TWO ESSAYS ON GIFT CARD LIABILITIES

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TABLE OF CONTENTS

LIST OF TABLES

PART 1. GIFT CARD LIABILITIES AND EARNINGS MANAGEMENT

ABSTRACT

This study examines whether managers use gift card liabilities to manage earnings through breakage income recognition. Breakage income is recognized when gift card liabilities are written off in managerial discretions. A clear guidance for recognizing the breakage income from gift cards was absent until 2005. Since gift card liabilities are less visible, managers can take advantage of them and use them to achieve earnings targets. I utilize hand-collected data to examine this issue and find that managers use gift card liabilities to manage earnings and to meet or beat earnings targets. The Credit Card Accountability Responsibility and Disclosure Act of 2009 includes several provisions limiting abuses by gift card issuers. I find that in the year of the implementation of this Act, managers decreased the earnings management relating to gift card liabilities. I also examine whether firms in the later stages of their life cycle are more likely to use gift card liabilities to engage in earnings management, and I find some supporting evidence. This study shows how and why managers use gift card liabilities to manage earnings and contributes significantly to the earnings management literature by documenting that managers use the discretion in accounting rules to achieve earnings targets.

CHAPTER 1.1 INTRODUCTION

Gift cards have become a popular gift option in Thanksgiving and Christmas seasons. According to the 2018 National Retail Federation survey, gift cards represent the top gift choice during the holiday season (McGinty 2019). Gift cards account for 59 percent of gift choices, followed by clothing and accessories at 52 percent, suggesting that gift cards are one of the most popular gifts (McGinty 2019).

The accounting for gift cards is discussed by some issuers, such as Best Buy Co., Inc. and Starbucks Corp. When gift card buyers or receivers have not redeemed their gift cards, companies record the unredeemed gift cards as liabilities. If gift card issuers estimate the likelihood of redemption is remote or have eligible reasons to justify the past redemption pattern, they can recognize breakage income to write off gift card liabilities. Breakage income can play an important role in boosting earnings. Here are two examples. First, Best Buy Co., Inc. disclosed $40 million in gift card breakage income, $385 million in gift card liabilities, and $1,817 million in earnings before income tax in its 2018 10-K filing. Because breakage income is recorded without the corresponding cost of goods sold, it has a direct impact on earnings, resulting in an increase in earnings by approximately 2.2 percent. Second, Starbucks Corp. reported $155.9 million in gift card breakage income, $1,468.9 million in stored-value card liability and $5,780 million in earnings before income tax in its 2018 10-K filing. The breakage income can increase earnings by approximately 2.7 percent. When earnings are close to benchmarks, managers can have a significant incentive to recognize breakage income. In this study, I examine whether managers take advantage of gift card liabilities to manage earnings and to achieve earnings targets.

The empirical literature on accounting for gift cards is scarce, even though the sale of gift cards has significantly increased from 1994 to 2018 (CEB Tower Group 2015). There are several studies related to accounting for gift cards (e.g., Kile 2007; Marden and Forsyth 2007; Feinson

2008; Horne and Bendle 2015). Few studies examine the relationship between gift cards and managerial behaviors. A recent study related to gift cards empirically examines the impact of the Securities and Exchange Commission (SEC) comment letters on the disclosure of gift card liabilities and breakage income (Hennes and Schenck 2014). Prior studies indicate that the SEC emphasizes revenue recognition. For example, Dechow, Lawrence, and Ryans (2016) examine the SEC comment letters related to revenue recognition and show that the SEC pays close attention to this. Kaufinger and Neuenschwander (2015) document that gift card breakage income is used to meet or beat analyst forecasts, and Kaufinger (2016) indicates that gift card breakage income is used to smooth earnings.

Prior research shows managers are motivated to manage earnings to meet or beat earnings targets. For example, Graham, Harvey, and Rajgopal (2005) conduct a survey of CFOs and show that prior earnings, analyst forecasts, and positive earnings are the top-three benchmarks that cause managers to manage earnings. In addition, Caylor (2010) finds that managers strategically use unearned revenue to meet three earnings benchmarks. Unearned revenue includes the subscription of service or membership. These types of unearned revenue are usually realized within one year. Therefore, for this type of revenue, managers do not have high discretion on earnings management. However, gift cards can be redeemed over years without an expiration date. Different from other unearned revenue, gift cards have a longer redemption period. The companies may have difficulty predicting when the buyers will use gift cards in exchange for their products or services or for what amount the buyers will redeem their gift cards. Therefore, managers should determine how to derecognize gift card liabilities. In this case, gift card liabilities are likely to provide managerial discretion to manipulate earnings. Furthermore, as there was no clear guidance until Schlosser (2005), making it possible that managers could take advantage of gift card liabilities.

Effective on August 22, 2010, the Credit Card Accountability, Responsibility, and Disclosure Act (Credit CARD Act) reinforced the attention of regulators to gift cards. Later, the FASB issued the Accounting Standards Update 2014-09 (ASU 2014-09), *Revenue from Contracts with Customers* (Topic 606), which was effective for the firms' fiscal years beginning after December 15, 2017 and permitted early adoption. The Accounting Standards Update (ASU) 2014-09 allows firms to recognize breakage income when the rate at which gift card holders redeem gift cards is consistent with the historical redemption rate at the point of redemption. Because of the lack of attention by regulators, I hypothesize that if the companies sell more gift cards, managers are more likely to engage in earnings management by gift card liabilities (*H1*). In addition, the Credit CARD Act signaled that regulators would start paying attention to the sale of gift cards. Therefore, gift card issuers may have avoided engaging in earnings management by gift card liabilities in order not to attract the regulators' attention. Hence, I hypothesize that companies with higher gift card liabilities are less likely to engage in earnings management in the implementation year of the Credit CARD Act (*H2*) than those with lower gift card liabilities.

If accrual-based earnings management through gift card liabilities is introduced by managers who are motived to achieve earnings targets, such as zero earnings and previous earnings, I expect firms will experience more discretionary accruals from gift card liabilities when managers are motivated to meet or beat earnings targets (*H3*). Furthermore, Cohen, Mashruwala, and Zach (2010) document that firms in their later stages have obtained their reputation and trust among customers and that mature firms can therefore generate revenue to meet earnings targets by increasing advertisements. In this case, to boost revenue, mature firms are more likely to sell more gift cards than are young firms. It is also likely that the mature firms have issued more gift cards, and therefore, to increase earnings, have more ability to derecognize gift card liabilities than do

young firms. Hence, my third hypothesis is that in their late stages, firms are more likely to meet or beat earnings targets by gift card liabilities than are firms in their early stages (*H4*).

I collected gift card liabilities from the SEC's Edgar database. To identify gift card issuers, I used exchange websites for retail gift cards. The websites are the platform for individuals who have unwanted gift cards to resell. If gift cards are traded online, this shows that people are frequently buying and using the companies' gift cards. My summary statistics show that gift card liabilities increased from $4.22 million in 1994 to $141.8 million in 2018, with an annual growth rate of 14 percent on average from 1994 to 2018[1]. To test *H1* and *H2*, I follow Zang (2012) and Kim, Kim, and Zhou (2017) to examine whether gift card liabilities are positively associated with discretionary accruals and to examine whether the attention by the regulators affected managerial behaviors when the Credit CARD Act was effective in 2010. To further analyze the results, I partitioned my sample into income-increasing and income-decreasing accruals because gift cards liabilities can facilitate the use of income-increasing accruals. In the income-increasing group, I find a positive relationship between gift card liabilities and discretionary accruals, while no effect is found in the income-decreasing group, suggesting that managers are more likely to use gift card liabilities to manage earnings upward. However, I find that when the Credit CARD Act became effective, companies experienced lower accruals in that year than in the years prior to the effective date..

To test *H3*, I follow Caylor (2010) to estimate abnormal gift card liabilities and Cohen et al. (2010) to examine whether managers are motivated to manage earnings by gift card liabilities. I find companies are more likely to experience slightly positive earnings and have slightly

[1] The value of gift card liabilities is obtained from the 10-K filings. Companies report gift card liabilities by the remaining value of the gift card liabilities. The discounts of discounted gift cards issued by companies are recognized as a contra account of gift card liabilities.

improved earnings in the current year than in the last year. Finally, I follow Cohen et al. (2010) by adding an interaction term to investigate whether mature firms are more likely to achieve earnings targets than are young firms and do not find the direct evidence mature firms are more likely to issue more gift cards to manage earnings than are young firms. However, the indirect evidence shows that mature firms behave differently from young firms and are likely to increase gift card liabilities to avoid negative earnings. Consistent with Cohen et al. (2010), who document that firms in the late stages of their lifecycle can increase income by increasing advertising, I find that the sale of gift cards can stimulate revenue for mature firms because the brands are more recognized and valuable.

My study contributes to the current literature on earnings management by examining gift card liabilities. Prior researchers pay less attention to gift card liabilities. This study is the first to examine whether managers take advantage of gift card liabilities to manager earnings. Because managers become involved with the derecognition of gift card liabilities, they are likely to achieve their earnings targets. As the sales of gift cards are increasing significantly, future studies can also investigate other applications of gift card liabilities.

The remainder of this study is organized as follows. Chapter 1.2 introduces the development of gift cards, the related regulations, and accounting for gift cards. Chapter 1.3 discusses the literature on earnings management and gift cards; the hypothesis development is also presented. Chapter 1.4 describes the sample and models. Chapter 1.5 states the results. Finally, Chapter 1.6 concludes the study.

CHAPTER 1.2 GIFT CARDS

1.2.1 Development

The first company issuing plastic gift cards is hard to identify; however, it has been asserted that Neiman Marcus was the first one to sell plastic gift cards in 1994 (Buchanan 2009; Eveleth 2013). Unlike early gift cards, technology allows companies to issue gift cards in secure and convenient ways. Gift cards provide added value: when presenting the card to a cashier, buyers can check their card balance. This helps to prevent the card from being stolen or damaged. The system can also keep track of the transactions of each card issued. When gift cards are redeemed either in store or online in exchange for goods or services, the transactions are recorded, and the values are decreased.

There are two types of gift cards: closed-loop and open-loop (Keitel 2008). Closed-loop cards are the most common gift cards in the market. A retail company issues gift cards for their buyers. Once the buyers purchase the gift cards of certain retail companies, they must redeem the cards at the retail stores, online stores, or the affiliated stores of sellers' companies. For example, if the buyers purchase a Starbucks gift card, they must redeem the card at a Starbucks store or online store. On the other hand, open-loop cards are bank-related cards. The buyers can have various choices for using the cards. For example, Visa gift cards allow the buyers to shop at any establishment, such as restaurants, gas stations, or retail stores, that accepts Visa cards. In general, open-loop cards are cash equivalents, but closed-loop cards are similar to products. My study focuses on closed-loop cards because they are firm-specific.

In recent years, some companies have developed eGift cards or online credits. This type of gift card allows buyers to store the card electronically and is easier to manage. For example, airline companies such as Delta or American Airlines issue eGift cards. When their customers order the eGift cards, they receive the card electronically. Similarly, the Amazon members can reload value

to their accounts. When the members decide what to buy, they can easily check out with the credits reloaded to their accounts. Starbucks has also adopted a similar system, which enables their customers to reload value to the account and check out at the stores with their account credits in the Starbucks Application.

1.2.2 Regulations and Accounting for Gift Cards Liabilities

In most 10-K filings, the accounting for gift cards is reported under revenue recognition. Companies record unearned revenue or deferred revenue when they sell gift cards. Once the buyers redeem gift cards and receive goods or services, the companies recognize revenue. After the effective date of the Credit Card Accountability, Responsibility, and Disclosure Act (Credit CARD Act) on August 22, 2010, retailers were prohibited from imposing a dormancy fee and were required to establish longer expiration dates or to remove them for gift cards. Prior to the Credit CARD Act, gift cards could have had short expiration dates or inactivity fees, which could reduce gift card balances and facilitate the issuers to recognize revenue over time. The Credit CARD Act enforced strict rules on expiration dates and inactivity fees. Due to the removal of the expiration dates, unredeemed gift card liabilities were required to stay in the balance sheet indefinitely. To recognize breakage income, managers could estimate the redemption rates and realize part of the unredeemed gift cards. A further introduction to gift card breakage income is discussed later.

The Accounting Standards Update 2014-09 (ASU 2014-09), *Revenue from Contracts with Customers* (Topic 606), requires companies to recognize revenue in a principle-based framework. Specifically, an entity should recognize revenue based on the estimation of the transfer of promised goods or services that the entity expects to deliver to the customers (ASU 2014-09). The FASB issued another guidance for a gift card, Accounting Standards Update 2016-04 (ASU 2016-04), *Liabilities—Extinguishments of Liabilities—Recognition of Breakage for Certain Prepaid Stored-*

*Value Products (*Subtopic 405-20*)*, which allowed companies to use the modified retrospective method of adoption. The entity can restate beginning retained earnings and retrospect prior retained earnings.

Under the ASU 2014-09, managers can estimate historical gift card redemption rates and recognize gift card breakage income at the point of partial gift card redemption (Fried, Holtzman, and Rotenstein 2015). For example, suppose an entity sells a $100 gift card and $50 is redeemed in 2018. The historical redemption rate is 90 percent. Based on the historical rate, the entity will recognize $10 breakage income in total. When the buyer redeems $45, the expected total redemptions are 50 percent ($45 are divided by $90). Therefore, the entity should recognize $5 breakage income ($10 times 0.5). Before the ASU 2014-09, companies recognized breakage income when the likelihood of gift card redemption was remote. The new guidance will significantly increase the breakage income as of the effective date. For example, Best Buy chose the modified retrospective method and restated beginning retained earnings by adopting the ASU 2016-04 to the 2018 10-K filing. Without the adoption of ASU 2014-09, the cumulative breakage income was $62 million, which was 3.25 percent of their earnings before income tax. This breakage income represented a 17.6 percent reduction of unredeemed gift card liabilities from $352 million to $290 million.

The FASB defines gift cards as prepaid stored-value products or "*products in physical and digital forms with stored monetary values that are issued for the purpose of being commonly accepted as payment for goods or services* (ASU 2016-04, 4)". The ASU 2016-04 is a clear guidance for gift card breakage income. The entity can derecognize the unredeemed gift cards from the balance sheet by the historical redemption rates or when the likelihood of redemption

becomes remote. Both the ASU 2014-09 and the ASU 2016-04 are effective for public traded firms whose fiscal beginning date starts after December 15, 2017.

1.3.3 Breakage Income

The FASB (2016, 4) defines breakage as "*the portion of the dollar value of prepaid stored-value products that ultimately is not redeemed by the product holders for cash or not used to purchase goods and/or services*". However, there was no clear guidance for breakage income before Schlosser (2005).

To address the issue of recognition of breakage income, in Schlosser (2005), the SEC staff member presented three methods to record gift card breakages. First, companies can analyze historical redemption rates and use them to recognize breakage income at the point of sale or redemption; for example, if the managers find that the historical gift card redemption rates are approximately 90 percent, they can record 10 percent of gift card liabilities as breakage income. However, using this method requires managers to justify their reasons to adopt the redemption rates (PwC 2006). Second, companies can recognize breakage income when their obligation to provide goods or service is terminated; for example, if gift cards have expiration dates, the obligation no longer exists after the expiration dates. Finally, breakage income incurs when the likelihood of redemption is remote. If the gift cards have been inactive for years, managers can reasonably believe that the redemption of the gift cards is remote and can record breakage income.

Breakage income can have a significant impact on an income statement. When companies recognize revenue from unredeemed gift cards, the transactions do not incur any cost of goods sold or expenses. In other words, the companies that have a large portion of unredeemed gift cards can earn a significant amount of income without incurring costs. For example, Best Buy recognized $40 million breakage income and earnings before income tax is $1,817 million in 2018. The impact

of breakage revenue on net income was approximately 2.2 percent. Therefore, the reported earnings per share (EPS) were likely increased from $3.19 ($3.26 divided by 1.022) to $3.26. When the companies' EPS are close to the earnings benchmarks, managers will have the incentive to use breakage income to meet or beat the expectations. For example, Best Buy's reported earnings before income tax expense was $1,816 million in 2017 and $1,817 million in 2018. Because the breakage income was 40 million in 2018, the earnings in 2018 could have not met the earnings in 2017 without breakage income. My study examines whether managers utilize breakage income from gift card liabilities to manage earnings upward.

CHAPTER 1.3 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

1.3.1 Earnings Management

Graham et al. (2005) investigate managers' incentives to report earnings and find that managers are motivated to manage reported earnings to meet earnings benchmarks because satisfying the market can build their credibility and support the growth and stability of stock prices. Previous studies reveal that there are several methods to manage earnings. The common methods are accrual-based and real activities earnings management. Accrual-based management is the way in which managers use accounting discretion to boost or lower reported earnings. The effect of accrual management will reverse over time. There are many studies showing managers engage in accrual management. For example, McNichols and Wilson (1988) examine the provision for bad debt for earnings management. They find firms reporting extremely higher or lower earnings are more likely to have income-decreasing accruals through provisions for bad debt. Jackson and Liu (2010) indicate that managers use the allowance for uncollectible accounts to satisfy the market's expectations. Furthermore, managers can also accelerate revenue recognition to increase earnings. For instance, Altamuro, Beatty, and Weber (2005) examine the impact of Staff Accounting

Bulletin (SAB) No. 101 on earnings management. SAB No. 101 addresses the issue that managers accelerate revenue recognition to manipulate earnings by eliminating revenue recognition before the completion of earnings processes. Altamuro et al. (2005) document that firms were more likely to meet investors' expectations in the pre-SAB No. 101 period. In addition, Caylor (2010) finds that managers recognize revenue from accrued revenue and deferred revenue to satisfy the short-term earnings targets, such as analyst forecasts. The result also shows that managers are more likely to choose deferred revenue than accrued revenue to exercise earnings management because companies have received cash in advance for deferred revenue and the costs are relatively smaller than those for the revenue recognition of accrued revenue, representing borrowing from future earnings without cash flows. Finally, two recent studies indicate managers use gift card breakage income to manage earnings (Kaufinger and Neuenschwander, 2015) and smooth income (Kaufinger, 2016). Both studies do not consider the changes in regulations. In addition, I examine the impact of both the implementation of the law on the relationship between gift card liabilities and earnings management.

After Sarbanes-Oxley Act of 2002 (SOX), the cost of accrual management increased, and therefore, accrual management declined. Prior literature shows that the decline in accrual management does not suggest earnings management disappears. In fact, companies change the way to manage earnings. The other method to manage earnings is by real management that has an impact on economic events. Managers can cut discretionary expenditures or overproduce inventory to increase reported earnings. For example, Roychowdhury (2006) shows that when firms are going to experience negative earnings or to miss analyst forecasts, managers use real activities to manipulate earnings through overproduction and discretionary expenditures, such as SG&A expenses, advertising expenses, and R&D expenses. Cohen, Dey, and Lys (2008) examine

earnings management between pre- and post-SOX periods and find that accrual earnings management decreases while real activities earnings management increases in the post-SOX period. In addition, Cohen et al. (2010) use a unique dataset with monthly advertising expenses. They find that companies tend to reduce advertising expense to meet short-term earnings benchmarks and that mature firms increase advertising expense to achieve their targeted earnings. Zang (2012) finds a negative relationship between real activities and accrual-based earnings management. Graham et al. (2005) document that managers would engage in real activities, such as cutting R&D, advertising, or maintenance expenditures, to meet earnings benchmarks. They explain that managers may change their preference from accruals to real activities after SOX.

