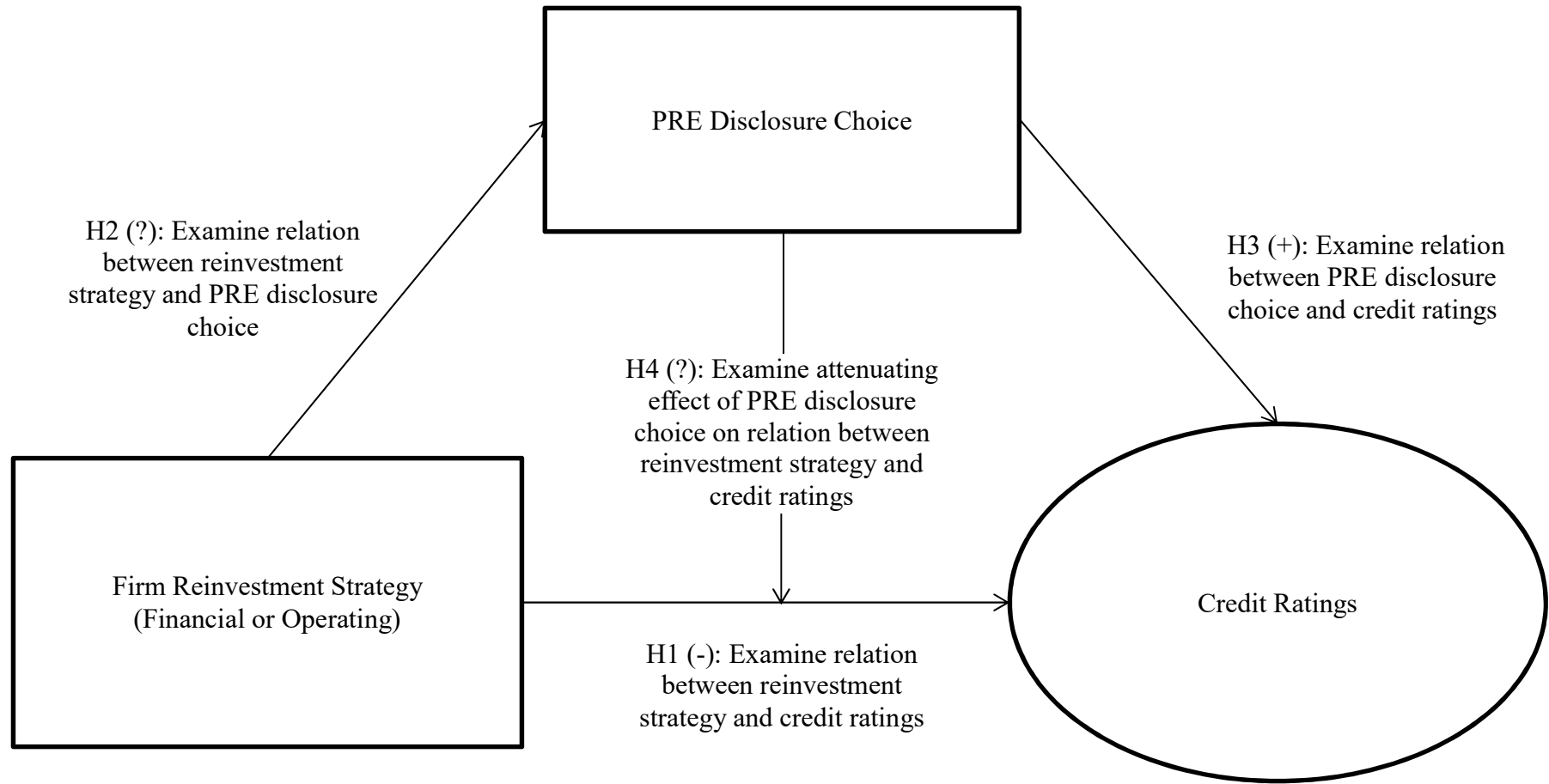


TABLE 1
Sample Selection and Distribution by Industry & Year

Panel A: Sample Selection

Detail	n
Fortune 500 firm year observations (1997-2010)	7,000
Less:	
Firms Excluded From Sample: LPs, Private Entities, Mutual Insurance Companies, Non-Profits	(616)
Firms Excluded From Sample: Any Remaining SIC 6000-6999 Firms	(375)
Firm year observations missing required 10-K information	(571)
Firm year observations available from 1997-2010	5,438
Less:	
Firm year observations with no PRE assertion	(2,799)
Full Sample: Firm year observations with PRE assertion	2,639
Subsample 1: Firm year observations with PRE assertion and PRE-related data disclosed (PRE-Discloser Firm-Years)	2,361
Subsample 2: Firm year observations with PRE assertion and no PRE-related data disclosed (Non-PRE-Discloser Firm-Years)	278