1.3.2 Gift Cards

The literature on gift card liabilities in accounting is scarce, but there are many studies in marketing and management disciplines (e.g., Khouja, Pan, Ratchford, and Zhou 2011; Horne and Bendle 2015; Cheng and Cryder 2018; Gunasti and Baskin 2018). Given the benefits provided by the sales of gift cards, it is unlikely that companies issue gift cards in order to manage earnings rather than to increase sales and/or profits. For example, Cheng and Cryder (2018) examine the mental accounting of gift card receivers. They find that when a consumer receives a gift card for free and redeems it for more than one product, he or she double counts the value of the gift card and spends more. Moreover, Horne and Bendle (2015) identify six benefits for merchants. The first is an increase in customers; the buyers of certain gift cards are likely to give them to recipients who have never or are not interested in the stores. However, the recipients would still redeem the gift cards and potentially like the brand after the first purchase. The second benefit is the improvement of brand awareness; the brand names are likely to be acknowledged by the recipients. The next time the recipients plan to buy similar products, they will think about the brand. The third

benefit comprises the extra expenditures made by customers; there are incremental expenditures made by the recipients to redeem the gift cards in order to empty the value. The fourth is increased customer spending due to price insensitivity by customers; gift cards may be perceived as windfall gains. Individuals will spend more if they perceive cash receipts as windfall gains (Arkes, Joyner, Pezzo, and Nash 1994). If the recipients regard gift cards as windfall gains, they are likely to spend more and become price insensitive. The fifth is breakage income or interest revenue from gift cards; gift card buyers pay cash up front, and companies keep cash in the balance sheet. Because the buyers may send the cards as a gift or use them later, companies can obtain interests incurred from the gift card cash balance. If the buyers lose or forget to use the cards, companies may record breakage income when the chance of redemption is remote. This income does not have the corresponding cost of goods sold. Earnings will increase without sacrificing any assets to fulfill the obligations. The sixth benefit is the ability to limit customers to the same merchant; closed-loop cards limit consumers' choices because consumers can only redeem the cards through the same merchants. If consumers want to visit another merchant, they cannot use the gift cards from the original merchant. In sum, issuing gift cards can bring about profits to companies even though the companies also incur expenses to maintain the systems. The business of gift cards has become increasingly more popular.

The accounting topics regarding gift cards focus on their presentations in financial statements. Feinson (2008) investigates the financial reports or the SEC 10-K filings of 75 retailers that issue gift cards. He shows that 45.33 percent of retailers do not report gift card liabilities, while 54.67 percent disclose gift card liabilities either in a single account or in an aggregated deferred revenue account. The material threshold may be the reason for the absence of gift card liabilities. Marden and Forsyth (2007) examine four main retailers: Best Buy, Home Depot, Circuit

City, and Wal-Mart. They demonstrate that the four retailers disclose the information about their gift card breakage income differently. For example, Best Buy reports that it recognizes gift card breakage income based on the historical redemption rates. Home Depot shows the amount of breakage income without a detailed recognition basis. Circuit City and Wal-Mart do not mention the policy or the amount of breakage income. Wright (2018) investigates the location and the main theme of gift card liability and breakage income in the 10-K filings of seven retailers. She finds that most firms report topics related to the revenue recognition of gift cards, the basis for the estimation of breakage income, and the disaggregation of gift cards liability from other items and breakage income. As the sales of gift cards have grown, the regulation has still lagged. This may have caused managers to take advantage of gift card liabilities to gain personal interests.

Without clear guidance for breakage income recognition, managers may estimate a higher level of breakage income for their own interests. However, Norvell and Horky (2017) argue that the gift card breakage income has decreased from 8 percent of total balance of gift cards in 2008 to 0.8 percent in 2015. This may be the result of the retailers' gift card exchange sites, which provide a platform for people to relieve themselves of unwanted gift cards. Nevertheless, the implementation of the Credit CARD Act potentially increases the balance of unredeemed gift cards, leading to the question of whether managers exercise the accounting discretion to manage earnings.

The SEC is likely to issue comment letters when it has a question about revenue recognition. For example, Dechow et al. (2016) examine the SEC comment letters related to revenue recognition. Their sample shows that approximately 32.4 percent of the SEC comment letters from 2006 to 2012 are related to revenue recognition. In the retail industry, 31.6 percent of the comment letters are related to revenue recognition. The companies may change their disclosure behavior after receiving the SEC comment letters. For example, Hennes and Schenck (2014) find that after

the initial disclosure of gift cards, firms issuing gift cards report more information about gift cards when the SEC pays attention to their financial reporting by issuing comment letters, when companies share the same auditor, and when the firms' initial information about gift cards is below the industry average.

Overall, managers can manage earnings through the use of discretionary accruals or real activities to report their desired earnings. Due to the intense scrutiny by regulators and auditors, SOX significantly increased the costs of using accruals to manage earnings (Graham et al. 2005). Zang (2012) documents the trade-off between the two methods in terms of the costs of using them. Compared to other accrual methods, revenue recognition from gift card liabilities or breakage income received less attention in the past (e.g., Hennes and Schenck 2014); perhaps the immaterial level of breakage income made it less noticeable. However, the recognition of breakage income can have a direct and significant impact on earnings with no corresponding costs, such as the cost of goods sold. Moreover, the first gift card was issued in the late 90s, and the more relevant law was implemented in 2010. Only in recent years has the FASB announced new guidance that directly addresses the accounting practices related to gift card breakage income. The new guidance requires managers to recognize breakage income at the point of redemption based on historical redemption rates. Because of the low visibility of gift card liabilities, managers can take advantage of them and recognize breakage revenue to increase the likelihood of reporting the desired earnings. Therefore, my first hypothesis is stated as the following.

H1: Companies that have had a higher level of gift card liabilities in the past are more likely to have higher discretionary accruals.

The passage of the Credit CARD Act restricted companies from imposing short expiration dates and inactive fees. As a result, unredeemed gift cards were more likely to stay on financial

statements longer or indefinitely. This change increased managerial discretion for gift card breakage income recognition when managers anticipate that the likelihood of redemption is remote. Therefore, after the implementation of the Credit CARD Act, I expect that managers were able to take advantage of recognizing breakage income or were able to save it for the future. However, companies may not have determined their historical redemption pattern and may have needed time to develop the redemption rate at the beginning of the implementation period. It is likely that the implementation of the Act hindered the companies' recognition of breakage income. In addition, the Credit CARD Act may have attracted the regulators attention to gift card liabilities. Therefore, the implementation of the Credit CARD Act may have hindered inappropriate managerial behaviors. Therefore, my second hypothesis is stated as the following.

H2: After the Credit CARD act was implemented, managers were less likely to use gift card liabilities to manage earnings.

1.2.3 Managerial Incentives

The next question is why managers exercise discretions to manage earnings. As mentioned above, managers engage in earnings management because the market gives premiums on meeting or beating the investors' expectations (Bartov, Givoly, and Hayn 2002; Graham et al. 2005). Bartov et al. (2002) find that meeting or beating the investors' expectations contributes to positive stock returns and that these results still hold with the existence of earnings and expectations management. Skinner and Sloan (2002) state that growth firms suffer from a significant decline in stock price when missing analyst forecasts. Barth, Elliott, and Finn (1999) show managers are provided incentives to continue growing earnings rather than allowing a decline in earnings because the market rewards steady upward earnings but punishes downward earnings after a firm has maintained growing earnings. Badertscher (2011) indicates managers in firms with stocks

consistently overvalued are more likely to engage in earnings management to sustain the overvaluation. In addition, consistently outperforming analysts' expectations ensures value-relevant earnings. For instance, examining the managers' incentives to manage earnings by firm characteristics, Matsumoto (2002) documents managers are likely to meet investors' expectations when the firms are owned by transient investors and contain a higher level of value-relevance in their earnings.

If the managers' compensations are associated with stock prices or earnings, managers are motivated to enhance their compensations or maximize bonuses by achieving those earnings benchmarks pointed to by analyst forecasts and certain earnings. Guidry, Leone, and Rock (1999) use business-unit level data to examine whether business-unit managers maximize their bonus plans by earnings management. Consistent with Healy (1985), they find business-unit managers are likely to engage in income-increasing management when there is some room to improve bonus plans. Matsunaga and Park (2001) also conclude that managers receive a bonus reduction after they experience lower current quarterly earnings than those expected from analyst forecasts or based on the earnings for the same quarter of last year. However, in the survey of Graham et al. (2005), the CEOs indicate that companies usually have their internal earnings threshold for bonus requirements. Outperforming external earnings targets does not always lead to an increase in bonus.

In the discussion on earnings management, Lo (2008) argues that preparers of financial statements are usually intelligent and are unlikely to engage in detectable earnings management, making research on detecting earnings management difficult. Gift card breakage income provides a way that managers can manage earnings and is difficult to detect because breakage income is usually insignificant; however, its direct impact on bottom-line earnings is significant. Therefore, managers in companies that issue gift cards are more likely to recognize revenue from gift card

liabilities to meet earnings targets than those who do not. Prior studies have shown the managers' motivation to meet or beat three earnings benchmarks (e.g., Graham et al. 2005; Caylor 2010; Barth et al. 1999; Bartov et al. 2002). Because earnings benchmarks, such as earnings from last year, analyst consensus forecasts, and zero earnings, are the top three choices of managers (Graham et al. 2005), I examine two earnings targets (i.e., previous earnings and zero earnings) in my study. Moreover, meeting or beating earnings benchmarks is rewarding for managers (e.g., Bartov et al. 2002; Skinner and Sloan 2002; Barth et al. 1999; Badertscher 2011). My third hypothesis is stated as follows.

H3: Companies with earnings that are slightly above earnings targets are more likely to experience abnormal changes in gift card liabilities than are those companies without earnings that are slightly above earnings targets.

Finally, the sale of gift cards can have different impacts between mature firms and young firms. For example, Cohen et al. (2010) find that in the late stages of their lifecycle, firms are more likely to increase earnings by increasing advertising because the firms have built up their reputation and customers consume more when the products or services are advertised. That is, the increase in sales is more sensitive to advertisements for mature firms than it is for young firms. Because the sale of gift cards is a strategy to generate revenue for companies (Horne and Bendle, 2015), I expect the mature firms are more likely to experience an abnormal change in gift card liabilities when they need to manage earnings upward. Therefore, the fourth hypothesis is as follows.

H4: Mature firms with earnings slightly above earnings targets are more likely to experience higher abnormal gift card liabilities than are young firms with earnings slightly above earnings targets.

CHAPTER 1.4 SAMPLE, MODELS, AND DESCRIPTIVE STATISTICS

1.4.1 Sample

1.4.1.1 Gift Card Liabilities

I manually collected the names of companies that issue gift cards traded on the five retail gift card exchange websites[2]. The gift card retail companies offer a platform or mechanism to resell gift cards from the gift card receivers or buyers. I chose these websites because they resold gift cards of many brands. I expected that these websites would provide me the information about the gift card issuers. My rationale was as follows: if gift cards were traded frequently, the issuers should have gained their reputation and customers should have been willing to buy the companies' gift cards for gifts or personal use. The popularity of a gift card suggested that companies sell a significant number of gift cards. Therefore, I investigated their financial statements to obtain gift card liabilities. This step led to 3,674 observations. I eliminated duplicate gift card issuers, retaining 1,768 unique firms. After identifying gift card issuers, I used the SEC's Edgar database and the Google Search Engine to examine whether the companies collected from the gift card retail websites were publicly traded. The companies with stocks traded in capital markets usually had investor relations sessions. I recorded the CIK numbers of the publicly traded firms. This step led to 375 unique firms. I visited the SEC's Edgar again and using the CIK numbers to find their 10-K filings, I conducted a search by employing three common names for gift cards: gift cards, stored-value cards, and prepaid cards[3]. The data covered the years from 1994 to 2018 because the first

[2] I collected the names of the gift card issuers from the following five retail gift card websites: Cardpool (www.cardpool.com), Raise (www.raise.com), Cardcash (www.cardcash.com), Gift Card Granny (www.giftcardgranny.com), and Gift Card Mall (www.giftcardmall.com).

[3] I used different combinations of the words in these three terms, e.g., gift, gift card, stored, stored value, and prepaid card, to see whether the companies disclosed their gift card liabilities. They were usually recorded as unearned revenue, deferred revenue, gift card liabilities, gift certificates, stored-value cards, etc.

plastic gift cards were said to be issued in 1994. Because the disclosure of gift card liabilities was not mandatory, I obtained 1,689 firm-year observations as my final sample of gift card liabilities.

I merged my final observations with the financial information from Compustat. The elimination of observations with missing values for my variables resulted in 1,030 firm-year observations. I also excluded firms in the financial industry (SIC codes between 6000 and 6799). Table 1.1 indicates the number of firms or firm-year observations in each step.

1.4.2 Model

1.4.2.1 Test of H1 and H2

To test *H1*, I estimated discretionary accruals (*DA*) by a modified Jones model with *ROA* adjustment and developed by Kothari, Leone, and Wasley (2005). The discretionary accruals are estimated by using the ordinary least squares (OLS) regression model for each industry-year sample with the same 2-digit SIC code and year. To obtain the overall discretionary accruals, I run the OLS regression model with the entire Compustat sample before merging with variables for gift card liabilities.

$$\frac{TACC_t}{Assets_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{Assets_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_t}{Assets_{t-1}} - \frac{\Delta Rect_t}{Assets_{t-1}}\right) + \beta_3\left(\frac{PPE_t}{Assets_{t-1}}\right) + \beta_4(ROA_{t-1}) + \varepsilon_t \quad (1)$$

where $TACC_t$ is income before extraordinary items minus cash flows from operations during year *t*. $\Delta Sales_t$ is the change in sales during year *t*. $\Delta Rect_t$ is the change in accounts receivables during year *t*. PPE_t is gross property, plant, and equipment during year *t*. ROA_{t-1} is income before extraordinary items during year *t*-1 divided by total assets during year *t*-1. All variables are deflated by $Assets_{t-1}$, which denotes total assets at the beginning of year *t*. ε_t denotes the estimated residuals used for the level of *DA*. Following Zang (2012) and Kim et al. (2017), my model is as follows.

$$ABSDA_t = \beta_0 + \beta_1 GC_{t-1} + \beta_2 GC_{t-1} \times Credit_t + \beta_3 NUR_{t-1} + \beta_4 ABSRM_t + \beta_5 Size_t + \beta_6 MtoB_t + \beta_7 NOA_{t-1} + \beta_8 CYCLE_{t-1} + \beta_9 ROA_t + \beta_{10} ZScore_{t-1} + \beta_{11} Loss_t + \beta_{12} LEV_t + \beta_{13} Financing_t + \beta_{14} CF_t + \beta_{15} Big4_t + Dummy_{industry} + Dummy_{year} + \varepsilon_t \quad (2)$$

where GC_{t-1} denotes, as obtained from 10-K filings, the gift card liabilities in year *t-1* divided by total assets at the beginning of year *t-1*. I use the beginning balance because the past gift card liabilities can be recognized as breakage income for which managerial discretion was involved. $Credit_t$ is an indicator that equals 1 if the sample years are in 2010 and equals 0 otherwise. I interact GC_{t-1} with $Credit_t$ to test whether the law had an impact on managerial discretion on breakage income. Because gift card liabilities are part of unearned revenue, I subtract gift card liabilities from unearned revenue. NUR_{t-1} is unearned revenue net of gift card liabilities during year *t*-1. $ABSRM_{t-1}$ is the absolute value of real activities management at the beginning of year *t*. I follow Roychowdhury (2006) and Zang (2012) to estimate abnormal discretionary expenditures and abnormal production and aggregate them into one proxy by the sum *RM*. $Size_t$ is the logarithm of total assets during year *t*. $MtoB_t$ is the market-to-book ratio in year *t*. NOA_{t-1} is net operating assets divided by total assets at the beginning of year *t*. $CYCLE_{t-1}$ is the operating cycle at the beginning of year *t*. ROA_t is the return on assets during year *t*. $ZScore_{t-1}$ is the Z-score at the beginning of year *t*. $Loss_t$ is an indicator that equals 1 if a firm experiences net loss during year *t* and equals 0 otherwise. LEV_t is leverage defined as long-term debt divided by total assets during year *t*. $Financing_t$ is an indicator that equals 1 if a firm issues long-term debt during year *t* and equals 0 otherwise. $Big4_t$ is an indicator that equals 1 if firms are audited by the top four accounting firms and equals 0 otherwise. CF_t is cash flow from operations divided by sales revenue. Finally, I include industry and year dummies and cluster standard error by firms. To test *H1*, I expect to find a positive relationship between gift card liabilities and discretionary accruals, that is, β_1 is positive and significant. When managers in a firm have more gift card liabilities to

use than do managers in other firms, they are more likely to have a higher level of discretionary accruals. To test *H2*, I posit that the Credit CARD Act will reduce the effect of gift card liabilities on discretionary accruals. Therefore, I expect to find a negative coefficient of the interaction term β_2.

Furthermore, I partition the sample into positive and negative discretionary accruals (*DA*) because the discretion on redemption rates is related to positive income. By focusing on income-increasing accruals, I can observe whether gift card liabilities can lead to a higher level of discretionary accruals. I expect that the subsample with positive *DA* is more likely to report a positive relationship between discretionary accruals and gift card liabilities than that with negative *DA*. I expect β_1 to be positive and significant in the subsample with positive *DA* while insignificant in the subsample with negative *DA*.

The estimation of discretionary accruals may be biased. For example, Collins, Pungaliya, and Vijh (2017) argue that firms with higher sales growth, future expected growth, and performance are more likely to experience higher accruals, such as those due to lenient trade credit from their suppliers or lenient credit terms for their customers, than are those with lower sales growth, future expected growth, and performance. Following Collins et al. (2017), to re-estimate discretionary accruals, I add dummy variables for quintiles of sales growth, market-to-book ratio, and returns on assets. My model is as follows.

$$\begin{aligned}\frac{TACC_t}{Assets_{t-1}} = \quad & \beta_0 + \beta_1\left(\frac{1}{Assets_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_t}{Assets_{t-1}} - \frac{\Delta Rect_t}{Assets_{t-1}}\right) + \beta_3\left(\frac{PPE_t}{Assets_{t-1}}\right) \\ & + \sum_k \gamma_{1k} SG\_Dummy_{kt} + \sum_k \gamma_{2k} MtoB\_Dummy_{kt} \\ & + \sum_k \gamma_{3k} ROA\_Dummy_{kt} + \varepsilon_t \end{aligned} \tag{3}$$

where *SG* is sales growth. I also use k to denote quintiles 1, 2, 4, and 5. I remove quintile 3 as an average benchmark. I replace the residual from Model (1) with the residual from Model (3) and run the regression of Model (2): I replace *ABSDA* from Model (1) and use the same model to test again.

Because I conduct the tests on gift card issuers, it is possible that gift card issuers are fundamentally different from nonissuers. To address the concern, I conduct a propensity score matching approach. The purpose of propensity score matching is to pair the treatment group (gift card issuers) with the similar control group (gift card nonissuers). First, I run a logistic regression model to predict the propensity score and match the closest control group with the treatment group without replacement. Shipman, Swanquist, and Whited (2017) suggest that the model used to predict the propensity score should not include variables that are not used for the multiple regression. Therefore, I include all control variables to estimate the propensity score. The model is as follows.

$$\begin{aligned} GC\_Issuer_t = \quad & \beta_0 + \beta_1 ABSRM_t + \beta_2 Size_t + \beta_3 MtoB_t + \beta_4 NOA_{t-1} + \beta_5 CYCLE_{t-1} + \beta_6 ROA_t \\ & + \beta_7 ZScore_{t-1} + \beta_8 Loss_t + \beta_9 LEV_t + \beta_{10} Financing_t + \beta_{11} CF_t + \beta_{12} Big4_t \\ & + Dummyindustry + Dummy_{year} + \varepsilon_t \end{aligned} \quad (4)$$

where *GC_Issuer* is an indicator that equals 1 if the companies are available from the five gift card retail websites and that equals 0 otherwise. The propensity score is estimated within the same year and for the industries with the same 2-digit SIC code. Other variables are defined above and demonstrated in Appendix 1.A. After obtaining the propensity score matching sample, I run the regression for Model (2) again.

1.4.2.2 Test of H3 and H4

H3 and *H4* pertain to the motivation of engaging in earnings management. Following Caylor (2010), I estimate the predicted change in gift card liabilities and residuals to determine the

level of abnormal changes. To estimate the normal balance of the change in gift card liabilities, I make two assumptions made by Burgstahler and Dichev (1997) and Caylor (2010). First, cash flows from issuing gift cards are predictable. Unlike accounts receivables, which may not be collected, gift card liabilities have predictable cash flows because companies issue gift cards and collect cash in advance. Therefore, the current change in cash flows is one determinant of the change in gift card liabilities. Second, the change in gift card liabilities will determine the increase in future revenue. Since I am estimating the normal change in gift card liabilities, the future change in revenue should be related because companies recognize sales revenue when gift card holders redeem gift cards. Hence, I use the following model to estimate normal and abnormal changes in gift card liabilities by using the linear regression. The regression model is also constructed for the sample within the same year and the industries with the same 2-digit SIC.

$$\frac{\Delta GC_t}{Assets_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{Assets_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_{t+1}}{Assets_{t-1}}\right) + \beta_3\left(\frac{\Delta CFO_t}{Assets_{t-1}}\right) + \varepsilon_t \quad (5)$$

where ΔGC_t is the change in gift card liabilities reported in 10-K filings during year *t*. ΔCFO_t is the change in cash flow from operations during year *t*. ε_t is the estimated residuals of the change in gift card liabilities during year *t*. I use the residuals to determine the level of abnormal discretionary gift card liabilities. To test *H3* and *H4*, I follow Cohen et al. (2010) to construct the model as follows.

$$\begin{aligned} ABDGC_t = \quad & \beta_0 + \beta_1 Suspect_t + \beta_2 Lifecycle_t + \beta_3 Suspect_t \times Lifecycle_t \\ & + \beta_4 MV_{t-1} + \beta_5 MtoB_{t-1} + \beta_6 Earnings_t + Dummy_{year} + \varepsilon_t \end{aligned} \quad (6)$$

where $ABDGC_t$ denotes the residuals obtained from the Model (5). $Suspect_t$ has two sets of suspect firms that experience slightly or less slightly above earnings targets. I have two measures under two earnings targets because gift card liabilities are relatively small. It is likely that managers

cannot meet or beat earnings targets with these measures. First, $Suspect\_Pos5_t$ is an indicator that equals 1 if earnings before extraordinary items divided by beginning total assets are between 0 and 0.005 and equals 0 otherwise. $Suspect\_Pos1_t$ is an indicator that equals 1 if earnings before extraordinary items divided by beginning total assets are between 0 and 0.001 and equals 0 otherwise. Second, $Suspect\_PE5_t$ is an indicator that equals 1 if the difference of current earnings and earnings from last year divided by beginning total assets are between 0 and 0.005 and equals 0 otherwise. $Suspect\_PE1_t$ is an indicator that equals 1 if the difference of current earnings and earnings from last year divided by beginning total assets are between 0 and 0.00125 and equals 0 otherwise. $Lifecycle_t$ represents the stages of the firms and is developed by Anthony and Ramesh (1992). I rank firms each year into three groups according to four variables: (1) dividend payout ratio, (2) annual sales growth, (3) capital expenditures, and (4) firm age. Firms in their early stages of life cycle tend to have a lower dividend payout ratio, higher annual sales growth, higher capital expenditures, and lower firm age than do those in their late stages of life cycle. Therefore, the dividend payout ratio and firm age are ranked from 1 to 3, while annual sales growth and capital expenditures are ranked inversely. Next, I add them together and define $Lifecycle_t$ as an indicator that equals 1 if the summation of the four variables is equal to or greater than 8 and equals 0 otherwise[4]. I interact $Suspect_t$ with $Lifecycle_t$ to examine whether mature firms are more likely to use gift card liabilities to meet or beat earnings targets. MV_{t-1} is defined as the logarithm of the beginning market value. $Earnings_t$ is defined as earnings divided by the amount of beginning total assets.

[4] Cohen et al. (2010) determine firms as mature when the ranked value of their (1) dividend payout ratio, (2) annual sales growth, (3) capital expenditures, and (4) firm age is greater than or equal to 10. I choose 8 because it starts to generate observations of mature firms.

CHAPTER 1.5 RESULTS

1.5.1 Descriptive Statistics

Panel A of Table 1.2 shows the details of gift card liabilities by years. The number of firms that disclose gift card liabilities increases from 5 in 1994 to 102 in 2018. The average balance of gift card liabilities increases from 4.22 million in 1994 to 141.8 million in 2018, while the median balance increases from 3.97 million in 1994 to 16.91 million in 2018.

Panel B of Table 1.2 reports summary statistics for the gift card liability sample. My sample with all control variables shows that gift card liabilities over total assets are approximately 3 percent, with a median of 2 percent. Although the number seems immaterial, the growth rate of gift card liabilities is 14 percent on average, with a median of 9 percent. In other words, gift card liabilities have gradually played an important role in corporate operations. Compared to gift card liabilities, the unearned revenue net of gift card liabilities in retail industry is relatively low, with a mean of 0.00[5] and a median 0.00. This result suggests that for firms issuing gift cards, gift card liabilities constitute a significant portion of the unearned revenue. The accrual measures, *DA* and *DA_Dummies*, have a mean of -0.01 and -0.01, respectively, and a median of 0.00 and -0.01, respectively. I estimate accruals based on the whole available sample before merging the control variables of my model. Therefore, the means are not close to 0.

[insert Table 1.2 here]

Table 1.3 reports Pearson correlations. *GC_L* is positively correlated to *ABSDA* and *ABSDA_Dummies*, suggesting that gift card issuers who have more gift card liabilities in their balance sheet have higher level of accruals than do those who have fewer liabilities. *GC_L*Credit* is negatively correlated to *ABSDA*. Although *GC_L*Credit* is positively correlated to

[5] The mean is 0.0024596.

ABSDA_Dummies, the correlation is insignificant. In the regression analysis, I also test the results with either positive discretionary accruals or negative discretionary accruals.

[insert Table 1.3 here]

1.5.2 Multivariate Results

Table 1.4 presents the results of a multivariate regression for *H1* and *H2*. The regression is operated with the adjustments for standard errors clustered by firms. Column 1 and Column 2 of Table 1.4 shows the results for the full sample. Column 3 and Column 4 of Table 1.4 present the results with positive accruals, while Column 5 and Column 6 of Table 1.4 state the results of negative accruals. Column 1 of Table 1.4 shows that the coefficient on *GC_L* is positive and significant (*t*-values = 2.70), indicating that firms with a higher level of gift card liabilities are more likely to have higher discretionary accruals than are those with lower gift card liabilities. In Column 2 of Table 1.4, the interaction term, *GC_L*Credit*, is negatively and significantly associated with *ABSDA* (*t*-values = -2.68), suggesting the Credit CARD Act mitigates earnings management in the year of its implementation[6]. Furthermore, I run the regression separately with positive or negative discretionary accruals. Column 3 of Table 1.4 presents the results for positive discretionary accruals, for which I find a positive relationship between *GC_L* and *ABSDA* (*t*-values = 2.70). Column 4 of Table 1.4 shows that the coefficient on *GC_L*Credit* becomes insignificant (*t*-values = -1.58). Column 5 of Table 1.4 demonstrates that the coefficient on *GC_L* becomes insignificant (*t*-values = -0.12). Column 6 of Table 1.4 reveals that the coefficient on *GC_L*Credit* remains significant and negative (*t*-values = -3.11). The outcome suggests that gift card liabilities have an impact on positive discretionary accruals, while they have no impact on negative

[6] I also define *Credit* as an indicator that equals 1 if the fiscal year is 2010 and onwards and that equals 0 otherwise. However, the regression result does not show any evidence that the Credit CARD Act had a continuous impact on discretionary accruals.

discretionary accruals. It is possible that managers are inclined to take advantage of gift card liabilities to manage earnings upward. Moreover, the Credit CARD Act mitigates the extent of earnings management in my samples, except for the positive accrual group. One explanation is that managers did not have enough information to justify the breakage income recognition at the beginning of the law's implementation; therefore, the level of discretionary accruals decreased. The other explanation is that the implementation of the law implied there would be increasing regulatory attention, which hindered the managers' inappropriate behaviors on earnings management. For example, Macy's 10-K filing in 2010 states that the company is subject to various laws, including the Credit CARD Act, which may lead to litigation matters.

Similarly, *NUR_L* is also positively associated with *ABSDA* (*t*-values = 5.30). This finding is consistent with Caylor (2010), who documents that managers utilize unearned revenue to manage earnings. The results remain significant in the sample with positive discretionary accruals (*t*-value = 5.30) but not in the sample with negative discretionary accruals (*t*-values = -0.52), suggesting that it is less likely to take advantage of unearned revenue to engage in income-decreasing accruals than income-increasing accruals.

[insert Table 1.4 here]

Collins et al. (2017) argue that firms with a higher market-to-book ratio, sales growth rate, or return on assets are more likely to have higher discretionary accruals. However, this does not imply that these companies engage in earnings management. For example, companies would have higher accruals, such as a lenient credit policy for customers, when they try to expend the business. Following Collins et al. (2017), I include dummy variables for quintile sales growth rates (*SG*), market-to-book ratios (*MB*), and returns on assets (*ROA*) in the modified Jones model to estimate discretionary accruals. The results are presented in Table 1.5. Although *GC_L* is insignificant in

the full sample and in the sample with negative discretionary accruals (*t*-values = 1.17; *t*-values = 0.23), it remains significant (*t*-values = 2.16) in the sample with positive discretionary accruals, indicating my results still hold after controlling for companies in different stages. *GC_L*Credit* is insignificant in the full sample and in the sample with positive and negative discretionary accruals (*t*-values = 0.85; *t*-values =0.14; *t*-values = 0.78;). *NUR_L* is still positively significant in both the full sample and the sample with positive discretionary accruals (*t*-values = 2.19; *t*-values = 4.47). In conclusion, when I consider the firms in different stages, the results still hold: when firms hold more gift card liabilities, they are more likely to engage in income-increasing management.

[insert Table 1.5 here]

To compare samples between gift card issuers and nonissuers, I adopt a propensity score matching approach. First, I include all sample firms with and without gift card liabilities and require that the sample has all variables available for my model (Shipman et al. 2017). Second, I run a logistic regression to estimate the propensity scores to match the treatment group (gift card issuers) with the control group (gift card nonissuers). Table 1.6 reports the descriptive statistics of the pairing sample. The differences between the treatment group and the control groups are all insignificant, except for *MB* and *CF* (*t*-values = 1.69; *t*-values = -2.03).

[insert Table 1.6 here]

Table 1.7 reports the regression results of the propensity score matching. I run the same regression with the pairing sample. The results remain similar for some variables. *GC_L* and *NUR_L* are positively significant in the sample with positive discretionary accruals (*t*-values = 4.15; *t*-values = 2.75), and *GC_L*Credit* is negatively significant in the full sample and in the sample with positive discretionary accruals (*t*-values = -3.34; *t*-values = -1.97). The results indicate gift card liabilities are associated with income-increasing accruals but not with income-decreasing

accruals. I also run the regression with a dummy variable for the gift card issuer, where *gift card issuer* equals 1 if gift card liabilities are positive and equals 0 otherwise. The untabulated results are similar but weaker in terms of the significant level. The weaker result is likely driven by immaterial gift card liabilities. To manage earnings by gift card liabilities, companies have to hold a certain amount of gif card liabilities to achieve their goals. In conclusion, the results support *H1* and partially support *H2*. Companies with more gift card liabilities are more likely to manage earnings through income-increasing accruals by using gift card liabilities, and the Credit CARD Act slightly limits the use of gift card liabilities for earnings management.

[insert Table 1.7 here]

Panel A and Panel B of Table 1.8 present the results for the suspect firms in the zero earnings benchmark in several versions of Model (6). All continuous variables are winsorized within 1 percent of the top or bottom percentiles. All versions of Model (6) are tested by clustering standard errors at the firm level (Petersen, 2008). There is no finding about suspect firms in all models in Panel A of Table 1.8 when the suspect firms are defined as firms with earnings divided by the beginning total assets between 0 and 0.005. To further test *H3*, I refine the definition of suspect firms: a suspect firm is assigned a value of 1 if their earnings divided by beginning total assets are between 0 and 0.001 and is assigned a value of zero otherwise. The rationale for this is that gift card liabilities are relatively smaller than other accrual methods, such as depreciation or bad debt expenses. Panel B of Table 1.8 reports the results. *Suspect_Pos1* is negative and significant in all versions of Model (6), suggesting that managers are likely to engage in earnings management through gift card liabilities when they intend to meet or beat zero earnings benchmarks. The negative sign means the suspect firms have a higher level of abnormal decreases in gift card liabilities (*AB_DGC*), which denotes an income-increasing accrual.

Furthermore, Panel B of Table 1.8 shows the coefficient on *Lifecycle* is negative and significant (*t*-value = -3.57), suggesting mature firms are more likely to have lower abnormal changes in gift card liabilities. However, the coefficient on the interaction term (*Suspect_Pos1*Lifecycle*) is insignificant (*t*-value = 1.39). Following Cohen et al (2008), I also perform an *F*-statistics test to examine whether gift card issuers in the late stages of the firms' life cycle behave differently from do those in the early stages. Comparing the coefficients on *Suspect_Pos1* and the interaction term (*Suspect_Pos1*Lifecycle*), I find that firms in the late stages behave differently than do firms in the earlier stage (*F*-values = 6.16, *P*-values = 0.0146). The positive coefficient on the interaction term indirectly indicates mature firms are more likely to manage earnings by selling more gift cards when managers are under pressure.

[insert Table 1.8 here]

To test whether managers in gift card issuing firms are motivated to manage earnings to outperform the earnings of last year, I run similar regressions. Panel A of Table 1.9 presents the results for the current earnings, which are equal to or greater than their earnings in the previous year within 0.005 of the beginning total assets (*Suspect_PE5*). The coefficients on *Suspect_PE5* are positive and significant in the second and the third versions of Model (6), suggesting gift card issuers tend to have higher abnormal change in gift card liabilities (*t*-value = 1.75 in the second column; *t*-value = 2.01 in the third column). This might be driven by the promotion of gift cards. When companies issue more gift cards, they are likely to generate more revenue (Horne and Bendle, 2015). The interaction term (*Suspect_PE5*Lifecycle*) and the *F*-statistics are insignificant (*t*-values = -1.00; *F*-statistics = 2.30, *P*-values = 0.1323). In Panel B of Table 1.9, the revision, in which suspect firms that have their current earnings equal to or greater than the earnings of previous year by an amount within 0.001 of the beginning total assets (*Suspect_PE1*), improves the significant

levels to all versions of Model (6). The interaction term (*Suspect_G1*Lifecycle*) is still insignificant (*t*-values = -0.47). The *F*-statistics also shows that between mature and young firms, the behaviors are insignificant (*F*-statistics = 2.34, *P*-values = 0.1292). In general, the results do not support *H4*, which hypothesizes that mature firms are more likely to use gift card liabilities to meet or beat earnings targets. A possible explanation is that my sample size is too small to have the definition consistent with Cohen et al. (2010) for the firms in their later stages of their lifecycle[7].

In the additional analysis, I replace the abnormal changes in gift card liabilities with the abnormal changes in unearned revenue net of gift card liabilities. The untabulated results of Model (6) with two sets of earnings targets indicate unearned revenue net of gift card liabilities is not influential across all earnings targets, except for suspect firms defined as having positive earnings. Therefore, gift card liabilities play an important role in earnings management in the retail industry, while unearned revenue net of gift card liabilities does not.

CHAPTER 1.6 CONCLUSION

As the sale of gift cards increases, it is increasingly more important to examine how companies process the accounting for gift cards and how they use them. Prior literature has paid little attention to gift cards. This may be driven by their use in limited industries and materiality. However, the recognition of breakage income can have a significant impact on bottom-line earnings. According to Graham et al. (2005) and Lo (2008), managers are unlikely to engage in detectable earnings management. Before Schlosser (2005), there was no clear guidance for the recognition of breakage income. According to Hennes and Schenck (2014), the disclosure of gift card liabilities is inconsistent between firms. Because gift card liabilities attract less attention from

[7] Cohen et al. (2010) define that firms are in their later stages of their life cycle when the summation is equal to or greater than 10 for four ranking measures: (1) dividend payout ratio, (2) annual sales growth, (3) capital expenditures, and (4) firm age. My study defines mature firms as firms for which the summation of the four ranking measures is equal to or greater than 8.

regulators, I investigate and find gift card liabilities can be a tool to manage earnings, and I find that managers intend to meet or beat zero earnings and previous earnings. In addition, I incorporate the impact of the Credit CARD Act on gift card liabilities and examine whether the regulation has had an unintended effect on managerial behaviors. I find the Credit CARD Act can constrain the use of positive accruals by gift card liabilities but not the use of negative accruals. Finally, I examine whether mature firms are likely to issue more gift cards to manage earnings upwards, but I do not find the direct evidence. The indirect evidence is shown in the suspect firms that meet or slightly beat the zero earnings. My study contributes to the existing literature on earnings management. This study is the first to examine the role of gift card liabilities in earnings management. I extend Caylor (2010) by adding gift card liabilities other than unearned revenue to the literature on tools of earnings management. I also show that the Credit CARD Act can reduce earnings management in the year of its implementation.