TABLE 1
Sample Selection and Distribution by Industry & Year

Panel B: Sample Distribution by Industry

Two Digit SIC Code	Industry	Frequency	%
01	Agricultural Products	21	0.80%
10, 12	Metal and Coal Mining	20	0.76%
13, 29, 49	Oil and Gas	259	9.81%
15-17	Construction	23	0.87%
20	Food Products	205	7.77%
21	Manufacturing: Tobacco	19	0.72%
22-23	Manufacturing: Textiles	40	1.52%
24-27	Manufacturing: Lumber, Furniture, Paper	141	5.34%
28	Manufacturing: Chemicals	345	13.07%
30-34	Manufacturing: Other	146	5.53%
35, 73	Computer Equipment	425	16.10%
36	Electronic Equipment	181	6.86%
37, 39, 40, 42, 45	Transportation	227	8.60%
38	Scientific Instruments	115	4.36%
48	Communications	75	2.84%
50-51	Wholesale Trade	129	4.89%
52-59	Retail	175	6.63%
70, 72, 75, 79	Services	73	2.77%
99	Other	20	0.76%
Total Observations		2,639	100%

TABLE 1
Sample Selection and Distribution by Industry & Year

Panel C: Sample Distribution by Year

Year	Frequency	%
1997	112	4.24%
1998	125	4.74%
1999	135	5.12%
2000	160	6.06%
2001	174	6.59%
2002	191	7.24%
2003	211	8.00%
2004	221	8.37%
2005	223	8.45%
2006	219	8.30%
2007	221	8.37%
2008	222	8.41%
2009	213	8.07%
2010	212	8.03%
Total Observations	2,639	100%

TABLE 2
Credit Rating Model – Determinants of Credit Ratings

$$CrRating_{it} = \beta_0 + \beta_1 FinReinv_{it-1} + \beta_2 DisclosePRE_{it-1} + \beta_3 FinReinv_{it-1} \\ * DisclosePRE_{it-1} + \sum \beta_4 FC_{it-1} + \sum \beta_5 Year_{it-1} + \sum \beta_6 Industry_{it-1} + \varepsilon_{it}$$

Variable	Predicted Sign
<i>Intercept</i>	?
<i>FinReinv (H1)</i>	-
<i>DisclosePRE (H3)</i>	+
<i>FinReinv*DisclosePRE (H4)</i>	?
<i>Size</i>	+
<i>Leverage</i>	-
<i>ROA</i>	+
<i>Subordinated</i>	-
<i>Loss</i>	-
<i>InterestCoverage</i>	+
<i>CapIntensity</i>	+

CrRating is the general dependent variable for the model shown above. For the ordered logit model specifications, the dependent variable is (1) *GradeRating* which is equal to the long-term credit rating scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) using the S&P credit rating scale or (2) *ASIndex* which is equal to the assigned credit rating score from the A-S Index (see Appendix C). For the logit model specification, the dependent variable is *InvestmentGrade* and is equal to 1 for investment grade debt, 0 otherwise (see Appendix C for credit ratings applicable to each group). *FinReinv* equals 1 if firm has high financial reinvestment, 0 otherwise. *DisclosePRE* equals 1 if any PRE-related data is disclosed, 0 otherwise. *FinReinv*DisclosePRE* is an interaction term equal to *FinReinv* multiplied by *DisclosePRE*. *FC* represents a vector of firm characteristics. The firm characteristics are *Size*, *Leverage*, *Return on Assets (ROA)*, *Subordinated*, *Loss*, *InterestCoverage*, and *CapIntensity*. *Size* equals the natural logarithm of total assets. *Leverage* equals the ratio of long-term debt to total assets. *ROA* equals the ratio of net income to total assets. *Subordinated* equals 1 if firm has subordinated debt, 0 otherwise. *Loss* equals 1 if firm has an operating loss in current year, 0 otherwise. *InterestCoverage* equals the ratio of earnings before interest and taxes (EBIT) to interest expense. *CapIntensity* equals the ratio of gross property, plant, and equipment (PP&E) to total assets.

TABLE 3
Ayers et al. (2015) PRE Disclosure Determinants Model – Reinvestment Strategy Included

$$\begin{aligned}
 DisclosePRE_{it} = & \beta_0 + \beta_1 FinReinv_{it} + \beta_2 \frac{PRE_{Estimated}}{PI_{it}} + \beta_3 \frac{TAX_{Estimated}}{PI_{it}} + \beta_4 \frac{E}{P_{it}} + \beta_5 Leverage_{it} \\
 & + \beta_6 PROA_{it} + \beta_7 NAnalyst_{it} + \beta_8 LnSales_{it} + \beta_9 Foreign\%_{it} + \beta_{10} AbsDiscAccr_{it} \\
 & + \sum \beta_{11} Year_{it} + \sum \beta_{12} Industry_{it} + \varepsilon_{it}
 \end{aligned}$$

Variable	Predicted Sign
<i>Intercept</i>	?
<i>FinReinv (H2)</i>	?
<i>PRE_{Estimated}</i>	-
<i>TAX_{Estimated}</i>	+
<i>E/P</i>	-
<i>Leverage</i>	-
<i>PROA</i>	+
<i>Nanalyst</i>	+
<i>LnSales</i>	?
<i>Foreign%</i>	-
<i>AbsDiscAccr</i>	-

Model predictions other than *FinReinv* are based on Ayers et al. (2015) predictions. For variable definitions, see Appendix E.