APPENDIX 1.A

Variable Descriptions

Variable	Description	Source
ABSDA	The absolute value of discretionary accruals (DA_t). DA_t is the residuals from the Model (1): $$\frac{TACC_t}{Assets_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{Assets_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_t}{Assets_{t-1}} - \frac{\Delta Rect_t}{Assets_{t-1}}\right) + \beta_3\left(\frac{PPE_t}{Assets_{t-1}}\right) + \beta_4(ROA_{t-1}) + \varepsilon_t$$	Compustat
ABSDA_Dummies	The absolute value of discretionary accruals (DA_t). DA_t is the residuals from the Model (3): $$\frac{TACC_t}{Assets_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{Assets_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_t}{Assets_{t-1}} - \frac{\Delta Rect_t}{Assets_{t-1}}\right) + \beta_3\left(\frac{PPE_t}{Assets_{t-1}}\right) + \beta_4(ROA_{t-1}) + \sum_k \gamma_{1k} SG\_Dummy_{kt} + \sum_k \gamma_{2k} MtoB\_Dummy_{kt} + \sum_k \gamma_{3k} ROA\_Dummy_{kt} + \varepsilon_t$$	Compustat
TACC	Earnings (IB_t) minus cash flows from operation ($OANCF_t$)	Compustat
ΔSales	Change of Sales ($SALE_t - SALE_{t-1}$)	Compustat
PPE	The gross value of property, plant, and equipment ($PPEGT_t$)	Compustat
Assets	Total assets (AT_t)	Compustat
ΔCFO	Change of cash flow from operation ($OANCF_t - OANCF_{t-1}$)	Compustat
SG_Dummy	The dummy variables for quintiles of sales growth $= \frac{SALE_t - SALE_{t-1}}{SALE_{t-1}}$	Compustat
MB_Dummy	The dummy variables for quintiles of market-to-book ratio $= \frac{PRCC\_F_t \times CSHO_t}{CEQ_t}$	Compustat
ROA_Dummy	The dummy variables for quintiles of returns on assets $= \frac{IB_t}{AT_t}$	Compustat

ΔGC	The change of gift card liabilities divided by total assets at the beginning of the year	SEC's Edgar
ABDGC	The value of residuals from the Model (5): $$\frac{\Delta GC_t}{Assets_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{Assets_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_{t+1}}{Assets_{t-1}}\right) + \beta_3\left(\frac{\Delta CFO_t}{Assets_{t-1}}\right) + \varepsilon_t$$	Compustat SEC's Edgar
Credit	An indicator defined as 1 if the sample years are in 2010, and 0 otherwise	The Credit CARD Act
GC_G	The growth rate of gift card liabilities = $\frac{GC_t - GC_{t-1}}{GC_{t-1}}$	SEC's Edgar
NUR	Net unearned revenue = $\frac{DRC_t \times GC_t}{AT_{t-1}}$	Compustat SEC's Edgar
ABSRM	The absolute value of abnormal production and abnormal discretionary expenditures. Abnormal production and abnormal discretionary expenditures are real activities earnings management measures developed by Roychowdhury (2006)	Compustat
Size	The logarithm of 1 plus total assets (AT_t)	Compustat
MB	Market-to-book ratio = $\frac{PRCC\_F_t \times CSHO_t}{CEQ_t}$	Compustat
NOA	Net operating assets divided by sales = $\frac{CEQ_t - CHE_t + DLTT_t + DLC_t}{SALE_t}$	Compustat
CYCLE	Operating cycle = $\frac{(RECT_t - RECT_{t-1})/2}{SALE_t/360} + \frac{(INVT_t - INVT_{t-1})/2}{COGS_t/360} - \frac{(AP_t - AP_{t-1})/2}{COGS_t/360}$	Compustat
ROA	Return on assets = $\frac{IB_t}{AT_t}$	Compustat
Z-Score	Z-Score = $0.3\frac{NI_t}{AT_t} + 1.0\frac{SALE_t}{AT_t} + 1.4\frac{RE_t}{AT_t} + 1.2\frac{ACT_t - LCT_t}{AT_t} + 0.6\frac{PRCC\_F_t \times CSHO_t}{LT_t}$	Compustat
Loss	An indicator defined as 1 if NI_t is negative, and 0 otherwise.	Compustat
LEV	Leverage = $\frac{LT_t}{AT_t}$	Compustat
Financing	An indicator defined as 1 if $DLTIS_t$ or $SCSTKC_t$ is positive, and 0 otherwise.	Compustat
Big4	An indicator defined as 1 if firms are audited by top six accounting firms (AU_t = 4, 5, 6, and 7), and 0 otherwise.	Compustat

CF	Cash flows from operations divided by sales revenue $= \frac{OANCF_t}{SALE_t}$	Compustat
Suspect	Two sets of earnings targets. First, Suspect_Pos5 is an indicator defined as 1 if $\frac{IB_t}{AT_{t-1}}$ is between 0 and 0.005, and 0 otherwise. Suspect_Pos1 is an indicator defined as 1 if $\frac{IB_t}{AT_{t-1}}$ is between 0 and 0.001, and 0 otherwise. Second, Suspect_PE5 is an indicator defined as 1 if $\frac{IB_t - IB_{t-1}}{AT_{t-1}}$ is between 0 and 0.005, and 0 otherwise. Suspect_PE1 is an indicator defined as 1 if $\frac{IB_t - IB_{t-1}}{AT_{t-1}}$ is between 0 and 0.001, and 0 otherwise.	Compustat
Lifecycle	An indicator as 1 if the summation of the four ranked values is equal to or greater than 8, and 0 otherwise. Four variables are ranked into three groups: (1) dividend payout ratio = $\frac{DVC_t}{IB_t}$, (2) annual sales growth = $\frac{SALE_t - SALE_{t-1}}{SALE_{t-1}}$, (3) capital expenditures = $\frac{CAPX_t}{(PRCC\_F_t \times CSHO_t + DLTT_t)}$, and (4) firm age is years appearing in CRSP. (2) and (3) are ranked inversely.	Compustat CRSP
MV	The logarithm of 1 plus market value ($PRCC\_F_t \times CSHO_t$)	Compustat
Earnings	The percentage of earnings before extraordinary items = $\frac{IB_t}{AT_t}$	Compustat

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TABLE 1.1
Sample Selection

Identifying gift card issuers	**Number of gift card issuers**	
Gift card issuers from gift card retail websites		3,674
Less: Duplicate issuers	(1,906)	
Less: No record on the SEC's Edgar	(1,531)	(3,437)
Unique gift card issuers		375
Firm-year datasets of gift card issuers from 10-K filings for H1 and H2		1,689
Less: Missing observations for control variables with Compustat		(454)
Final sample for H1 and H2		1,239
Firm-year observations for H3 and H4		1,239
Less: Missing observations for estimating abnormal gift card liabilities		(175)
Final sample for suspect firms with slightly above earnings targets		1,030

Notes: Table 1.1 presents the procedure of the sample selection.

TABLE 1.2
Summary Statistics

Panel A: Gift card value by years

		Value	
Year	**Number of firms**	**Mean (in millions)**	**Median (in millions)**
1994	5	4.22	3.97
1995	13	3.22	1.51
1996	14	4.06	2.24
1997	18	4.20	2.17
1998	21	9.88	3.10
1999	22	12.30	3.73
2000	28	19.17	5.08
2001	34	21.35	6.79
2002	48	26.26	8.42
2003	54	32.24	9.91
2004	69	42.03	12.29
2005	83	51.01	15.31
2006	89	54.15	15.01
2007	90	58.69	16.47
2008	89	61.29	15.49
2009	92	61.12	16.10
2010	92	71.46	17.54
2011	93	80.99	20.30
2012	100	83.43	20.33
2013	104	88.77	17.63
2014	106	98.21	19.37
2015	106	105.08	15.54
2016	105	134.21	17.70
2017	112	135.09	17.12
2018	102	141.80	16.91
Total	1,689		

Panel B: Summary statistics of sample					
Variable	**Mean**	**Std Dev**	**P1**	**Median**	**P99**
ABSDA	0.05	0.05	0.00	0.03	0.24
ABSDA_Dummies	0.04	0.04	0.00	0.03	0.20
DA	-0.01	0.07	-0.19	0.00	0.17
DA_Dummies	-0.01	0.06	-0.16	-0.01	0.17
GC_L	0.03	0.03	0.00	0.02	0.17
GC_G	0.14	0.45	-0.39	0.09	1.22
NUR_L	0.00	0.01	0.00	0.00	0.06
AbsRM	0.21	0.21	0.00	0.15	0.90
Size	6.82	1.53	3.73	6.69	10.70
MB	3.13	6.10	-17.69	2.33	43.22
NOA_L	0.35	0.23	-0.04	0.30	1.42
Cycle_L	53.08	68.71	-25.44	36.30	399.97
ROA	0.05	0.11	-0.44	0.06	0.26
Z_L	5.00	3.54	-1.15	4.19	20.93
Loss	0.18	0.39	0.00	0.00	1.00
Lev	0.52	0.24	0.15	0.48	1.40
Financing	0.46	0.50	0.00	0.00	1.00
CF	0.09	0.06	-0.08	0.09	0.25
Big4	0.90	0.31	0.00	1.00	1.00

Notes: Table 1.2 presents summary statistics. Panel A reports gift card value by years. Panel B reports the summary statistics for H1. The number of observations is 1,239 except for *GC_G*. *GC_G* has 1,226 observations because it requires values for two consecutive years. All continuous variables are winsorized at the 1st percentile and the 99th percentile.

TABLE 1.3
Correlations Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) *ABSDA*																			
(2) *ABSDA_Dummies*	**0.56**																		
(3) *DA*	**-0.24**	**-0.14**																	
(4) *DADummies*	**-0.11**	**-0.14**	0.67																
(5) *GC_L*	**0.09**	**0.08**	-0.04	**-0.06**															
(6) *GC_L*Credit*	-0.05	0.03	0.00	-0.02	**0.16**														
(7) *NUR_L*	**0.14**	**0.07**	-0.01	0.03	-0.02	0.01													
(8) *AbsRM*	**0.11**	**0.10**	-0.03	-0.03	**0.08**	-0.01	**0.07**												
(9) *Size*	**-0.16**	**-0.15**	-0.01	-0.04	-0.01	0.00	0.02	**-0.08**											
(10) *MB*	**0.06**	**0.10**	**-0.08**	**-0.10**	0.19	0.05	**0.09**	**-0.07**	**0.07**										
(11) *NOA_L*	**-0.13**	-0.05	**0.06**	0.02	**-0.29**	**-0.08**	**-0.14**	**-0.17**	**0.10**	**-0.11**									
(12) *Cycle_L*	0.06	**0.03**	**0.11**	**0.06**	**-0.11**	-0.02	**-0.14**	**0.13**	**0.15**	**-0.06**	**0.19**								
(13) *ROA*	**-0.25**	**-0.07**	**0.21**	-0.03	0.00	0.00	**-0.11**	0.00	**0.31**	**0.13**	-0.05	-0.01							
(14) *Z_L*	0.00	**0.01**	**-0.11**	**-0.08**	0.01	-0.05	**-0.06**	0.00	-0.01	**0.16**	**-0.20**	-0.05	**0.47**						
(15) *Loss*	**0.25**	**0.10**	**-0.12**	**0.09**	0.02	0.02	**0.07**	0.01	**-0.29**	**-0.09**	-0.04	0.01	**-0.73**	**-0.29**					
(16) *Leverage*	**0.08**	0.03	-0.03	0.00	**0.08**	-0.01	**0.13**	**0.12**	**0.15**	**-0.08**	0.02	-0.02	**-0.23**	**-0.51**	**0.20**				
(17) *Financing*	0.01	0.05	0.00	0.00	**-0.08**	-0.05	0.00	-0.02	**0.11**	**-0.08**	**0.25**	0.02	**-0.14**	**-0.30**	**0.11**	**0.38**			
(18) *CF*	**-0.11**	**-0.01**	**-0.27**	**-0.34**	-0.02	-0.01	-0.09	-0.04	**0.23**	**0.10**	**0.27**	**-0.13**	**0.66**	**0.41**	**-0.55**	**-0.14**	**-0.06**		
(19) *Big4*	-0.02	-0.02	**-0.06**	**-0.06**	**0.09**	-0.01	**0.01**	**-0.13**	**0.33**	0.04	**-0.08**	-0.02	**0.28**	**0.16**	**-0.25**	**-0.06**	**-0.06**	**0.23**	

Notes: Table 1.3 reports Pearson correlations. Boldface indicates the significance is at the 0.05 level. All variables are defined in Appendix 1.A.

Table 1.4
Results with modified Jones model with ROA

Independent Variables	All sample		DA>=0		DA<0	
	Coefficient (t-statistics)		Coefficient (t-statistics)		Coefficient (t-statistics)	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.024*	0.023*	0.049***	0.050***	-0.006	-0.007
	(1.91)	(1.90)	(3.03)	(3.07)	(-0.31)	(-0.34)
GC_L	0.087*	0.104**	0.180***	0.193***	-0.008	0.009
	(1.83)	(2.03)	(2.70)	(2.81)	(-0.12)	(0.12)
GC_L*Credit		-0.333***		-0.306		-0.315***
		(-2.68)		(-1.58)		(-3.11)
NUR_L	0.673***	0.667***	1.033***	1.015***	-0.130	-0.123
	(3.94)	(3.91)	(5.30)	(5.18)	(-0.52)	(-0.49)
AbsRM	0.010	0.010	0.008	0.008	0.017**	0.016*
	(1.53)	(1.50)	(0.97)	(0.97)	(2.01)	(1.95)
Size	-0.003	-0.003	-0.004*	-0.004*	0.000	0.000
	(-1.54)	(-1.54)	(-1.83)	(-1.83)	(-0.07)	(-0.10)
MB	0.001	0.001	0.000	0.000	0.001	0.001
	(1.40)	(1.41)	(-0.16)	(-0.22)	(1.40)	(1.44)
NOA_L	-0.042***	-0.043***	0.023	0.023	-0.095***	-0.096***
	(-3.78)	(-3.79)	(1.48)	(1.48)	(-4.64)	(-4.66)
Cycle_L	0.000***	0.000***	0.000**	0.000**	0.000	0.000
	(4.25)	(4.23)	(2.16)	(2.10)	(-0.53)	(-0.48)
ROA	-0.144***	-0.144***	0.325***	0.323***	-0.480***	-0.480***
	(-4.56)	(-4.57)	(4.53)	(4.51)	(-10.12)	(-10.13)
Z_L	0.001**	0.001**	-0.001	-0.001	0.002**	0.002**
	(2.12)	(2.08)	(-0.78)	(-0.81)	(2.09)	(2.05)
Loss	0.014**	0.014***	0.015*	0.015*	0.006	0.007
	(2.59)	(2.67)	(1.81)	(1.82)	(0.95)	(1.02)
Leverage	0.015**	0.014**	0.008	0.008	0.008	0.008
	(2.15)	(2.11)	(0.84)	(0.82)	(0.89)	(0.88)
Financing	0.004	0.004	-0.006	-0.006	0.008*	0.008*
	(1.24)	(1.24)	(-1.59)	(-1.57)	(1.80)	(1.80)
CF	0.192**	0.194**	-0.571***	-0.568***	0.817***	0.819***
	(2.47)	(2.50)	(-5.80)	(-5.76)	(6.90)	(6.90)
Big4	0.006	0.006	0.000	0.000	0.014*	0.014*
	(1.30)	(1.28)	(-0.02)	(-0.05)	(1.94)	(1.96)
Industry and Year Fixed Effect	Included	Included	Included	Included	Included	Included
N	1,239	1,239	598	598	641	641
Adjusted R^2	0.177	0.179	0.299	0.300	0.510	0.511

Notes: Table 1.4 presents the results with modified Jones model with ROA. All variables are defined in Appendix 1.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008). ***, **, and * indicate significance at 1 percent, 5 percent, and 10 percent levels

Table 1.5
Results with modified Jones model with *SG, MB, ROA* dummies

	All sample		DA>=0		DA<0	
Independent Variables	**Coefficient (t-statistics)**		**Coefficient (t-statistics)**		**Coefficient (t-statistics)**	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.030***	0.030***	0.008	0.008	0.039***	0.040***
	(2.99)	(3.00)	(0.46)	(0.46)	(3.19)	(3.22)
GC_L	0.052	0.046	0.114**	0.114**	0.014	0.008
	(1.17)	(1.02)	(2.16)	(2.12)	(0.23)	(0.13)
GC_L*Credit		0.115		0.014		0.173
		(0.85)		(0.14)		(0.78)
NUR_L	0.254**	0.256**	0.804***	0.805***	-0.207	-0.207
	(2.19)	(2.21)	(4.47)	(4.48)	(-1.17)	(-1.17)
AbsRM	0.009	0.009	0.004	0.004	0.011	0.011
	(1.56)	(1.57)	(0.43)	(0.43)	(1.41)	(1.42)
Size	0.000	0.000	0.000	0.000	0.000	0.000
	(-0.43)	(-0.43)	(0.17)	(0.17)	(-0.08)	(-0.11)
MB	0.001	0.001	0.000	0.000	0.000	0.000
	(1.60)	(1.60)	(-0.13)	(-0.14)	(1.08)	(1.08)
NOA_L	-0.022**	-0.022*	0.026*	0.026*	-0.059***	-0.059***
	(-2.07)	(-2.06)	(1.73)	(1.73)	(-4.25)	(-4.23)
Cycle_L	0.000*	0.000	0.000	0.000	0.000	0.000
	(1.97)	(1.97)	(1.11)	(1.11)	(0.75)	(0.76)
ROA	-0.032	-0.031***	0.163***	0.163***	-0.185***	-0.185***
	(-1.14)	(-1.13)	(3.31)	(3.30)	(-4.72)	(-4.71)
Z_L	0.000	0.000*	0.002*	0.002*	-0.001	-0.001
	(0.21)	(0.22)	(1.97)	(1.97)	(-0.68)	(-0.67)
Loss	0.009*	0.009*	0.013*	0.013*	-0.001	-0.002
	(1.96)	(1.94)	(1.97)	(1.97)	(-0.22)	(-0.24)
Leverage	0.005	0.005	0.011	0.011	-0.002	-0.002
	(0.72)	(0.73)	(1.09)	(1.09)	(-0.2)	(-0.19)
Financing	0.006*	0.006*	0.002	0.002	0.008*	0.007*
	(1.83)	(1.82)	(0.60)	(0.59)	(1.79)	(1.77)
CF	0.066	0.065	-0.493***	-0.493***	0.444***	0.442***
	(0.90)	(0.89)	(-5.29)	(-5.27)	(4.17)	(4.14)
Big4	0.004	0.004	0.008	0.008	0.002	0.002
	(0.89)	(0.89)	(1.23)	(1.23)	(0.41)	(0.42)
Industry and Year Fixed Effect	Included	Included	Included	Included	Included	Included
N	1,239	1,239	539	539	700	700
Adjusted R^2	0.142	0.142	0.266	0.265	0.240	0.239

Notes: Table 1.5 presents the results with modified Jones model with SG, MB, ROA dummies. All variables are defined in Appendix 1.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008). ***, **, and * indicate significance at 1 percent, 5 percent, and 10 percent levels

Table 1.6
Summary Statistics of Propensity Score Matching

	GC=0 (N=632)		*GC*=1 (N=632)		Mean Difference
Variable	**Mean**	**Median**	**Mean**	**Median**	**(*t*-values)**
AbsRM	0.23	0.17	0.22	0.17	0.43
Size	6.50	6.44	6.41	6.31	1.00
MB	2.71	2.09	2.37	2.01	1.69*
NOA_L	0.36	0.30	0.35	0.31	0.49
Cycle_L	45.79	31.94	49.91	35.68	-1.23
ROA	0.03	0.05	0.03	0.05	-0.30
Z_L	4.44	3.63	4.48	3.87	-0.23
Loss	0.21	0.00	0.23	0.00	-0.95
Leverage	0.53	0.51	0.53	0.49	0.68
Financing	0.50	1.00	0.50	0.50	0.06
CF	0.07	0.07	0.08	0.08	-2.03**
Big4	0.88	1.00	0.87	1.00	0.76

Notes: Table 1.6 presents the summary statistics of propensity score matching. All variables are defined in Appendix 1.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles.

Table 1.7
Regression Results of Propensity Score Matching

Independent Variables	All sample Coefficient (t-statistics)		DA>=0 Coefficient (t-statistics)		DA<0 Coefficient (t-statistics)	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.059***	0.059***	0.053***	0.054***	0.042***	0.042***
	(4.23)	(4.29)	(2.85)	(2.89)	(2.86)	(2.83)
GC_L	0.030	0.042	0.155***	0.164***	-0.023	-0.018
	(0.49)	(0.73)	(4.15)	(4.36)	(-0.37)	(-0.30)
GC_L*Credit		-0.491***		-0.238**		-0.525
		(-3.34)		(-1.97)		(-1.31)
NUR_L	0.160*	0.157*	0.288***	0.286***	0.006	0.002
	(1.73)	(1.69)	(2.75)	(2.71)	(0.06)	(0.02)
AbsRM	0.018***	0.018**	0.010	0.010	0.007	0.007
	(2.65)	(2.58)	(1.28)	(1.22)	(0.79)	(0.78)
Size	-0.006***	-0.006***	-0.004***	-0.004***	-0.005***	-0.005***
	(-4.46)	(-4.41)	(-2.95)	(-2.90)	(-2.98)	(-2.93)
MB	0.001***	0.001***	0.000	0.000	0.002***	0.002***
	(2.99)	(2.95)	(0.13)	(0.10)	(3.36)	(3.36)
NOA_L	-0.005	-0.006	0.063***	0.063***	-0.072***	-0.073***
	(-0.43)	(-0.45)	(4.79)	(4.77)	(-4.74)	(-4.77)
Cycle_L	0.000	0.000	0.000	0.000	0.000	0.000
	(-0.20)	(-0.22)	(-0.83)	(-0.86)	(-0.57)	(-0.52)
ROA	-0.105***	-0.106***	0.330***	0.329***	-0.383***	-0.384***
	(-2.66)	(-2.68)	(5.53)	(5.52)	(-9.95)	(-9.97)
Z_L	0.002**	0.002**	0.003**	0.003*	0.001	0.001
	(2.19)	(2.16)	(2.00)	(1.97)	(1.31)	(1.30)
Loss	0.006	0.006	-0.002	-0.002	0.008	0.008
	(1.05)	(1.07)	(-0.31)	(-0.29)	(1.23)	(1.22)
Leverage	0.023**	0.022**	0.025**	0.025**	0.013	0.013
	(2.49)	(2.41)	(2.25)	(2.19)	(1.33)	(1.31)
Financing	0.002	0.002	-0.004	-0.003	0.007**	0.008**
	(0.62)	(0.68)	(-0.91)	(-0.89)	(2.19)	(2.21)
CF	0.052	0.055	-0.821***	-0.817***	0.751***	0.752***
	(0.62)	(0.65)	(-8.53)	(-8.42)	(9.56)	(9.56)
Big4	0.009*	0.009*	-0.001	-0.001	0.004	0.004
	(1.96)	(1.85)	(-0.19)	(-0.25)	(0.67)	(0.65)
Industry and Year Fixed Effect	Included	Included	Included	Included	Included	Included
N	1,264	1,264	629	629	635	635
Adjusted R^2	0.154	0.155	0.352	0.352	0.485	0.485

Notes: Table 1.7 presents the regression results of propensity score matching. All variables are defined in Appendix 1.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008). ***, **, and * indicate significance at 1 percent, 5 percent, and 10 percent levels

Table 1.8
Regression Results for Positive Earnings Targets

Panel A: *Suspect_Pos5*		
Independent Variables	**Coefficient (t-statistics)**	**Coefficient (t-statistics)**
Intercept	0.002	-0.001
	(1.19)	(-0.61)
Suspect_Pos5	-0.000	-0.001
	(-0.29)	(-0.35)
Lifecycle		-0.002***
		(-3.55)
Suspect_Pos5* Lifecycle		0.002
		(0.68)
BM_L	-0.002**	-0.001
	(-2.36)	(-0.78)
MV_L	-0.000	0.000
	(-0.95)	(1.07)
Earnings	0.008**	0.007*
	(2.32)	(1.88)
Year Fixed Effect	Included	Included
N	1,030	701
Adjusted R^2	0.006	0.068
F-statistics (*P*-Values)		
Suspect_Pos5 = Suspect_Pos5 × Lifecycle		0.33
		(0.567)

Panel B: *Suspect_Pos1*		
Independent Variables	**Coefficient (t-statistics)**	**Coefficient (t-statistics)**
Intercept	0.002	-0.001
	(1.22)	(-0.56)
Suspect_Pos1	-0.003***	-0.004***
	(-3.66)	(-3.97)
Lifecycle		-0.002***
		(-3.57)
Suspect_Pos1* Lifecycle		0.003
		(1.39)
BM_L	-0.002**	-0.001
	(-2.34)	(-0.8)
MV_L	-0.000	0.000
	(-0.96)	(1.07)
Earnings	0.008**	0.007*
	(2.31)	(1.85)
Year Fixed Effect	Included	Included
N	1,030	701
Adjusted R^2	0.007	0.068
F-statistics (*P*-values)		
Suspect_Pos1 = Suspect_Pos1 × Lifecycle		6.16**
		(0.015)

Notes: Table 1.8 reports the regression results for positive earnings targets. All variables are defined in Appendix 1.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008). ***, **, and * indicate significance at 1 percent, 5 percent, and 10 percent levels

Table 1.9
Regression Results for Previous Earnings Targets

Panel A: *Suspect_PE5*		
Independent Variables	**Coefficient (t-statistics)**	**Coefficient (t-statistics)**
Intercept	0.002	0.000
	(1.21)	(0.10)
Suspect_PE5	0.001*	0.003**
	(1.75)	(2.01)
Lifecycle		-0.002***
		(-3.11)
Suspect_PE5* Lifecycle		-0.002
		(-1.00)
BM_L	-0.002**	-0.001
	(-2.46)	(-1.52)
MV_L	-0.000	0.000
	(-1.02)	(0.16)
Earnings	0.008**	0.008**
	(2.30)	(2.39)
N	1,030	701
Adjusted R^2	0.007	0.070
F-statistics (*P*-values)		
Suspect_PE5 = Suspect_PE5 × Lifecycle		2.30
		(0.132)

Panel B: *Suspect_PE1*		
Independent Variables	**Coefficient (t-statistics)**	**Coefficient (t-statistics)**
Intercept	0.002	-0.001
	(1.19)	(-0.57)
Suspect_PE1	0.004**	0.006***
	(2.38)	(3.18)
Lifecycle		-0.002***
		(-3.49)
Suspect_PE1* Lifecycle		-0.002
		(-0.47)
BM_L	-0.002**	-0.001
	(-2.45)	(-1.05)
MV_L	-0.000	0.000
	(-0.94)	(1.01)
Earnings	0.008**	0.007*
	(2.3)	(1.81)
Year Fixed Effect	Included	Included
N	1,030	701
Adjusted R^2	0.009	0.073
F-statistics (*P*-values)		
Suspect_PE1 = Suspect_PE1 × Lifecycle		2.34
		(0.129)

Notes: Table 1.9 reports regression results for previous earnings targets. All variables are defined in Appendix 1.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008). ***, **, and * indicate significance at 1 percent, 5 percent, and 10 percent levels

PART 2. GIFT CARD LIABILITIES AND INVESTMENT EFFICIENCY

ABSTRACT

Using manually collected gift card data, I examine whether gift card liabilities can serve as a source of investment funds and influence corporate investment efficiency. Investment efficiency is usually proxied by the residuals from a regression model that predicts normal capital expenditures. I find a significantly negative relationship between gift card liabilities and the magnitude of investment residuals. I also investigate whether the relationship between gift card liabilities and investment efficiency differs between financially constrained and unconstrained firms. The results indicate that financially unconstrained firms are more likely to improve investment efficiency with a higher balance of gift card liabilities than financially constrained firms. Overall, I find that gift card liabilities can provide funds for corporate investment and influence investment efficiency. This study contributes significantly to the investment efficiency literature by providing evidence of an underinvestigated phenomenon – gift card liabilities and investment efficiency.

CHAPTER 2.1 INTRODUCTION

With the outbreak of the COVID-19 pandemic, many firms suffered a shortage of cash. While some companies found it difficult to raise cash, airline companies could issue miles to acquire cash quickly. To withhold cash, companies also suspended the redemption of gift cards for their loyalty programs. For example, Delta prohibited members from redeeming miles through the use of third party gift cards (Sachs 2020). In addition, the U.S. Treasury Department considered airlines' loyalty programs collateral against government loans (Tan, Surane, and Schlangenstein 2020), suggesting that the value of customer deposits is crucial to such companies. In this study, I examine whether gift card liabilities can help managers obtain necessary resources and improve their investment efficiency.

Traditional means of accessing cash include borrowing from financial institutions and issuing stocks. As another channel for resources, I examine gift cards as a means to obtain immediate cash. Issuing gift cards brings about positive cash flows to companies. For example, Marriott International Inc. sold gift cards at a 20 percent discount on its official website during the COVID-19 pandemic. Gift cards are stored value products. Consumers can redeem gift cards in exchange for goods or services in the future and gift card issuers can in turn receive cash in advance. Gift card issuers are also not obligated to pay interest to buyers. Instead, gift card issuers can collect interest incurred from deposits. From a practical point of view, Fried, Holtzman, and Rotenstein (2015) indicate that retailers obtain interest-free loans from customers by issuing gift cards. Moreover, Starbucks Inc. reported $1,326 million in gift card liabilities and 1,976.4 million in capital expenditures in 2018, showing that gift card liabilities can account for approximately 67 percent of capital expenditures. Therefore, when companies encounter positive net present value projects, gift card issuers have diverse ways to fund such projects, increasing chances of investment success.

I argue that the issuance of gift cards can improve investment efficiency in three ways. First, firms can increase cash flows and prevent cash shortages when presented with investment opportunities. When companies need to fund their positive net present value projects, gift card sales can serve as a source of cash, mitigating underinvestment. Second, gift card issuers should reserve some assets to fulfill their obligations to provide services or goods in the future. Gift card issuers usually receive cash in advance and their customers redeem the cards later. To better serve their customers, gift card issuers should maintain certain levels of assets, reducing the likelihood of overinvestment. Third, sales of gift cards generate cash deposits on the balance sheet and sustain demand. Companies carry the value of unredeemed gift cards to the next period. To some extent, companies have stable cash flows from cash deposits when they begin to make operational plans[8]. Moreover, companies with an unredeemed gift card balance have predictable demand for their products or services, resulting in better investment decisions. For example, Cohen and Li (2020) find that high demand uncertainty hurts investment efficiency. In this study, I examine gift card liabilities because they include the unredeemed value of gift cards. Deposits from customers can stay on the balance sheet and be used by companies. Therefore, my first hypothesis is that gift card liabilities improve investment efficiency. The proxy for investment efficiency is the residuals from a regression model that predict normal capital expenditures (e.g., Bae, Choi, Dhaliwal, and Lamoreaux 2017). I posit that gift card liabilities can mitigate over- and underinvestment. In other words, the magnitude of residuals should be lower.

I next examine situations in which companies can better benefit from the issuance of gift cards. First, firms with better future prospects motivate customers to purchase gift cards, facilitating cash inflows and fund investment projects. When customers question a company's

[8] In my untabulated two-tailed test, I divide my sample into two groups representing the upper and lower quartiles of gift card liability. The means (medians) of the standard deviations of cash flows for the past five years are 0.18 (0.11) for the upper quartile group and 0.22 (0.13) for the lower quartile group. The means (medians) are significantly different (p <0.05; p < 0.1).

survival, they will not buy gift cards to avoid purchasing worthless gift cards. I use Tobin's Q to proxy for investment opportunities (e.g., Core, Holthausen, and Larcker 1999; Cohen and Li 2020) and examine whether gift card liabilities can improve investment efficiency for better prospective firms. Therefore, my second hypothesis is that the relationship between gift card liabilities and investment efficiency is more pronounced for firms with better investment opportunities.

Finally, I examine whether the relationship between gift card liabilities and investment efficiency differs between financially constrained and unconstrained firms. Biddle and Hilary (2006) indicate that accounting quality is strongly associated with investment efficiency when companies have greater access to capital markets. In other words, financially unconstrained firms are more likely to exhibit better investment behaviors than constrained firms. Because gift cards can be considered interest-free loans from customers (e.g., Fried et al., 2015) and as unconstrained firms can engage in external financing activities more easily than constrained firms, I hypothesize that constrained firms are less likely to improve investment efficiency with gift card liabilities than unconstrained firms. Therefore, my third hypothesis is that the relationship between gift card liabilities and investment efficiency is more pronounced for financial unconstrained firms. To test this hypothesis, I divide my sample into financially constrained firms and unconstrained firms using four measures (e.g., Faulkender and Wang 2006; Denis and Sibilkov 2009).

To test my hypotheses, I collected information about gift card issuers from gift card retail websites. I then collected gift card liabilities reported in 10-K filings from the SEC Edgar database. Following Biddle, Hilary, and Verdi (2009) and Bae et al. (2017), I estimate the normal level of investment efficiency and take residuals from the models as a measure for investment efficiency. Specifically, residuals are used to proxy for investment inefficiency given that positive (negative) residuals represent for overinvestment (underinvestment). The absolute value of the measure for investment efficiency is used to examine the magnitude of investment behaviors. I regress the measure on gift card liabilities for the beginning of the year. The rationale is that the balance of

unredeemed gift cards will remain as gift card liabilities and stay on the balance sheet until gift cards are redeemed. Companies can make their operational plans and estimate future demand from the balance of gift card liabilities at the start of a year. Consistent with my first hypothesis, I find a positive relationship between gift card liabilities and investment efficiency. I also run separate regressions with positive and negative measures for investment efficiency. The results show that gift card liabilities can mitigate underinvestment, suggesting that when companies encounter positive net present value projects, they are more likely to execute such projects with a higher level of gift card liability.

Next, I investigate whether gift card liabilities can improve investment efficiency for firms with better investment opportunities (e.g., Guiso and Parigi 1999; Cohen and Li 2020). To test these hypotheses, I divide my sample into two subsets by Tobin's Q medians. The subsets for firms with high Tobin's Q values indicate that gift card liabilities are negatively associated with the magnitude of investment residuals, suggesting that firms with strong investment opportunities have more efficient investments. In contrast, no evidence shows that gift card liabilities can improve investment efficiency for firms with poor investment opportunities.

I find that the relationship between gift card liabilities and investment efficiency is more pronounced for the subset of financially unconstrained firms identified by dividend payout ratios and firm size (e.g., Faulkender and Wang 2006; Denis and Sibilkov 2010). Specifically, the relationship exists for firms with high dividend payouts and large firms. Consistent with my hypothesis, financially unconstrained firms make prudent investments with gift card liabilities. However, I find a negative relationship between gift card liabilities and investment residuals for both financially constrained and unconstrained firms when financially constrained firms are identified by the availability of short- and long-term debt and credit ratings (e.g., Faulkender and Wang 2006; Denis and Sibilkov 2010). The results are unclear regardless whether companies can access debt capital markets.

This study contributes the literature on investment efficiency. Prior studies in accounting have extensively investigated the effects of financial reporting quality and investment efficiency (e.g., Biddle et al. 2009; Cheng Dhaliwal, and Zhang 2013; Balakrishnan, Core, and Verdi 2014; Bae et al. 2017). Rather, better financial reporting quality reduces information asymmetry and managers can then make prudent investments. Denis and Sibilkov (2010) also state that firms with profitable investment opportunities can reduce costs of underinvestment if they can access external capital markets and fund investment projects. In addition, Cohen and Li (2020) find that firms with contracts with governments are more profitable through their investments than those holding contracts with corporations. Similarly, companies with higher levels of gift card liability can make practical operational plans because to some extent, managers can anticipate future demand from gift card liabilities (unredeemed gift cards) and improve investment efficiency. To the best of my knowledge, I am the first to examine whether gift cards serve as a source of investment funds to improve investment efficiency.

The rest of this study is organized as follows. Chapter 2.2 discusses the related literature and my hypotheses. Chapter 2.3 describes research methodology and sample used. Chapter 2.4 lists the results. Finally, Chapter 2.5 concludes.

CHAPTER 2.2 PRIOR LITERATURE AND HYPOTHESIS DEVELOPMENT

2.2.1 Gift Cards

Gift cards are stored-value cards that customers can purchase and redeem in the future. Companies recognize gift card liabilities when they sell gift cards and recognize revenue when gift card holders make purchases with such cards. Because most companies do not impose expiration dates on gift cards, gift card holders can redeem the cards any time, providing companies with significant deposits. According to Starbucks Inc.'s 2018 10-K filing, the value of stored value cards (i.e., gift card liabilities) was valued at 1,328.6 million and capital expenditures amounted to

1,976.4 million in 2018. Hennes and Schenck (2014) examine accounting policies and disclosure choices regarding gift cards and find that companies increase disclosures about gift cards when they receive an SEC comment letter, report less informative financial statements on gift cards than their peer firms, and have auditors whose clients have relatively detailed reports.

The literature on gift card liabilities in accounting is scarce, but there are plenty of marketing and management studies related to gift cards (e.g., Khouja, Pan, Ratchford, and Zhou 2011; Horne and Bendle 2015; Cheng and Cryder 2018; Gunasti and Baskin 2018). There are many advantages to issuing gift cards. For example, Cheng and Cryder (2018) document that gift card receivers consider their purchasing power to be stronger than the value of gift cards. In addition, Horne and Bendle (2015) identify six positive reasons for issuing gift cards. They indicate that gift cards can bring about new customers, sales, and interest incurred from deposits.

2.2.2 Investment Efficiency

Prior accounting studies have extensively examined how financial reporting quality influences investment efficiency (e.g., McNichols and Stubben 2008; Biddle et al. 2009; Chen, Hope, Li, and Wang 2011; Cheng et al. 2013; Bae et al. 2017). McNichols and Stubben (2008) document that firms make inefficient investment decisions during premisreporting periods while decisions are improved during postmisreporting periods, suggesting that financial reporting quality significantly influences managers' judgments regarding investment decisions. Biddle et al. (2009) indicate that financial reporting quality can improve investment efficiency. Cheng et al. (2013) investigate the causal relationship between financial reporting quality and investment efficiency after the disclosure of internal control weakness. When firms report internal control weakness, they have stronger motivations to improve financial reporting quality. Cheng et al. (2013) argue that internal control weakness signals poor financial reporting quality but that companies will strive to remedying it. Shroff (2017) argues that changes in accounting rules affect managers' investment decisions because they change the information that managers are familiar with. A

recent study finds that language that differentiates the future from the present affects investment efficiency because managers tend to apply lower discount rates when they evaluate the net present value of an investment project (Kim, Kim, and Zhou 2020).

Financial reporting serves as an information channel for stakeholders. Investors rely on financial statements to predict companies' future cash flows and make investment decisions. Similarly, managers need information about future cash flows and allocate appropriate resources to positive net present value projects (Graham and Harvey 2001). Goodman, Neamtiu, Shroff, and White (2014) indicate that managers must forecast expected future cash flows to make investment decisions. Balakrishman et al. (2014) document that firms of high reporting quality are better able to access external capital markets and are thus less sensitive to changes in financing capacity and avoid underinvestment. Finally, analysts can act as information intermediaries. For instance, Chen, Xie, and Zhang (2017) document that the quality of analyst forecasts can improve investment efficiency because analysts can play an important role in monitoring companies and usually have information advantages in providing informative forecasts.