TABLE 4
Summary Statistics – Credit Rating Model

Panel A: Full Sample: All Firm-Years
(n=2,639)

Variable	Mean	s.d.	25%	Median	75%
<i>GradeRating</i>	14.894	3.247	13.000	15.000	17.000
<i>ASIndex</i>	4.346	1.124	4.000	4.000	5.000
<i>InvestmentGrade</i>	0.798	0.402	1.000	1.000	1.000
<i>FinReinv</i>	0.411	0.492	0.000	0.000	1.000
<i>DisclosePRE</i>	0.895	0.307	1.000	1.000	1.000
<i>PRE</i>	0.103	0.114	0.014	0.066	0.153
<i>DiscloseTax</i>	0.115	0.319	0.000	0.000	0.000
<i>NoTaxDue</i>	0.015	0.122	0.000	0.000	0.000
<i>TaxDue</i>	0.005	0.034	0.000	0.000	0.000
<i>Size</i>	9.358	1.084	8.576	9.243	10.036
<i>Leverage</i>	0.222	0.140	0.125	0.199	0.302
<i>ROA</i>	0.052	0.079	0.024	0.055	0.091
<i>Subordinated</i>	0.135	0.341	0.000	0.000	0.000
<i>Loss</i>	0.033	0.180	0.000	0.000	0.000
<i>InterestCoverage</i>	16.610	93.972	2.906	6.214	12.506
<i>CapIntensity</i>	0.564	0.339	0.308	0.501	0.782

Table 4, Panel A provides descriptive data for all firm-year observations. *GradeRating* is equal to the long-term credit rating scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) using the S&P credit rating scale. *ASIndex* is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (See Appendix C). *InvestmentGrade* equals 1 if credit rating is investment grade, 0 otherwise. *FinReinv* equals 1 if firm has high financial reinvestment, 0 otherwise. *DisclosePRE* equals 1 if any PRE-related data is disclosed, 0 otherwise. *PRE* equals the amount of permanently reinvested earnings reported in a firm's consolidated SEC 10-K filing scaled by total assets. *DiscloseTax* equals 1 if a firm discloses its tax due upon repatriation, 0 otherwise. *NoTaxDue* equals 1 if the tax due upon repatriation is 0, 0 otherwise. *TaxDue* equals the amount of tax due upon repatriation scaled by total assets. *Size* equals the natural logarithm of total assets. *Leverage* equals the ratio of long-term debt to total assets. *ROA* equals the ratio of net income to total assets. *Subordinated* equals 1 if firm has subordinated debt, 0 otherwise. *Loss* equals 1 if firm has an operating loss in current year, 0 otherwise. *InterestCoverage* equals the ratio of earnings before interest and taxes (EBIT) to interest expense. *CapIntensity* equals the ratio of gross property, plant, and equipment (PP&E) to total assets.

TABLE 4
Summary Statistics – Credit Rating Model
Panel B: By PRE Disclosure Choice

Variable	PRE Disclosers (n=2,361)					PRE Non-Disclosers (n=278)				
	Mean	s.d.	25%	Median	75%	Mean	s.d.	25%	Median	75%
<i>GradeRating</i>	14.944**	3.257	13.000	15.000	17.000	14.466**	3.139	12.000	14.000	17.000
<i>ASIndex</i>	4.370***	1.122	4.000	4.000	5.000	4.140***	1.127	3.000	4.000	5.000
<i>InvestmentGrade</i>	0.808***	0.394	1.000	1.000	1.000	0.709***	0.455	0.000	1.000	1.000
<i>FinReinv</i>	0.403**	0.491	0.000	0.000	1.000	0.475**	0.500	0.000	0.000	1.000
<i>DisclosePRE</i>	1.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000	0.000	0.000
<i>PRE</i>	0.115	0.115	0.025	0.081	0.167	0.000	0.000	0.000	0.000	0.000
<i>DiscloseTax</i>	0.129	0.335	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>NoTaxDue</i>	0.017	0.129	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>TaxDue</i>	0.006	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Size</i>	9.364	1.082	8.576	9.253	10.043	9.303	1.105	8.577	9.160	9.970
<i>Leverage</i>	0.222	0.139	0.125	0.201	0.298	0.225	0.143	0.126	0.193	0.340
<i>ROA</i>	0.052	0.080	0.023	0.055	0.092	0.052	0.073	0.030	0.050	0.810
<i>Subordinated</i>	0.134	0.341	0.000	0.000	0.000	0.140	0.348	0.000	0.000	0.000
<i>Loss</i>	0.035	0.183	0.000	0.000	0.000	0.022	0.146	0.000	0.000	0.000
<i>InterestCoverage</i>	17.357	99.216	2.870	6.338	12.672	10.259	13.604	3.179	5.582	10.721
<i>CapIntensity</i>	0.567	0.338	0.310	0.497	0.793	0.542	0.345	0.262	0.530	0.717