2.2.3 Uncertainty and Investment

Prior literature indicates that demand uncertainty influences investment efficiency. For example, Guiso and Parigi (1999) document that high demand uncertainty deteriorates the quality of investment decisions. In addition, Cohen and Li (2020) find that firms that have contracts with governments are more profitable through their investments than those with contracts with corporations. They argue that government contracts are predictable and have less demand uncertainty, facilitating efficient investments. Other studies focus on the role of major customers. For example, Patatoukas (2012) find that firms with concentrated customer bases are likely to gain higher accounting rates of return because firms can utilize such assets and reduce SG&A expenditures. Irvine, Park, and Yildizhan (2016) show consistent results after considering the length of relationships between suppliers and customers. They indicate that a mature relationship

can enhance firm performance with customer base concentration. Dhaliwal, Judd, Serfing, and Shaikh (2016) show that government contracts are less risky, leading to lower equity costs. Chiu, Kim, and Wang (2019) investigate the relationship between the disclosure of risk factors in customers' 10-Ks and through suppliers' investment decisions. They find that comprehending customers' risk exposure can improve suppliers' investment efficiency because suppliers can then make prudent investment decisions.

Political conditions also influence investment efficiency. For example, Baker, Bloom, and Davis (2016) develop a measure for economic policy uncertainty and find that firms in policy-sensitive sectors are more likely to reduce investment when policy uncertainty increases. Kang, Lee, and Ratti (2014) examine firm-level data with historical economic policy uncertainty shocks and find that events that cause recessions reduce firm-level investments. Therefore, demand uncertainty is one of the most important factors that influences corporate investment decisions.

2.2.4 Investment Opportunity

Szewczyk, Tsetsekos, and Zantout (1996) find a positive relationship between investment opportunities and stock prices when companies announce an increase in R&D expenditures. Consistent with Szewczyk et al. (1996), Chung, Wright, and Charoenwong (1998) find that the market assesses the quality of firms' investment opportunities and that quality is positively associated with stock prices when firms increase their capital expenditures, suggesting that investors expect firms to perform better when companies have better investment opportunities. Moreover, Choi, Hann, Subasi, and Zheng (2020) find that analysts' capex forecasts can positively influence investment efficiency for firms with stronger growth opportunities. They argue that analysts' capex forecasts are indicators that can enhance investors' beliefs regarding firm investment opportunities, increasing investment efficiency. Hovakimian (2011) demonstrates that during an economic downturn, conglomerates facilitate the allocation of funds to divisions with strong growth opportunities through internal capital markets, improving investment efficiency.

Investment opportunities can affect accounting policies. For example, Skinner (1993) find that investment opportunity influences the nature of firm contracts and drives managers to choose accounting procedures that are in their best interest. Accounting choices may change the meaning of accounting information and lead to investment inefficiency. In addition, Lai (2009) documents that firms with better investment opportunities demand high degrees of audit quality because this can hinder earnings management. Hence, the present study also examines whether firms with different levels of investment opportunity differ in their investment behaviors.

2.2.5 Financially Constrained and Unconstrained Firms

Prior studies examine whether the value of cash holdings differs between financially constrained and unconstrained firms. For example, Denis and Sibilkov (2009) indicate that constrained firms have a higher value of cash holdings because they are likely to fund value-increasing projects with internal capital. Similarly, Faulkender and Wang (2006) document that unconstrained firms are punished by the market by holding more cash because they can access less costly external financing, which may lead to overinvestment. Biddle et al. (2009) show that reporting quality improves investment efficiency by reducing underinvestment (overinvestment) for unconstrained (constrained) firms. In addition, Cheng et al. (2013) find that financially constrained (unconstrained) firms tend to underinvest (overinvest) before they disclose internal control weakness. Garcia Lara, García Osma, and Penalva (2016) find that accounting conservatism can mitigate agency problems for financially constrained firms that exhibit difficulty obtaining external capital to fund their investment projects, improving investment efficiency. Aivazian, Ge, and Qiu (2005) show that firms with high leverage are financially constrained and are more likely to underinvest. Finally, Duchin, Ozbas, Sensoy (2010) demonstrate that financially constrained firms reduce investment during a financial crisis because they do not have sufficient funds from their cash reserves. Because gift card liabilities serve as additional sources of funds that companies can invest, they can differently benefit financially constrained and unconstrained

firms. In sum, the relationship between gift card liabilities and investment efficiency may differ between financially constrained and unconstrained firms.

2.2.6 Hypothesis Development

I test whether gift card liabilities influence investment decisions. Prior literature focuses on the positive relationship between financial reporting quality and investment efficiency (e.g., McNichols and Stubben 2008; Biddle et al. 2009; Chen et al. 2011; Cheng et al. 2013; Bae et al. 2017). For example, when companies have abundant cash but poor financial reporting quality, they tend to overinvest because their investment decisions are based on information provided by reports (Cheng et al. 2013). In contrast, when firms are limited to external financing with poor financial reports, they are likely to underinvest because they cannot fund positive net present value projects by borrowing money from creditors and investors (Cheng et al. 2013).

Furthermore, uncertainty can deteriorate the quality of investment decisions. For instance, Cohen and Li (2020) compare firm performance among firms with concentrated government contracts and those with concentrated corporate contracts and find that contracting with major government customers increases profitability. The relationship between suppliers and customers also shows that uncertainty can hurt investment efficiency. For instance, when customers disclose risk factors in detail, suppliers can allocate their recourses to investment projects (Chiu et al. 2016). Because gift card liabilities must be fulfilled by services or goods, companies can anticipate demand and allocate resources to appropriate operating plans and investments, contributing to the improvement of investment efficiency.

I argue that gift card liabilities can improve investment efficiency in three ways. First, rather than financing from financial institutions or investors, companies can obtain cash from their customers by issuing gift cards, which allow them to receive cash in advance. When companies encounter positive net present value projects, companies with a balance of gift card liabilities are more likely to fund such projects. Second, when companies have more gift card liabilities on the

balance sheet, they should reserve some assets to fulfill their obligation to provide services or goods in the future. In other words, companies should not invest too aggressively to mitigate overinvestment. Third, with the balance of gift card liabilities, to some extent companies can expect future demand and select investment projects more efficiently. For example, Cohen and Li (2020) document that low demand uncertainty improves investment efficiency. Hence, my first hypothesis is that firms with more gift card liabilities exhibit better investment behaviors and therefore improved investment efficiency.

H1. Firms with higher levels of gift card liability are more likely to improve investment efficiency.

My second hypothesis examines which companies are more likely to benefit from gift card liabilities to improve investment efficiency. Specifically, I investigate whether firms with different levels of investment opportunity can make prudent investments. Firms with better investment opportunities may exhibit more demand for capital. Gift cards can serve as a source of funds and companies are also obligated to fulfill the redemption of gift cards. For example, Horne and Bendle (2015) argue that the issuance of gift cards creates more cash flows. Firms with better investment opportunities can utilize gift cards to improve their investment behaviors. That is, they are less likely to bypass positive net present value projects. In addition, firms with investment opportunities attract analysts to follow. Analyst capex forecasts signal that companies have prudent investment opportunities and that investors are willing to invest in these companies, improving investment efficiency (Choi et al. 2020). Companies with investment opportunities also attract investors when they increase their R&D expenses (Szewczyk et al. 1996) and capital expenditures (Chung et al. 1998). Finally, firms with investment opportunities demand high levels of audit quality, which improve investment efficiency (Lai, 2009). Strong audit quality denotes high financial reporting quality. Companies with better financial reporting quality are more likely to fund their investment projects or make prudent investments (e.g., Biddle et al. 2009; Bae et al. 2017). Compared to those with low gift card liabilities, companies with high gift card liabilities retain more cash in the form

of unredeemed gift cards. When companies have investment opportunities, they are more likely to succeed in their investments. Therefore, my second hypothesis is as follows.

H2. Firms with better investment opportunities are more likely to benefit from gift card liabilities to improve investment efficiency.

My third hypothesis investigates whether the relationship between gift card liabilities and investment efficiency differs between financially constrained and unconstrained firms. The market values financially constrained firms that hold more cash due to their greater capacity to fund value-increasing investment projects and punishes financially unconstrained firms to retain cash due to overinvestment concerns (Faulkender and Wang 2006; Denis and Sibilkov 2009). Financially constrained firms may also bypass positive net present value projects because they do not have sufficient cash to invest, resulting in underinvestment (e.g., Aviazian et al. 2005; Duchin et al. 2010). Garcia Lara et al. (2016) document that accounting conservatism can mitigate information asymmetry between investors and financially constrained firms, affording constrained firms with funds to invest and thus improving investment efficiency. The issuance of gift cards acts similar to an external financing activity with different parties involved. Financially constrained firms are likely to benefit from gift card liabilities because they can raise funds from customers. However, financially unconstrained firms are likely benefit from gift card liabilities because they have strong capacities to fund investment projects by issuing attractive gift cards. Therefore, my third hypothesis is as follows.

H3. Financially unconstrained firms are more likely to benefit from gift card liabilities to improve investment efficiency.

CHAPTER 2.3 RESEARCH METHODOLOGY AND SAMPLE

2.3.1 Empirical Models

Following Biddle et al. (2009) and Bae et al. (2017), I estimate investment efficiency by predicting firm investment levels within the same industry-year distributions and take the residual from the following models.

$$INV_{it} = F(a_0 + a_1 Q_{it-1} + a_2 Q_{it-1} \times Quartile2_{it-1} + a_3 Q_{it-1} \times Quartile3_{it-1} + a_4 Q_{it-1} \times Quartile4_{it-1} + a_5 CF_{it} + a_6 Growth_{it-1} + a_7 INV_{it-1} + \varepsilon_{it})$$

(1)

where *INV* is capital expenditures; *Q* is Tobin's Q; *Quartile 2, Quartile, 3*, and *Quartile 4* are indicators valued at 1 when *Q* is in the second, third, and fourth quartiles of its industry-year group, respectively, and valued at 0 otherwise; *CF* is cash flows; *Growth* is the natural log of total assets at the beginning of year t divided by total assets at the beginning of year *t-1*; and ε is the residuals. I take the residuals as the firm-specific proxy for investment efficiency, which is denoted as abnormal investment (*XINV*). According to Bae et al. (2017), a firm invests efficiently when it allocates its resources to positive net present value projects and abandons negative net present value projects. I identify a positive *XINV* as denoting overinvestment when a firm misallocates resources to negative net present value projects while a negative *XINV* suggests underinvestment when a firm does not select appropriate positive net present value projects. I adopt the Fama-French 48 industry classification to construct estimations and tests.

To test H1, I construct my model from Bae et al (2017) as follows.

$$\begin{aligned} ABS\_INV_{it} = {} & \beta_0 + \beta_1 L\_GC_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Loss_{it} + \beta_5 Cash_{it} + \beta_6 MTB_{it} \\ & + \beta_7 Z\text{-}score_{it} + \beta_7 Tangibility_{it} + \beta_8 OperatingCycle_{it} + \beta_9 STD\_CF_{it} \\ & + \beta_{10} STD\_Sale_{it} + \beta_{11} STD\_INV_{it} + \beta_{12} L\_XINV_{it} + \beta_{13} AQ1_{it} + \beta_{14} AQ2_{it} \\ & + \beta_{15} \Delta GDP_{it} + \beta_{16} STD\_INV_{it} + \varepsilon_{it} \end{aligned}$$

(2)

where *ABS_INV* is the absolute value of *XINV* from Model (1) developed by McNichols and Stubben (2008) and Bae et al. (2017), which is the proxy for the investment inefficiency of firm *i* in year *t*. *L_GC* is the variable of interest, which is defined as gift card liabilities divided by lag total assets. *Size* is the natural logarithm of firms' total assets. *LEV* is the leverage ratio. *Loss* is an indicator denoting loss firms. *Cash* is the level of cash to total assets. *MTB* is the market-to-book ratio. *Z-Score* is financial bankruptcy risk. Tangibility is the ratio of tangible assets to total assets. *OpeartingCycle* is the natural logarithm operating cycle. *STD_SF* is the standard deviation of cash flows for the past five years (*CF*). *STD_Sale* is the standard deviation of sales divided by average total assets for the past five years. *STD_INV* is the standard deviation of *INV* for the past five years. *L_XINV* is the value of *XINV* at the beginning of year *t*. *AQ1* is the absolute value of performance matched discretionary accruals developed by Kothari et al. (2005) and multiplied by a negative one. *AQ2* is the absolute value of residuals drawn from McNichols' (2002) model times a negative one. I include two accrual measures because prior studies have shown that reporting quality has a significant impact on investment efficiency (e.g., Biddle et al 2009; Cheng et al. 2013)[9]. Following Bae et al. (2017), I also control for macroeconomic factors that can influence managers' investment decisions. Δ*GDP* is the annual percentage change in real gross domestic product. *DGS10* is the ten-year treasury constant maturity rate. All continuous variables are winsorized to 1 percent of the top or bottom percentiles. All samples are tested by clustering standard errors at the firm level (Petersen, 2008).

Prior studies show that the value of cash holdings is higher for financially constrained firms than for unconstrained firms (e.g., Faulkender and Wang 2006; Denis and Sibilkov 2009). Denis and Sibilkov (2009) argue that constrained firms that experience difficulty securing external financing can select value-increasing projects when companies have higher cash holdings.

[9] The results are consistent with and without AQ1 and AQ2.

Similarly, Faulkender and Wang (2006) find that the market values cash holdings when firms are financially constrained. Issuing gift cards likely provides additional sources of external capital markets. Therefore, gift card issuers are more likely to satisfy their financial needs when firms are unconstrained. To test H3, I divide my sample into four different groups and run Model (2). Following Denis and Sibilkov (2009), constrained and unconstrained firms are defined by the following features. The first is the annual payout ratio. When companies are financially constrained, they are less likely to pay dividends. Therefore, constrained firms have lower payout ratios. I define firms within the bottom three deciles of the annual cash payout ratio (*Payout*) distribution for the same industry-year distribution as financially constrained firms while firms within the top three deciles of the annual cash payout ratio are unconstrained firms (Almedia et al. 2004). The second feature is firm size, which assumes that small firms are younger and less well known, suggesting their limited access to external capital markets. To distinguish small firms from large ones, I define firms within the bottom three deciles of total assets for the same industry-year distribution as financially constrained firms while those within the top three deciles of total assets are unconstrained firms (Almeida et al. 2004). The third variable is the debt rating. I adopt the approach employed by Almeida et al. (2004) and Denis and Sibilkov (2010) to identify firms as financially constrained when they have issued long-term debts but without Standard & Poor ratings or when their debts are in default. Otherwise, firms are defined as unconstrained. The fourth variable is the paper rating. Following Denis and Sibilkov (2010), I define firms as financially constrained when they have issued short-term debts but without Standard & Poor ratings or when their debts are in default. Otherwise, firms are defined as unconstrained. More detailed definitions for these variables are given in Appendix 2.A.

2.3.2 Sample

To identify gift card issuers, I first used five gift card retail websites to gather information on traded brands[10]. I then collected information about gift card liabilities from 10-K filings from the Securities and Exchange Commission's (SEC's) Edgar database.[11] The initial sample of gift card issuers included 3,674 observations. After eliminating duplicate issuers and those with no records on the SEC's Edgar database, a sample of 375 unique gift card issuers remained. Two assumptions were applied for data collection. First, I assumed that gift cards traded on websites are popular and that consumers are willing to spend money on them. In other words, when the gift cards of certain brands are not traded on websites, the public does not recognize such brands. Therefore, I assumed that firms not available through retail websites do not sell enough gift cards to be identified as gift card issuers. Second, I assumed that firms that do not report gift card liabilities in 10-K filings are nonissuers. The disclosure of gift card liabilities is not mandatory. While I acknowledge that gift card issuers may not report gift card liabilities in their financial statements, I argue that if companies do not report their number of gift card liabilities, the sale of gift cards has not reached materiality. Hence, when I could not obtain information on gift card liabilities from 10-K filings, I identified such firms as gift card nonissuers.

Next, I obtained financial data from the Compustat database. The sample period covers 1994 to 2018. The sample period starts in 1994 because the first plastic gift card was issued by Neiman Marcus in 1994 (Buchanan 2009). I removed companies of the financial industry (SIC 6000-6999) and companies without variables required for my control variables. I also excluded firm-year observations exhibiting asset or sales growth exceeding 100 percent, as this implies that

[10] I identified gift card issuers from five gift card retail websites: Cardpool (www.cardpool.com), Raise (www.raise.com), Cardcash (www.cardcash.com), Gift Card Granny (www.giftcardgranny.com), and Gift Card Mall (www.giftcardmall.com). These websites allow individuals to resell their gift cards. When gift cards are traded on these websites, gift cards are more likely to be unredeemed and remain on balance sheets longer.

[11] I used combinations of three search terms (from gift, gift card, stored, stored value, and prepaid card) to determine whether companies disclosed their gift card liabilities, which were largely recorded as unearned revenue, deferred revenue, gift card liabilities, gift certificates, stored-value cards, etc.

a company may undergo mergers, reorganization, and other major events (Almeida et al. 2004). These procedures produced 54,429 firm-year observations. Finally, I merged financial data with gift card issuers two different ways. First, I created an indicator of gift card issuers (*GC_Issue*) of equal to 1 for brands traded on websites and of equal to 0 otherwise. This sample was used to test whether issuing gift cards is important for investment efficiency. Second, I retained the sample with positive gift card liabilities, which produced in 880 firm-year observations after applying the lag value of gift card liabilities. The lag value suggests that gift cards remain unredeemed from prior periods and are more likely to be used for investment. I constructed this sample to test whether the value of gift card liabilities affects investment efficiency.

CHAPTER 2.4 EMPIRICAL FINDINGS

2.4.1 Descriptive Statistics

Table 2.1, Panel A presents descriptive statistics for the dependent and independent variables. Gift card liabilities (*GC*) has a mean (median) of 0.03 (0.02) while cash value has a mean (median) of 0.16 (0.13). The relationship between gift card liabilities and cash holdings suggests that gift card liabilities can account for approximately 15.38 to 18.75 percent of cash. Issuing gift cards can provide helpful sources of capital when companies have demand for cash.

Table 2.1, Panel B presents the correlation matrix of the dependent and independent variables. Gift card liabilities (*L_GC*) are negatively correlated with the absolute value of investment residuals (*ABS_XINV*) and investment residuals (*XINV*). This serves as preliminary evidence that gift card liabilities can improve investment efficiency.

[Insert Table 2.1 here]

Table 2.2 presents the regression results for tests of H1 examining the relationship between gift card liabilities and investment efficiency. Table 2.2, Panel A reports results for the value of gift card liabilities (*L_GC*). The dependent variable in Column (1) is *ABS_XINV*, which is the

absolute value of abnormal investment levels, which are the residuals in Model (1). The dependent variables shown in Columns (2) and (3) of Table 2.2, Panel A are positive *XINV* and negative *XINV*, respectively. The purpose is to examine whether gift card liabilities affect over- or underinvestment independently. Column (1) shows that the coefficient on *L_GC* is negative and significant ($p < 0.05$), suggesting that higher gift card liabilities reduce investment inefficiency. That is, when companies have more gift card liabilities, they can improve their investment efficiency. The effect of *L_GC* is prominent in Column (3) when *XINV* is negative. In Column (3), the coefficient on *L_GC* is positive and significant ($p < 0.05$), indicating that companies are more likely to invest in positive net present value projects when they encounter them. In Table 2.2, Panel B I follow McNichols and Stubben (2008) and estimate abnormal investment efficiency. The results shown in Column (1) are consistent with those shown in Table 2.2, Panel A. I do not find results consistent with those listed in Column (3) of Table 2.2, Panel A. However, the relationship between gift card liabilities (*L_GC*) and positive abnormal investment levels ($XINV \geq 0$) is significant and negative ($p < 0.1$), showing that companies with a high balance of gift card liabilities do not overinvest. In conclusion, Panels A and B of Table 2.2 show a negative relationship between the absolute value of abnormal investment levels and gift card liabilities. With more gift card liabilities, companies exhibit better investment behaviors.