Table 4, Panel B provides descriptive data for the full sample of firms partitioned by PRE disclosure choice. *GradeRating* is equal to the long-term credit rating scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) using the S&P credit rating scale. *ASIndex* is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (See Appendix C). *InvestmentGrade* equals 1 if credit rating is investment grade, 0 otherwise. *FinReinv* equals 1 if firm has high financial reinvestment, 0 otherwise. *DisclosePRE* equals 1 if any PRE-related data is disclosed, 0 otherwise. *PRE* equals the amount of permanently reinvested earnings reported in a firm's consolidated SEC 10-K filing scaled by total assets. *DiscloseTax* equals 1 if a firm discloses its tax due upon repatriation, 0 otherwise. *NoTaxDue* equals 1 if the tax due upon repatriation is 0, 0 otherwise. *TaxDue* equals the amount of tax due upon repatriation scaled by total assets. *Size* equals the natural logarithm of total assets. *Leverage* equals the ratio of long-term debt to total assets. *ROA* equals the ratio of net income to total assets. *Subordinated* equals 1 if firm has subordinated debt, 0 otherwise. *Loss* equals 1 if firm has an operating loss in current year, 0 otherwise. *InterestCoverage* equals the ratio of earnings before interest and taxes (EBIT) to interest expense. *CapIntensity* equals the ratio of gross property, plant, and equipment (PP&E) to total assets. *, **, and *** indicate significant differences in means between PRE disclosers and PRE non-disclosers at the 10 percent, 5 percent, and 1 percent levels, respectively. While the means of *DisclosePRE*, *FinReinv*DisclosePRE*, *PRE*, *DiscloseTax*, *NoTaxDue* and *TaxDue* are all statistically different between groups, PRE Non-Disclosers simply have zeros for all variables. I report the zeros to show the validity of the data.

TABLE 5
Correlation Matrix – Credit Rating Model

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
<i>GradeRating</i>	A		0.96	0.71	-0.08	0.05	0.21	-0.03	0.01	-0.03	0.39	-0.33	0.54	-0.12	-0.22	0.56	0.03
<i>ASIndex</i>	B	0.97		0.74	-0.09	0.06	0.22	-0.02	0.01	-0.02	0.38	-0.34	0.52	-0.12	-0.22	0.54	0.01
<i>InvestmentGrade</i>	C	0.73	0.75		-0.06	0.07	0.12	-0.05	0.00	-0.04	0.27	-0.27	0.40	-0.12	-0.23	0.43	-0.01
<i>FinReinv</i>	D	-0.08	-0.08	-0.06		-0.05	-0.05	-0.08	0.06	-0.08	0.22	0.33	-0.31	-0.05	0.03	-0.37	0.08
<i>DisclosePRE</i>	E	0.05	0.05	0.07	-0.05		0.53	0.12	0.04	0.12	0.02	-0.01	0.01	-0.01	0.02	0.01	0.02
<i>PRE</i>	F	0.21	0.22	0.12	-0.09	0.31		0.06	0.00	0.08	0.06	-0.18	0.24	-0.13	-0.03	0.26	0.00
<i>DiscloseTax</i>	G	-0.04	-0.03	-0.05	-0.08	0.12	0.02		-0.04	0.84	0.02	-0.10	0.06	-0.07	0.13	0.07	0.05
<i>NoTaxDue</i>	H	-0.01	-0.01	0.00	0.06	0.04	-0.03	-0.04		-0.04	0.01	0.00	-0.04	0.01	0.05	-0.04	-0.01
<i>TaxDue</i>	I	-0.08	0.08	0.03	-0.06	0.05	0.03	0.40	-0.02		0.02	-0.10	0.07	-0.07	0.13	0.08	0.05
<i>Size</i>	J	0.41	0.41	0.27	0.23	0.02	0.05	-0.01	0.01	0.02		-0.06	0.07	0.09	-0.04	0.10	0.04
<i>Leverage</i>	K	-0.40	-0.40	-0.33	0.27	-0.01	-0.17	-0.09	0.00	-0.09	-0.07		-0.37	0.10	0.00	-0.58	0.19
<i>ROA</i>	L	0.48	0.46	0.36	-0.27	0.00	0.19	0.05	-0.04	0.08	0.08	-0.28		-0.14	-0.28	0.75	-0.01
<i>Subordinated</i>	M	-0.11	-0.10	-0.12	-0.05	-0.01	-0.12	-0.07	0.01	-0.04	0.08	0.11	-0.08		0.04	-0.13	0.01
<i>Loss</i>	N	-0.25	-0.24	-0.23	0.03	0.02	-0.05	0.13	0.05	0.01	-0.04	0.00	-0.38	0.04		-0.31	0.07
<i>InterestCoverage</i>	O	0.10	0.09	0.06	-0.10	0.23	0.05	0.07	-0.01	0.04	0.04	-0.16	0.15	0.00	-0.04		-0.11
<i>CapIntensity</i>	P	0.00	-0.01	0.00	-0.08	0.02	-0.05	0.06	-0.03	-0.01	0.05	0.17	-0.03	0.02	0.08	-0.02	

Table 5 reports the Pearson pairwise (Spearman) correlations in the lower (upper) triangle for all variables defined in Appendix B (for brevity purposes, see Appendix B for all variable definitions). Bold text indicates significance at the 1% level or better.

TABLE 6
Summary Statistics – Ayers et al. (2015) PRE Disclosure Determinants Model
By PRE Disclosure Choice

Variable	PRE Disclosers (n=2,361)					PRE Non-Disclosers (n=278)				
	Mean	s.d.	25%	Median	75%	Mean	s.d.	25%	Median	75%
<i>DisclosePRE</i>	1.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000	0.000	0.000
<i>PRE_{Estimated}</i>	0.225	0.545	0.000	0.009	0.194	0.170	0.566	0.000	0.000	0.050
<i>TAX_{Estimated}</i>	0.032***	0.079	0.000	0.001	0.026	0.013***	0.052	0.000	0.000	0.009
<i>E/P</i>	0.024	0.143	0.028	0.050	0.067	0.037	0.137	0.038	0.056	0.075
<i>Leverage</i>	0.220	0.133	0.125	0.201	0.298	0.224	0.141	0.126	0.192	0.339
<i>PROA</i>	0.082	0.085	0.034	0.080	0.133	0.084	0.077	0.043	0.077	0.116
<i>Nanalyst</i>	14.160	8.627	9.000	14.000	19.000	13.942	8.785	8.000	13.000	21.000
<i>LnSales</i>	9.3102*	0.959	8.616	9.137	9.836	9.411*	0.899	8.794	9.357	10.014
<i>Foreign%</i>	-0.001***	0.531	0.028	0.050	0.067	-0.173***	2.724	0.038	0.056	0.075
<i>AbsDiscAccr</i>	0.057	0.032	0.036	0.052	0.073	0.056	0.030	0.039	0.051	0.066

Table 6 provides descriptive data for the full sample of firms partitioned by PRE disclosure choice for the variables used in the Ayers et al. (2015) PRE Disclosure Model. *DisclosePRE* equals 1 if any PRE-related data is disclosed, 0 otherwise. *PRE_{Estimated}* is equal to cumulative PRE for year t-2 to year t and is calculated by estimating the tax on earnings designated as PRE in year t based on ETR reconciling items (Ayers et al. 2015 methodology). *TAX_{Estimated}* is equal to cumulative calculated tax balance from year t-2 to year t (Ayers et al. 2015 methodology). *E/P* is equal to the ratio of a firm's EPS to share price at the end of year t. *Leverage* is equal to the ration of a firm's total debt to assets at the end of year t. *PROA* is equal to the ratio of pre-tax income to total assets at the end of year t. *Nanalyst* is equal to the number of analysts issuing earnings forecasts for the firm in year t. *LnSales* is equal to the natural logarithm of a firm's sales at the end of year t. *Foreign%* is equal to the firm's ratio of foreign pre-tax income to worldwide pre-tax income at the end of year t. *AbsDiscAccr* is equal to the absolute value of the firm's performance-matched discretionary accruals in year t, computed using Kothari, Leone, and Wasley (2005, 174, Equation 7) methodology, where total accruals are calculated based on the statement of cash flows using Hribar and Collins (2002, 109, Equation 2) methodology. *, **, and *** indicate significant differences in means between PRE disclosers and PRE non-disclosers at the 10 percent, 5 percent, and 1 percent levels, respectively.

TABLE 7
Correlation Matrix – Ayers et al. (2015) PRE Disclosure Determinants Model

		A	B	C	D	E	F	G	H	I	J	K
<i>DisclosePRE</i>	A		-0.04	0.09	0.10	-0.07	-0.01	0.00	0.02	-0.04	-0.07	0.00
<i>FinReinv</i>	B	-0.05		0.03	0.04	-0.01	0.35	-0.32	-0.08	0.16	-0.01	-0.32
<i>PRE_{Estimated}</i>	C	0.03	0.01		0.98	0.00	-0.12	0.10	0.12	0.10	0.00	0.22
<i>TAX_{Estimated}</i>	D	0.08	0.02	0.78		0.00	-0.11	0.08	0.12	0.10	0.00	0.21
<i>E/P</i>	E	-0.03	-0.13	0.02	0.01		-0.05	0.47	-0.03	0.12	0.98	0.37
<i>Leverage</i>	F	-0.01	0.29	-0.05	-0.01	-0.12		-0.36	0.26	-0.20	-0.05	-0.40
<i>PROA</i>	G	-0.01	-0.30	-0.01	-0.05	0.57	-0.33		0.31	0.18	0.47	0.79
<i>NAnalyst</i>	H	0.01	-0.08	0.03	0.01	0.06	-0.30	0.31		0.40	-0.03	0.20
<i>LnSales</i>	I	-0.03	0.19	-0.01	0.00	0.07	-0.22	0.18	0.38		0.12	0.08
<i>Foreign%</i>	J	0.05	-0.06	0.02	0.01	0.46	0.00	0.22	0.03	0.02		0.37
<i>AbsDiscAccr</i>	K	-0.01	-0.30	0.07	0.04	0.58	-0.36	0.83	0.21	0.09	0.23	

Table 7 reports the Pearson pairwise (Spearman) correlations in the lower (upper) triangle for all variables defined in Appendices B & E (for brevity purposes, see Appendices B & E for variable definitions). Bold text indicates significance at the 1% level or better.