[Insert Table 2.2 here]

2.4.2 Multivariate Results

Table 2.3 reports descriptive statistics for the sample of gift card issuers and nonissuers. To test whether different characteristics drive the results found for gift card issuers and nonissuers, I assign an indicator to gift card issuers when firms report gift card liabilities in 10-K filings (*GC_Issue*). Because most firms that issue gift cards belong to the retail industry, I use the Fama-French 48 industry classifications to identify firms in the retail industry (Fama-French industry groups 42 and 43). Table 2.3, Panel A presents descriptive statistics for the whole sample. The

mean for gift card issuers (*GC_Issue*) is 0.02, suggesting few of the sample firms sell gift cards. In Table 2.3, Panel B, I restrict my sample to the retail industry. The mean for gift card issuers (*GC_Issue*) is 0.19, showing that gift cards are more popular in the retail industry than in other industries.

[Insert Table 2.3 here]

Table 2.4 presents the regression results for gift card issuers and nonissuers. I run Model (2) and test whether gift card issuers exhibit better investment behaviors. Table 2.4, Panel A shows the results for the whole sample. In Columns (1) and (2), the coefficients on *GC_Issue* are negative and significant ($p < 0.001$), demonstrating that gift card issuers make better investments than nonissuers. In Column (3), the relationship between *GC_Issue* and negative *XINV* is positive and significant ($p < 0.05$). These results support my hypothesis that gift card issuers are more likely to access capital when they encounter an investment opportunity than nonissuers, resulting in better investment behaviors. In addition, Table 2.4, Panel B reports results for companies in the retail industry. The coefficient on *GC_Issue* in Column (2) is negative and significant ($p < 0.05$) while the coefficients in Columns (1) and (3) are insignificant ($p = 0.137$ and 0.385, respectively). This evidence shows that gift card issuers are less likely to overinvest.

Similarly, I replace the dependent variable with the measure developed by McNichols and Stubben (2008). Panels C and D of Table 2.4 present the results for the alternative measure. Panels C and D of Table 2.4 show that the coefficients on *GC_Issue* are statistically significant in the predicted directions in Columns (1) to (3). This shows that gift card issuers exhibit better investment behaviors than nonissuers, suggesting that gift cards can help improve investment efficiency.

[Insert Table 2.4 here]

Following Bae et al. (2017), I also examine whether gift card liabilities impact noncapital investment behaviors. Specifically, I replace *INV* with noncapital expenditures (*NONINV*)

including R&D, acquisition, and advertising expenses in Model (1) and take the residuals as *XNONINV*. Table 2.5 reports the results for the relationship between gift card liabilities and noncapital investment. Table 2.5, Panel A provides results for the impact of gift card liabilities on investment efficiency. Panel A, does not show evidence that companies improve noncapital investment efficiency when they have a higher balance of gift card liability while in Panel B the alternative measure developed by McNichols and Stubben (2008) brings about a negative and significant result for *ABS_XNONINV* ($p < 0.05$).

[Insert Table 2.5 here]

Table 2.6 presents the results for gift card issuers and nonissuers with noncapital investment. Because most gift card issuers belong to the retail industry, I also isolate the sample belonging to retail industry based on the Fama-French 48 industry classifications (Fama-French industry groups 42 and 43). In Table 2.6, Panel A, the coefficients on *GC_Issue* are statistically significant in Columns (1) to (3), indicating that companies that issue gift cards are more likely to exhibit better investment behaviors. In Table 2.6, Panel B, the results are consistent except that in Column (3), $p = 0.132$. When I replace the measure developed by Bae et al. (2017) with the measure by McNichols and Stubben (2008), I find consistent results for both samples in Panels C and D.

[Insert Table 2.6 here]

Firms with different investment opportunity sets (e.g., the opportunity to engage in positive net present value projects) possess heterogeneous characteristics. For example, Smith and Watts (1992) document that firms with more growth options adopt different corporate policies such as lower dividend yields, lower leverage, and higher executive compensation and are more likely to adopt stock option plans. Because the issuance of gift cards can provide additional channels through which firms can fund positive net present value projects, firms with more investment opportunity sets can exhibit better investment behaviors. I take Tobin's Q as the proxy for

investment opportunity sets (e.g., Smith and Watts 1992; Core et al. 1999) and divide my sample into two groups by the median. In addition, issuing gift cards can bring about positive cash flows for companies (Horne and Bendle 2015).

Table 2.7 presents the results for gift card liabilities and investment efficiency with Tobin's *Q*. Table 2.7, Panel A reports empirical results split by Tobin's *Q* values of greater than the median. The coefficient on *L_GC* in Column (1) is significantly negative ($p < 0.1$). Panel B, does not show any other evidence that firms with strong investment opportunities can mitigate over- or underinvestment with the balance of gift card liabilities.

[Insert Table 2.7 here]

Gift cards can serve as an additional source of external capital, as firms can receive cash in advance and provide services or goods in the future. Financially constrained firms may have a demand for funds when they have positive net present value projects to invest in, resulting in better investment behaviors. However, financially unconstrained firms are more likely to benefit from gift card liabilities, which can be considered interest-free loans (Fried et al., 2015), as they can obtain external capital more easily than unconstrained firms.[12] Table 2.8 presents the results for gift card liabilities and investment efficiency for when companies are financially constrained or unconstrained. Following Denis and Sibilkov (2010), I separate my sample based on four definitions of financially constrained firms. Panels A and B of Table 2.8 present the results for H3 when constrained firms are identified by the payout ratio (*Payout_Decile*). The coefficients on *L_GC* are insignificant except for the coefficient in Panel B, Column (3) ($p = 0.0018$). That is, unconstrained firms are more likely to exhibit better investment behaviors with gift card liabilities.

[12] Untabulated results show that the means (medians) of *L_GC* are 0.029 (0.023), 0.027 (0.023), 0.028 (0.021), and 0.030 (0.023) for the subsets of financially unconstrained firms (*Payout_Decile*, *Size_Decile*, *Debt_Rating*, and *Paper_Rating*, respectively). The means (median) of *L_GC* are 0.026 (0.020), 0.026 (0.020), 0.030 (0.020), and 0.026 (0.018) for the subsets of financially constrained firms (*Payout_Decile*, *Size_Decile*, *Debt_Rating*, and *Paper_Rating*, respectively). Although the mean and median of *L_GC* are larger for the subsets of three measures (i.e., *Payout_Decile*, *Size_Decile*, and *Paper_Rating*), mean and median differences exist for subsets of *Paper_Rating* (both $p < 0.01$).

Panels C and D of Table 2.8 present the results obtained when constrained firms are identified by firm size (*Size_Decile*). Relationships between *L_GC* and *ABS_XINV* and between *L_GC* and *XINV* are insignificant in Panel C, suggesting that there is no evidence that financially constrained firms have better investment behaviors in terms of gift card liabilities. The coefficients on *L_GC* are statistically significant across Panel D, Columns (1) to (3), indicating that large firms are more likely to improve in investment efficiency with gift card liabilities. Panels E and F of Table 2.8 present the results obtained when constrained firms are identified by long-term debt and debt ratings (*Debt_Rating*). The coefficients on *L_GC* are significant and negative (both $p < 0.05$) in Columns (1) and (2), suggesting that financially constrained firms are likely to exhibit good investment behaviors and that the same effect is found for positive *XINV*. I do not find a relationship between *L_GC* and *XINV* when *XINV* is negative. In Panel F, there is a positive relationship between *L_GC* and *XINV* ($p < 0.05$) when *XINV* is greater than or equal to 0. The above results show that unconstrained firms can benefit from gift card liabilities when they encounter an investment opportunity. Finally, Panels G and H of Table 2.8 present the results obtained when constrained firms are identified by short-term debt and debt ratings (*Paper_Rating*). The subsamples of constrained and unconstrained firms have significant and negative coefficients on *L_GC* (both $p < 0.05$) in Column (1). Panel H, Column (2) shows a negative relationship between *L_GC* and *XINV* ($p < 0.01$), suggesting that *L_GC* affects overinvestment behaviors.

In sum, I find unconstrained firms to perform better in terms of investments when they have low payout ratios and are large in size. It may be that unconstrained firms are more likely to gain customers' trust on their ability to provide goods or perform services in the future. Untabulated tables show that unconstrained firms have higher means and medians of gift card liability than constrained firms. Therefore, constrained firms are better able to improve their investment behaviors.

[Insert Table 2.8 here]

CHAPTER 2.5 CONCLUSION

In this study, I examine whether gift card liabilities can serve as a source of investment funds and influence corporate investment efficiency. I test and find a negative relationship between gift card liabilities and investment residuals. I explore gift card liabilities because they contain the unredeemed value of gift cards where deposits from customers will stay on the balance sheet and be used by companies. Pronounced results are also found for subsets of over- and underinvestment. Furthermore, I investigate the effect of gift card liabilities on investment efficiency for firms with different levels of investment opportunity. I find that firms with better investment opportunities have prudent investments with the higher levels of gift card liability. Finally, I examine whether the effect of gift card liabilities on investment efficiency differs between financially constrained and unconstrained firms. I find that unconstrained firms exhibit better investment behaviors than constrained firms. Overall, these results suggest that gift card liabilities can improve investment efficiency, as managers can expect future demand from the balance of unredeemed gift cards. In addition, issuing gift cards generates positive cash flows to fund investment projects when companies encounter profitable ones, mitigating underinvestment, while companies reserve some resources for the fulfillment of gift card redemption, reducing overinvestment.

This study contributes to the literature on investment efficiency. Prior studies have extensively examined how reporting quality can affect investment efficiency. After controlling for reporting quality, I find a positive relationship between gift card liabilities and investment efficiency, suggesting that gift cards can serve as external financing for investment projects while not bypassing investment opportunities. The balance of gift card liabilities can also help managers make operational plans for the coming year. I use lag gift card liabilities to examine whether they can improve investment efficiency. The present study is the only one to provide evidence on the potential benefits of gift cards related to investment behaviors. Specifically, the present work can

support future research on the role of gift cards in financial accounting and on their applications in business activities.

APPENDIX 2.A

Variable Definitions

Variable	Definition
Dependent Variable and Test Variable	
XINV	The residuals from Model (1) based on McNichols and Stubben (2008). *INV* is capital expenditures calculated by capital expenditures (capx) divided by lag net property, plant and equipment (*ppent*). *Q* is Tobin's Q defined as (*prcc_f* × *csho* + *at* – *ceq*) / at. *CF* is cash flows calculated by operating free cash flows (*oancf*) divided by lag net property, plant and equipment (*ppent*) or [oiad – (Δ*act* – Δ*che*) – (Δ*lct* – Δ*dlc* – Δ*txp*) – *dp*)], if operating free cash flows are unavailable. Δ is the value change from year *t-1* to year *t*. *Growth* is the natural log of total assets (*at*) divided by lag total assets (*at*). NONINV is non-capital expenditures calculated by non-capital expenditures (*xrd* + *aqc* + *xad*), divided by lag net property, plant and equipment (*ppent*).
ABS_XINV	The absolute value of *XINV*.
L_GC	Gift card liabilities reported in 10-K filings divided by lag total assets at the beginning for the year.
GC_Issue	An indicator if gift cards are sellable on *Cardcash*, *Cardpool*, *Gift Card Granny*, *Gift Card Mall*, and *Raise*, and 0 otherwise.
Financial Constraint Variable	
Payout_Decile	An indicator equal to 1 if the dividend payout ratio [(*dvc* + *prstkc*) / (*ib* + *xint* + *txdi* + *itci*)] is in the bottom three deciles, and 0 if the dividend payout ratio is in the top three deciles in the same industry-year distribution.
Size_Decile	An indicator equal to 1 if the *Size* (*at*) is in the bottom three deciles, and 0 if the *Size* is in the top three deciles in the same industry-year distribution.
Debt_Rating	An indicator equal to 1 if long-term debt (*dltt*) is greater than 0 and their long-term debt is not rated by Standard Poor's (*splticrm* is missing) or in default (*splticrm* is either 'D' or 'SD'), and 0 otherwise.
Paper_Rating	An indicator equal to 1 if short-term debt is greater than 0 (*dlt*) and the S&P Short-term Debt Rating is not available (*spsticrm* is not missing), and 0 otherwise.
Control Variable	
Size	The natural logarithm of total assets (*at*).
LEV	The leverage calculated by total long-term debt (*dltt*) plus total short-term debt (*dlc*) divided by total assets (*at).*

Loss	An indicator equal to 1 if income before extraordinary items (*ib*) is negative, and 0 otherwise.
Cash	The ratio of cash (*che*) to total assets (*at*).
MTB	The ratio of market value (*at* + (*csho* × *prcc_f*) – *ceq* – *txdb*) to book value (*at*).
Z-Score	The Altman Z-score calculated by (3.3 × *pi* + *sale* + 0.25 × *re* + 0.5 × (*act* - *lct*))/*at.*
Tangibility	The ratio of net property, plant and equipment (*ppent*) to total assets (at).
Operating Cycle	The natural logarithm of operating cycle calculated by ((*rect* / *sale*) + (*invt* / *cogs*)) × 360.
STD_CF	Standard deviation of *CF* from years *t-5* to *t-1*.
STD_Sale	Standard deviation of the sales (*sale*) divided by average total assets (*at*) from years *t-5* to *t-1*.
STD_INV	Standard deviation of *INV* from years *t-5* to *t-1*.
L_XINV	The value of *INV* at the beginning of the year *t*.
AQ1	Absolute value of performance matched discretionary accrual (Kothari et al. 2005) multiplied by -1.
AQ2	Absolute value of residuals from McNichols (2002) model multiplied by -1.
GDP	The annual percentage change in real gross domestic product.
DGS10	Ten-year treasury constant maturity rate.

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TABLE 2.1
Summary Statistics

Panel A: Sample

Variable	n	Mean	STD	P25	Med	P75
XINV	880	0.10	0.12	0.03	0.06	0.12
Abs_XINV	880	0.11	0.12	0.04	0.08	0.13
L_GC	880	0.28	0.30	0.07	0.18	0.37
Size	880	0.00	0.15	-0.07	-0.01	0.05
LEV	880	0.00	0.16	-0.09	-0.02	0.07
Cash	880	-0.07	0.29	-0.14	-0.03	0.04
MTB	880	-0.20	0.34	-0.35	-0.13	-0.02
Z	880	0.03	0.03	0.01	0.02	0.04
Tangibility	880	0.03	0.02	0.01	0.02	0.04
Operating Cycle	880	6.92	1.51	5.75	6.83	7.76
STD5_CF	880	0.15	0.19	0.00	0.07	0.25
STD5_SaleAT	880	0.16	0.13	0.05	0.13	0.24
STD5_INV	880	2.08	1.20	1.21	1.72	2.62
L_XINV	880	2.30	0.72	1.84	2.28	2.72
AQ1	880	0.41	0.20	0.25	0.36	0.55
AQ2	880	4.10	1.00	3.31	4.34	4.83
ΔGDP	880	0.19	0.18	0.07	0.13	0.26
DGS10	880	0.15	0.12	0.07	0.11	0.17

Panel B: Correlation Matrix

	1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. *Abs_XINV*																	
2. *XINV*	**0.15**																
4. *L_GC*	-0.04	-0.02															
5. *Size*	**-0.11**	**-0.18**	0.05														
6. *LEV*	-0.05	**-0.13**	**-0.16**	**0.21**													
7. *Cash*	**0.19**	**0.13**	0.07	-0.06	**-0.45**												
8. *MTB*	**0.15**	0.03	**0.14**	**0.13**	**-0.10**	**0.32**											
9. *Z*	**0.12**	0.03	**0.11**	0.06	**-0.36**	**0.35**	**0.36**										
10. *Tangibility*	**-0.13**	**-0.08**	0.01	**-0.11**	**0.22**	**-0.43**	-0.04	**-0.34**									
11. *Operating Cycle*	0.04	-0.07	**-0.09**	**0.31**	-0.07	0.07	**-0.08**	**0.17**	**-0.74**								
12. *STD5_CF*	**0.27**	**0.11**	-0.04	**-0.16**	**-0.23**	**0.44**	**0.09**	**0.25**	**-0.53**	**0.30**							
13. *STD5_Sale*	**0.14**	**0.09**	-0.04	**-0.18**	-0.06	**0.31**	0.02	**0.16**	**-0.16**	**-0.09**	**0.29**						
14. *STD5_INV*	**0.23**	**0.08**	-0.04	**-0.31**	**-0.25**	**0.38**	**0.17**	**0.13**	**-0.18**	0.05	**0.59**	**0.35**					
15. *L_XINV*	**0.15**	0.05	-0.03	**-0.17**	**-0.12**	**0.10**	0.03	0.05	-0.05	-0.07	**0.17**	**0.09**	**0.18**				
16. *AQ1*	**-0.09**	-0.05	-0.03	**0.13**	**0.09**	**-0.09**	-0.06	0.00	**0.15**	**-0.08**	**-0.20**	**-0.08**	**-0.14**	-0.05			
17. *AQ2*	-0.06	-0.03	-0.04	**0.19**	-0.07	0.00	0.01	**0.18**	0.04	0.06	**-0.15**	**-0.12**	**-0.14**	-0.04	**0.27**		
18. ΔGDP	0.02	0.05	-0.03	-0.08	-0.01	**0.09**	**0.18**	0.05	-0.05	0.00	-0.01	**0.09**	**0.09**	-0.01	-0.03	0.05	
19. DGS10	-0.04	0.05	**-0.15**	**-0.25**	-0.05	-0.04	0.01	-0.02	**0.11**	-0.06	-0.01	**0.09**	**0.19**	0.03	-0.07	-0.05	**0.29**

Table 2.1 presents the summary statistics for firms with balance of gift card liabilities. Table 2.1, Panel A present the summary statistics of sample. Table 2.1, Panel B reports Pearson correlations. Boldface indicates the significance is at the 0.05 level. All variables are defined in Appendix 2.A.