TABLE 8
Credit Rating Model
Test of H1: Relation between Reinvestment Strategy and Credit Ratings

Variable		(1) Coefficient (p-value)	(2) Coefficient (p-value)	(3) Coefficient (p-value)
<i>Intercept</i>	N/A	N/A	N/A	-6.757*** (<0.001)
<i>FinReinv (H1)</i>	-	-0.316*** (<0.001)	-0.309*** (<0.001)	-0.025 (0.431)
<i>Size</i>	+	1.139*** (<0.001)	1.143*** (<0.001)	1.215*** (<0.001)
<i>Leverage</i>	-	-5.404*** (<0.001)	-5.812*** (<0.001)	-6.801*** (<0.001)
<i>ROA</i>	+	10.999*** (<0.001)	10.698*** (<0.001)	10.774*** (<0.001)
<i>Subordinated</i>	-	-0.297*** (0.005)	-0.315*** (0.005)	-0.872*** (<0.001)
<i>Loss</i>	-	-1.591*** (<0.001)	-1.562*** (<0.001)	-1.768*** (<0.001)
<i>InterestCoverage</i>	-	-0.001 (0.110)	-0.001* (0.056)	-0.001 (0.287)
<i>CapIntensity</i>	+	0.191** (0.043)	0.115 (0.170)	0.147 (0.223)
Industry Fixed Effects?		Yes	Yes	Yes
Year Fixed Effects?		Yes	Yes	Yes
n		2,639	2,639	2,639
Pseudo-R ²		0.1714	0.2615	0.3553
% Correctly Predicted		-	-	85.75%

Table 8 reports the results of the equation shown in Table 2. The dependent variable in Column (1) is *GradeRating* which is equal to the long-term credit rating (4 months after the end of the fiscal year) scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) on the S&P credit rating scale. The dependent variable in Column (2) is *ASIndex* which is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (see Appendix C). The dependent variable in Column (3) is *InvestmentGrade* which equals 1 if credit rating is investment grade, 0 otherwise. *FinReinv* is an independent variable of interest included in these estimations to test the relation between reinvestment strategy and credit rating. *FinReinv* equals 1 if firm has high financial reinvestment, 0 otherwise. *Size* equals the natural logarithm of total assets. *Leverage* equals the ratio of long-term debt to total assets. *ROA* equals the ratio of net income to total assets. *Subordinated* equals 1 if firm has subordinated debt, 0 otherwise. *Loss* equals 1 if firm has an operating loss in current year, 0 otherwise. *InterestCoverage* equals the ratio of earnings before interest and taxes (EBIT) to interest expense. *CapIntensity* equals the ratio of gross property, plant, and equipment (PP&E) to total assets. The model includes year and industry (1-digit SIC Code) fixed-effects. Coefficient estimates are reported with p-values in parentheses. ***, **, and * indicate statistical significance of 1%, 5%, and 10% respectively.

TABLE 9
Ayers et al. (2015) PRE Disclosure Determinants Model
Test of H2: Relation between Reinvestment Strategy and PRE Disclosure Choice

Variable		(1) Coefficient (p-value)	(2) Coefficient (p-value)
<i>Intercept</i>	?	1.292 (0.221)	0.465 (0.674)
<i>FinReinv (H2)</i>	?		-0.421** (0.011)
<i>PRE_{Estimated}</i>	-	-0.666*** (<0.001)	-0.638*** (<0.001)
<i>TAX_{Estimated}</i>	+	12.167*** (<0.001)	11.822*** (<0.001)
<i>E/P</i>	?	-1.522* (0.100)	-1.248 (0.173)
<i>Leverage</i>	-	-1.177** (0.017)	-0.721 (0.110)
<i>PROA</i>	+	3.362** (0.017)	2.702** (0.046)
<i>NAnalyst</i>	+	0.0123* (0.088)	0.012 (0.102)
<i>LnSales</i>	?	-0.141* (0.080)	-0.067 (0.433)
<i>Foreign</i>	-	0.265*** (0.009)	0.253*** (0.010)
<i>AbsDiscAccr</i>	-	-14.056*** (0.001)	-15.172*** (<0.001)
Industry Fixed Effects?		Yes	Yes
Year Fixed Effects?		Yes	Yes
n		2,596	2,596
Pseudo-R ²		0.09520	0.0990
% Correctly Predicted		89.37%	89.21%

Table 9 reports the results of the equation shown in Table 3. Column (1) attempts to replicate the results of Ayers et al. (2015) and Column (2) includes the variable *FinReinv* to test Hypothesis 2 which investigates the relation between financial reinvestment and PRE disclosure. The dependent variable is *DisclosePRE* and equals 1 if any PRE-related data is disclosed, 0 otherwise. *FinReinv* equals 1 if firm has high financial reinvestment, 0 otherwise. *PRE_{Estimated}* is equal to cumulative PRE for year t-2 to year t and is calculated by estimating the tax on earnings designated as PRE in year t based on ETR reconciling items (Ayers et al. 2015 methodology). *TAX_{Estimated}* is equal to cumulative calculated tax balance from year t-2 to year t (Ayers et al. 2015 methodology). For brevity purposes, see Appendix E for control variable definitions. The model includes year and industry (1-digit SIC Code) fixed-effects. Coefficient estimates are reported with p-values in parentheses. ***, **, and * indicate statistical significance of 1%, 5%, and 10% respectively.

TABLE 10
Credit Rating Model
Test of H3: Relation between PRE Disclosure Choice and Credit Ratings

Variable		(1) Coefficient (p-value)	(2) Coefficient (p-value)	(3) Coefficient (p-value)
<i>Intercept</i>	N/A	N/A	N/A	-7.271*** (<0.001)
<i>DisclosePRE(H3)</i>	+	0.156* (0.083)	0.268** (0.015)	0.571*** (<0.001)
<i>Size</i>	+	1.083*** (<0.001)	1.090*** (<0.001)	1.205*** (<0.001)
<i>Leverage</i>	-	-5.656*** (<0.001)	-6.063*** (<0.001)	-6.784*** (<0.001)
<i>ROA</i>	+	11.637*** (<0.001)	11.344*** (<0.001)	10.984*** (<0.001)
<i>Subordinated</i>	-	-0.256** (0.011)	-0.282*** (0.010)	-0.880** (<0.001)
<i>Loss</i>	-	-1.549*** (<0.001)	-1.519*** (<0.001)	-1.776*** (<0.001)
<i>InterestCoverage</i>	-	-0.001 (0.132)	-0.001* (0.065)	-0.001 (0.283)
<i>CapIntensity</i>	+	0.161* (0.074)	0.079 (0.256)	0.115 (0.277)
Industry Fixed Effects?		Yes	Yes	Yes
Year Fixed Effects?		Yes	Yes	Yes
n		2,639	2,639	2,639
Pseudo-R ²		0.1705	0.2606	0.3589
% Correctly Predicted		-	-	86.13%

Table 10 reports the results of the equation shown in Table 2. The dependent variable in Column (1) is *GradeRating* which is equal to the long-term credit rating (4 months after the end of the fiscal year) scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) on the S&P credit rating scale. The dependent variable in Column (2) is *ASIndex* which is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (see Appendix C). The dependent variable in Column (3) is *InvestmentGrade* which equals 1 if credit rating is investment grade, 0 otherwise. *DisclosePRE* is an independent variable of interest included in these estimations to test the relation between PRE disclosure choice and credit rating. *DisclosePRE* equals 1 if any PRE-related data is disclosed, 0 otherwise. *Size* equals the natural logarithm of total assets. *Leverage* equals the ratio of long-term debt to total assets. *ROA* equals the ratio of net income to total assets. *Subordinated* equals 1 if firm has subordinated debt, 0 otherwise. *Loss* equals 1 if firm has an operating loss in current year, 0 otherwise. *InterestCoverage* equals the ratio of earnings before interest and taxes (EBIT) to interest expense. *CapIntensity* equals the ratio of gross property, plant, and equipment (PP&E) to total assets. The model includes year and industry (1-digit SIC Code) fixed-effects. Coefficient estimates are reported with p-values in parentheses. ***, **, and * indicate statistical significance of 1%, 5%, and 10% respectively.

TABLE 11
Credit Rating Model
Test of H4: Effects of PRE Disclosure Choice on Relation between Reinvestment Strategy
and Credit Ratings

Variable		(1) Coefficient (p-value)	(2) Coefficient (p-value)	(3) Coefficient (p-value)
<i>Intercept</i>	?	N/A	N/A	-7.346*** (<0.001)
<i>FinReinv</i>	-	-0.325*** (<0.001)	-0.296*** (0.001)	-0.011 (0.471)
<i>DisclosePRE</i>	+	0.201 (0.104)	0.239* (0.086)	0.709*** (0.002)
<i>FinReinv*DisclosePRE (H4)</i>	?	0.159 (0.476)	0.006 (0.980)	0.279 (0.434)
<i>Size</i>	+	1.137*** (<0.001)	1.140*** (<0.001)	1.201*** (<0.001)
<i>Leverage</i>	-	-5.421*** (<0.001)	-5.814*** (<0.001)	-6.842*** (<0.001)
<i>ROA</i>	+	11.018*** (<0.001)	10.751*** (<0.001)	11.037*** (<0.001)
<i>Subordinated</i>	-	-0.304*** (0.004)	-0.323*** (0.004)	-0.876*** (<0.001)
<i>Loss</i>	-	-1.596*** (<0.001)	-1.571*** (<0.001)	-1.768*** (<0.001)
<i>InterestCoverage</i>	-	-0.001 (0.105)	-0.001* (0.053)	-0.001 (0.283)
<i>CapIntensity</i>	+	0.184** (0.049)	0.104 (0.194)	0.108 (0.298)
Industry Fixed Effects?		Yes	Yes	Yes
Year Fixed Effects?		Yes	Yes	Yes
n		2,639	2,639	2,639
Pseudo-R ²		0.1715	0.2619	0.3591
% Correctly Predicted		-	-	86.35%

Table 11 reports the results of a modified version of equation shown in Table 2. The dependent variable in Column (1) is *GradeRating* which is equal to the long-term credit rating (4 months after the end of the fiscal year) scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) on the S&P credit rating scale. The dependent variable in Column (2) is *ASIndex* which is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (see Appendix C). The dependent variable in Column (3) is *InvestmentGrade* which equals 1 if credit rating is investment grade, 0 otherwise. *FinReinv* equals 1 if firm has high financial reinvestment, 0 otherwise. *DisclosePRE* equals 1 if any PRE-related data is disclosed, 0 otherwise. *FinReinv*DisclosePRE* is the independent variable of interest included in these estimations to test the effects of PRE disclosure choice on the relation between financial reinvestment and credit ratings. For brevity purposes, see Appendix B for control variable definitions. The model includes year and industry (1-digit SIC Code) fixed-effects. Coefficient estimates are reported with p-values in parentheses. ***, **, and * indicate statistical significance of 1%, 5%, and 10% respectively.

TABLE 12
Credit Rating Model
Supplemental Testing: Relation between Disclosure of Taxes and Credit Ratings

Variable	Pred.	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(3) Coefficient (p-value)
<i>Intercept</i>	?	N/A	N/A	-5.737*** (<0.001)
<i>DiscloseTax</i>	-	-0.630*** (<0.001)	-0.573*** (<0.001)	-0.730*** (<0.001)
<i>Size</i>	+	1.033*** (<0.001)	1.039*** (<0.001)	1.075*** (<0.001)
<i>Leverage</i>	-	-5.590*** (<0.001)	-6.070*** (<0.001)	-6.792*** (<0.001)
<i>ROA</i>	+	11.978*** (<0.001)	11.464*** (<0.001)	10.785*** (<0.001)
<i>Subordinated</i>	-	-0.297*** (0.006)	-0.338*** (0.004)	-0.849*** (<0.001)
<i>Loss</i>	-	-1.251*** (<0.001)	-1.258*** (<0.001)	-1.645*** (<0.001)
<i>InterestCoverage</i>	-	0.000 (0.157)	-0.001* (0.076)	-0.001 (0.293)
<i>CapIntensity</i>	+	0.169* (0.077)	0.094 (0.232)	0.151 (0.234)
Industry Fixed Effects?		Yes	Yes	Yes
Year Fixed Effects?		Yes	Yes	Yes
n		2,361	2,361	2,361
Pseudo-R ²		0.1706	0.2600	0.355
% Correctly Predicted		-	-	86.28%

Table 12 reports the results of a modified version of equation shown in Table 2. These estimations use a subsample of firm-years from the full sample and include only firm-year observations for firms that disclose PRE-related information; therefore, *DisclosePRE* is dropped from these estimations. The dependent variable in Column (1) is *GradeRating* which is equal to the long-term credit rating (4 months after the end of the fiscal year) scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) on the S&P credit rating scale. The dependent variable in Column (2) is *ASIndex* which is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (see Appendix C). The dependent variable in Column (3) is *InvestmentGrade* which equals 1 if credit rating is investment grade, 0 otherwise. *DiscloseTax* is an independent variable of interest included in these estimations to test the relation between disclosure of taxes and credit rating. *DiscloseTax* equals 1 if a firm discloses its tax due upon repatriation, 0 otherwise. For brevity purposes, see Appendix B for control variable definitions. All models use year and industry (1-digit SIC Code) fixed-effects. Coefficient estimates are reported with p-values in parentheses. ***, **, and * indicate statistical significance of 1%, 5%, and 10% respectively.

TABLE 13
Credit Rating Model
Supplemental Testing: Relation between Amount of Taxes Due and Credit Ratings

Variable	Pred.	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(3) Coefficient (p-value)
<i>Intercept</i>	?	N/A	N/A	-5.777*** (<0.001)
<i>TaxDue</i>	-	-1.295 (0.151)	-0.832 (0.411)	-2.525 (0.351)
<i>Size</i>	+	1.029*** (<0.001)	1.037*** (<0.001)	1.079*** (<0.001)
<i>Leverage</i>	-	-5.535*** (<0.001)	-5.999*** (<0.001)	-6.689*** (<0.001)
<i>ROA</i>	+	11.786*** (<0.001)	11.246*** (<0.001)	10.626*** (<0.001)
<i>Subordinated</i>	-	-0.277*** (0.009)	-0.317*** (0.007)	-0.838*** (<0.001)
<i>Loss</i>	-	-1.408*** (<0.001)	-1.421*** (<0.001)	-1.782*** (<0.001)
<i>InterestCoverage</i>	-	-0.001 (0.127)	-0.001* (0.056)	-0.001 (0.272)
<i>CapIntensity</i>	+	0.150 (0.102)	0.077 (0.273)	0.098 (0.318)
Industry Fixed Effects?		Yes	Yes	Yes
Year Fixed Effects?		Yes	Yes	Yes
n		2,361	2,361	2,361
Pseudo-R ²		0.1682	0.2571	0.3501
% Correctly Predicted		-	-	86.07%

Table 13 reports the results of a modified version of equation shown in Table 2. These estimations use a subsample of firm-years from the full sample and include only firm-year observations for firms that disclose PRE-related information; therefore, *DisclosePRE* is dropped from these estimations. The dependent variable in Column (1) is *GradeRating* which is equal to the long-term credit rating (4 months after the end of the fiscal year) scored from 22 (highest credit rating = AAA) to 1 (lowest credit rating = D/SD) on the S&P credit rating scale. The dependent variable in Column (2) is *ASIndex* which is rated on a 7 (high) to 1 (low) scale using the Ashbaugh-Skaife et al. (2006) ordinal methodology (see Appendix C). The dependent variable in Column (3) is *InvestmentGrade* which equals 1 if credit rating is investment grade, 0 otherwise. *TaxDue* is an independent variable of interest included in these estimations to test the relation between the amount of taxes due and credit rating *TaxDue* equals the ratio of tax due upon repatriation to total assets. For brevity purposes, see Appendix B for control variable definitions. All models use year and industry (1-digit SIC Code) fixed-effects. Coefficient estimates are reported with p-values in parentheses. ***, **, and * indicate statistical significance of 1%, 5%, and 10% respectively.