TABLE 2.2

Gift Card Liabilities and Investment Efficiency

Panel A: ***L_GC*** **Effect on CAPEX Investment by Bae et al. (2017)**

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV*** **Coefficient (*t*-values)**	***XINV*≥0** **Coefficient (*t*-values)**	***XINV*<0** **Coefficient (*t*-values)**
Intercept	0.342***	0.306*	-0.376***
	(3.25)	(1.85)	(-3.02)
L_GC	-0.327**	-0.303	0.310**
	(-2.16)	(-1.33)	(2.06)
Size	-0.003	-0.009*	-0.002
	(-1.11)	(-1.85)	(-0.62)
LEV	0.006	-0.038	-0.024
	(0.24)	(-0.92)	(-1.15)
Loss	-0.007	-0.024	-0.010
	(-0.56)	(-1.33)	(-0.72)
Cash	0.071	0.098	-0.030
	(1.39)	(1.48)	(-0.58)
MTB	0.010***	0.006	-0.010**
	(2.16)	(0.96)	(-2.19)
Z	-0.004	-0.004	0.003
	(-0.45)	(-0.31)	(0.30)
Tangibility	0.044	0.006	-0.052
	(1.20)	(0.11)	(-1.46)
Operatingcycle	-0.005	-0.012	-0.001
	(-0.37)	(-0.82)	(-0.09)
STD5_CF	0.160***	0.201***	-0.084**
	(3.78)	(3.62)	(-2.27)
STD5_SaleAT	0.043	0.003	-0.010
	(1.00)	(0.05)	(-0.29)
STD5_INV	-0.035	-0.155	-0.108
	(-0.52)	(-1.64)	(-1.55)
L_XINV_FF48	0.083***	0.041	-0.086***
	(2.99)	(1.07)	(-3.44)
AQ1	-0.044	-0.089	-0.007
	(-0.70)	(-0.86)	(-0.11)
AQ2	0.038	-0.293**	-0.204
	(0.31)	(-2.02)	(-1.65)
Δ*GDP*	-0.001	0.015	-0.009
	(-0.03)	(0.20)	(-0.14)
DGS10	-0.104	-0.088	0.158
	(-0.94)	(-0.46)	(1.12)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	880	396	484
Adj R^2	0.190	0.193	0.310

TABLE 2.2 (continued)

Gift Card Liabilities and Investment Efficiency

Panel B: ***L_GC*** **Effect on CAPEX Investment by McNichols and Stubben (2008)**

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	***ABS_XINV*** **Coefficient (*t*-values)**	***XINV*≥0** **Coefficient (*t*-values)**	***XINV*<0** **Coefficient (*t*-values)**
Intercept	0.291***	0.488**	-0.056
	(2.71)	(2.43)	(-0.33)
L_GC	-0.452**	-0.513*	0.254
	(-2.27)	(-1.86)	(1.15)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	880	396	484
Adj R^2	0.160	0.321	0.246

*, **, *** Indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2.2 presents results for tests of H1. Table 2.2, Panel A shows the results for the investment efficiency (*XINV*) used by Bae et al. (2017). Table 2.2, Panel B demonstrates the results for the investment efficiency used by McNichols and Stubben (2008). All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008).

TABLE 2.3

Summary Statistics for Gift Card Issuers and Nonissuers

Panel A: All Sample

Variable	N	Mean	Std Dev	25th Pctl	Median	75th Pctl
XINV	54,429	-0.01	0.25	-0.11	-0.03	0.06
Abs_XINV	54,429	0.16	0.23	0.04	0.09	0.19
GC_Issue	54,429	0.02	0.13	0.00	0.00	0.00
Size	54,429	5.89	2.44	4.10	5.89	7.61
LEV	54,429	0.23	0.24	0.04	0.19	0.34
Cash	54,429	0.16	0.17	0.03	0.09	0.22
MTB	54,429	1.81	1.31	1.05	1.41	2.05
Z	54,429	1.21	1.63	0.74	1.35	1.99
Tangibility	54,429	0.28	0.23	0.10	0.21	0.41
Operatingcycle	54,429	4.64	0.74	4.25	4.73	5.13
STD5_CF	54,429	0.94	2.17	0.10	0.25	0.74
STD5_SaleAT	54,429	0.19	0.17	0.07	0.13	0.23
STD5_INV	54,429	0.18	0.24	0.05	0.10	0.21
L_XINV	54,429	-0.01	0.25	-0.12	-0.03	0.06
AQ1	54,429	-0.12	0.15	-0.14	-0.07	-0.03
AQ2	54,429	-0.06	0.07	-0.07	-0.04	-0.02
ΔGDP	54,429	4.42	1.88	3.63	4.61	5.97
DGS10	54,429	4.04	1.46	2.78	4.27	5.02

Panel B: Retail Industry

Variable	N	Mean	Std Dev	25th Pctl	Median	75th Pctl
XINV	4,848	0.00	0.18	-0.08	-0.02	0.06
Abs_XINV	4,848	0.12	0.16	0.03	0.07	0.14
GC_Issue	4,848	0.19	0.39	0.00	0.00	0.00
Size	4,848	6.25	1.95	5.02	6.19	7.57
LEV	4,848	0.25	0.23	0.06	0.21	0.36
Cash	4,848	0.11	0.12	0.02	0.06	0.16
MTB	4,848	1.67	1.01	1.01	1.35	1.97
Z	4,848	2.30	1.04	1.64	2.25	2.90
Tangibility	4,848	0.40	0.22	0.22	0.36	0.55
Operatingcycle	4,848	4.06	1.04	3.35	4.29	4.83
STD5_CF	4,848	0.31	0.59	0.06	0.13	0.31
STD5_SaleAT	4,848	0.20	0.18	0.08	0.14	0.24
STD5_INV	4,848	0.13	0.14	0.05	0.09	0.16
L_XINV	4,848	0.00	0.19	-0.09	-0.02	0.06
AQ1	4,848	-0.08	0.09	-0.11	-0.05	-0.02
AQ2	4,848	-0.04	0.04	-0.05	-0.03	-0.01
ΔGDP	4,848	4.50	1.86	3.63	4.61	5.97
DGS10	4,848	4.15	1.46	2.78	4.27	5.26

Table 2.3 presents the descriptive statistics for gift card issuers and nonissuers. Table 2.3, Panel A reports All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles.

TABLE 2.4

Gift Card Issuers and Investment Efficiency between Issuers and Nonissuers

Panel A: *GC_Issue* Effect on CAPEX investment by Bae et al. (2017) for All Sample

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	*ABS_XINV* Coefficient (t-values)	*XINV*≥0 Coefficient (t-values)	*XINV*<0 Coefficient (t-values)
Intercept	-0.063**	0.059	0.117***
	(-2.06)	(0.01)	(4.13)
GC_Issue	-0.021***	-0.031***	0.010**
	(-3.72)	(-3.48)	(2.14)
Size	-0.011***	-0.018***	0.006***
	(-21.75)	(-19.47)	(13.98)
LEV	-0.008	-0.011	0.001
	(-1.39)	(-1.10)	(0.17)
Loss	-0.006**	-0.014***	-0.003*
	(-2.15)	(-2.93)	(-1.69)
Cash	0.062***	0.097***	-0.030***
	(6.71)	(6.23)	(-4.38)
MTB	0.012***	0.010***	-0.011***
	(10.86)	(5.41)	(-11.96)
Z	0.000	0.002	0.003***
	(-0.12)	(1.10)	(3.78)
Tangibility	-0.022***	-0.021*	0.006
	(-3.00)	(-1.67)	(0.97)
Operating Cycle	0.005**	0.008**	-0.002
	(2.24)	(2.14)	(-0.97)
STD5_CF	0.016***	0.018***	-0.007***
	(14.64)	(11.22)	(-9.17)
STD5_SaleAT	0.023***	0.040***	-0.003
	(2.87)	(3.11)	(-0.42)
STD5_INV	0.016**	0.012	-0.035***
	(2.40)	(1.00)	(-7.39)
L_XINV	0.087***	0.079***	-0.077***
	(15.83)	(8.67)	(-18.77)
AQ1	-0.028***	-0.032**	0.015**
	(-3.09)	(-2.12)	(2.16)
AQ2	-0.030	-0.072**	0.007
	(-1.49)	(-2.03)	(0.50)
Δ*GDP*	-0.074***	0.019	0.077***
	(-6.58)	(0.00)	(7.19)
DGS10	0.209***	0.002	-0.224***
	(7.00)	(0.00)	(-7.82)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	54,429	21,573	32,856
Adj R^2	0.150	0.172	0.204

TABLE 2.4 (continued)

Gift Card Issuers and Investment Efficiency between Issuers and Nonissuers

Panel B: *GC_Issue* Effect on CAPEX Investment by Bae et al. (2017) for Retail Industry

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	*ABS_XINV* Coefficient (t-values)	*XINV*≥0 Coefficient (t-values)	*XIN*<0 Coefficient (t-values)
Intercept	0.468***	0.665***	-0.312***
	(6.00)	(4.96)	(-4.30)
GC_Issue	-0.008	-0.017**	0.004
	(-1.49)	(-2.06)	(0.87)
Size	-0.006***	-0.015***	0.001
	(-3.97)	(-6.05)	(0.77)
LEV	0.018	-0.004	-0.029***
	(1.61)	(-0.25)	(-2.86)
Loss	0.004	-0.010	-0.015***
	(0.66)	(-0.97)	(-2.94)
Cash	0.051*	0.060	-0.047*
	(1.86)	(1.46)	(-1.87)
MTB	0.015***	0.012**	-0.016***
	(4.79)	(2.58)	(-6.41)
Z	-0.005	-0.005	0.005*
	(-1.29)	(-0.89)	(1.76)
Tangibility	-0.013	-0.053*	-0.024
	(-0.75)	(-1.93)	(-1.64)
Operating Cycle	0.000	-0.003	-0.001
	(0.07)	(-0.41)	(-0.23)
STD5_CF	0.047***	0.046***	-0.022***
	(5.52)	(3.86)	(-3.07)
STD5_SaleAT	0.026	0.039	-0.019
	(1.56)	(1.41)	(-1.29)
STD5_INV	0.017	0.007	-0.051**
	(0.62)	(0.18)	(-2.42)
L_XINV	0.085***	0.079***	-0.085***
	(6.38)	(3.88)	(-6.47)
AQ1	-0.096***	-0.088**	0.052*
	(-3.00)	(-2.22)	(1.77)
AQ2	0.019	0.003	-0.013
	(0.29)	(0.03)	(-0.26)
Δ*GDP*	0.054	0.159**	0.028
	(1.49)	(2.39)	(0.65)
DGS10	-0.247***	-0.475***	0.063
	(-2.76)	(-2.84)	(0.65)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	4,848	2,011	2,837
Adj R^2	0.265	0.237	0.346

TABLE 2.4 (continued)

Gift Card Issuers and Investment Efficiency between Issuers and Nonissuers

Panel C: *GC_Issue* Effect on CAPEX Investment by McNichols and Stubben (2008) for All Sample

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV*** **Coefficient (t-values)**	***XINV*≥0** **Coefficient (t-values)**	***XINV*<0** **Coefficient (t-values)**
Intercept	-0.071	0.025***	0.107***
	(0.00)	(4.70)	(8.00)
GC_Issue	-0.025***	-0.036***	0.014**
	(-3.39)	(3.13)	(-2.42)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	54,429	19,056	35,373
Adj R^2	0.155	0.180	0.258

Panel D: *GC_Issue* Effect on CAPEX Investment by McNichols and Stubben (2008) for Retail Industry

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV*** **Coefficient (t-values)**	***XINV*≥0** **Coefficient (t-values)**	***XINV*<0** **Coefficient (t-values)**
Intercept	0.588***	0.790***	-0.468***
	(8.00)	(5.54)	(-6.82)
GC_Issue	-0.015**	-0.023**	0.010**
	(-2.42)	(-2.24)	(2.11)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	4,848	1,847	3,001
Adj R^2	0.211	0.226	0.308

*, **, *** Indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2.4 presents results with gift card issuers and nonissuers. Table 2.4, Panel A and B shows the results for the investment efficiency (*XINV*) used by Bae et al. (2017). Table 2.4, Panel B shows the results for retail industry. Table 2.4, Panel C and D demonstrates the results for the investment efficiency used by McNichols and Stubben (2008). Table 2.4, Panel D reports the results for retail industry. All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008).

TABLE 2.5

Gift Card Liabilities and Non-Capital Investment Efficiency

Panel A: *L_GC* Effect on Non-CAPEX Investment by Bae et al. (2017)

Dependent Variable = Abnormal Non-CAPEX Investment (*XNONINV*)

Variable	ABS_XNONINV Coefficient (t-values)	XNONINV≥0 Coefficient (t-values)	XNONINV<0 Coefficient (t-values)
Intercept	0.558***	0.879**	-0.462**
	(3.12)	(2.08)	(-2.16)
L_GC	-0.393	-0.370	0.477
	(-1.25)	(-0.89)	(1.10)
Size	0.003	0.017**	0.006
	(0.46)	(2.05)	(0.79)
LEV	-0.006	-0.010	0.043
	(-0.14)	(-0.16)	(0.84)
Loss	-0.012	0.014	0.055*
	(-0.61)	(0.57)	(1.86)
Cash	-0.094	-0.214	0.191
	(-1.00)	(-1.46)	(1.39)
MTB	0.029**	0.004	-0.042***
	(2.60)	(0.28)	(-2.68)
Z	-0.011	-0.007	0.004
	(-0.63)	(-0.40)	(0.15)
Tangibility	-0.149**	-0.294**	0.135
	(-2.16)	(-2.55)	(1.58)
Operatingcycle	-0.052**	-0.057**	0.064**
	(-2.42)	(-2.32)	(2.02)
STD5_CF	0.355***	0.134*	-0.482***
	(4.15)	(1.70)	(-3.83)
STD5_SaleAT	-0.022	-0.004	-0.074
	(-0.37)	(-0.04)	(-0.97)
STD5_INV	-0.035	0.534**	0.417***
	(-0.27)	(2.50)	(2.75)
L_XINV_NON	0.098**	0.150*	-0.135***
	(2.41)	(1.85)	(-2.65)
AQ1	0.038	-0.038	0.060
	(0.27)	(-0.31)	(0.26)
AQ2	-0.076	-0.010	-0.152
	(-0.32)	(-0.04)	(-0.33)
Δ*GDP*	0.180**	0.369	-0.004
	(2.44)	(2.13)	(-0.03)
DGS10	-0.470**	-0.905	0.079
	(-2.58)	(-2.00)	(0.26)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	880	322	558
Adj R^2	0.318	0.316	0.318

TABLE 2.5 (continued)

Gift Card Liabilities and Non-Capital Investment Efficiency

Panel B: *L_GC* Effect on Non-CAPEX Investment by McNichols and Stubben (2008)

Dependent Variable = Abnormal Non-CAPEX Investment (*XNONINV*)

Variable	ABS_XNONINV Coefficient (t-values)	XNONINV≥0 Coefficient (t-values)	XNONINV<0 Coefficient (t-values)
Intercept	-0.199	0.796	0.213
	(-0.95)	(1.38)	(0.97)
L_GC	-0.937**	0.013	0.581
	(-2.20)	(0.02)	(1.07)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	880	322	558
Adj R^2	0.459	0.544	0.500

*, **, *** Indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2.5 presents results with non-capital investment. Table 2.5, Panel A shows the results for the investment efficiency (*XNONINV*) estimated by Bae et al. (2017)'s model. Table 2.5, Panel B shows the results for the investment efficiency (*XNONINV*) estimated by McNichols and Stubben (2008)'s model. All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008).

TABLE 2.6

Gift Card Issuers and Non-Capital Investment Efficiency between Issuers and Nonissuers

Panel A: *GC_Issue* Effect on Non-CAPEX Investment by Bae et al. (2017) for All Sample

Dependent Variable = Abnormal NON-CAPEX Investment (*XNONINV*)

Variable	***ABS_XNONINV*** **Coefficient (t-values)**	***XNONINV*≥0** **Coefficient (t-values)**	***XNONINV*<0** **Coefficient (t-values)**
Intercept	1.248***	1.496***	-0.872***
	(7.15)	(7.49)	(-4.83)
GC_Issue	-0.114***	-0.081**	0.097***
	(-6.56)	(-2.13)	(6.01)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	54,429	19,864	34,565
Adj R^2	0.348	0.246	0.426

Panel B: *GC_Issue* Effect on Non-CAPEX Investment by Bae et al. (2017) for Retail Industry

Dependent Variable = Abnormal NON-CAPEX Investment (*XNONINV*)

Variable	***ABS_XNONINV*** **Coefficient (t-values)**	***XNONINV*≥0** **Coefficient (t-values)**	***XNONINV*<0** **Coefficient (t-values)**
Intercept	0.764***	1.087**	-0.627***
	(4.96)	(2.43)	(-3.26)
GC_Issue	-0.035***	-0.068**	0.019
	(-2.76)	(-2.34)	(1.51)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	4,848	1,833	3,015
Adj R^2	0.328	0.206	0.316

TABLE 2.6 (continued)

Gift Card Issuers and Non-Capital Investment Efficiency between Issuers and Nonissuers

Panel C: *GC_Issue* Effect on Non-CAPEX Investment by McNichols and Stubben (2008) for All Sample

	Dependent Variable = Abnormal NON-CAPEX Investment (*XNONINV*)		
Variable	***ABS_XNONINV*** **Coefficient (t-values)**	***XNONINV*≥0** **Coefficient (t-values)**	***XNONINV*<0** **Coefficient (t-values)**
Intercept	0.752***	1.733	-0.434***
	(3.13)	(0.00)	(-3.76)
GC_Issue	-0.248***	-0.217***	0.155***
	(-8.40)	(-3.47)	(9.66)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	54,429	14,692	39,737
Adj R^2	0.448	0.492	0.656

Panel D: *GC_Issue* Effect on Non-CAPEX Investment by McNichols and Stubben (2008) for Retail Industry

	Dependent Variable = Abnormal NON-CAPEX Investment (*XNONINV*)		
Variable	***ABS_XNONINV*** **Coefficient (t-values)**	***XNONINV*≥0** **Coefficient (t-values)**	***XNONINV*<0** **Coefficient (t-values)**
Intercept	0.331*	0.253	-0.314***
	(1.81)	(0.48)	(-4.50)
GC_Issue	-0.064***	-0.122***	0.028**
	(-3.26)	(-3.44)	(2.38)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	4,848	1,331	3,517
Adj R^2	0.411	0.531	0.340

*, **, *** Indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2.6 presents results with gift card issuers and nonissuers. Table 2.6, Panel A and B shows the results for the non-capital investment efficiency (*XNONINV*) used by Bae et al. (2017). Table 2.6, Panel B shows the results for retail industry. Table 2.6, Panel C and D demonstrates the results for the non-capital investment efficiency used by McNichols and Stubben (2008). Table 2.6, Panel D reports the results for retail industry. All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008).

TABLE 2.7

Gift Card Liabilities and Investment Efficiency with Investment Opportunities (*Q*)

Panel A: *Q* ≥ Median

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	*ABS_XINV* Coefficient (*t*-values)	*XINV*≥0 Coefficient (t-values)	*XINV*<0 Coefficient (t-values)
Intercept	0.280*	0.333	-0.286
	(1.67)	(1.39)	(-1.33)
L_GC	-0.408*	-0.283	0.302
	(-1.73)	(-0.83)	(1.48)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	440	207	233
Adj R^2	0.219	0.205	0.343

Panel B: *Q* < Median

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	*ABS_XINV* Coefficient (t-values)	*XINV*≥0 Coefficient (t-values)	*XINV*<0 Coefficient (t-values)
Intercept	0.378**	0.239	-0.489***
	(2.58)	(0.84)	(-3.07)
L_GC	-0.215	0.074	0.210
	(-1.14)	(0.23)	(0.99)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	440	189	251
Adj R^2	0.218	0.205	0.365

*, **, *** Indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2.7 presents the results with investment opportunities. Table 2.7, Panel A reports the results with *Q* greater than the median. Table 2.7, Panel B reports the results with *Q* lower than the median. All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008).

TABLE 2.8

Gift Card liabilities and Investment Efficiency for Constrained Firms

Panel A: *Payout_Decile* =1

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV*** **Coefficient (t-values)**	***XINV*≥0** **Coefficient (t-values)**	***XINV*<0** **Coefficient (t-values)**
Intercept	0.472	-0.154	0.598
	(0.69)	(-0.05)	(0.87)
L_GC	-2.151	1.160	-0.089
	(-1.51)	(0.24)	(-0.13)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	112	48	64
Adj R^2	0.123	0.034	0.750

Panel B: *Payout_Decile* =0

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV*** **Coefficient (t-values)**	***XINV*≥0** **Coefficient (t-values)**	***XINV*<0** **Coefficient (t-values)**
Intercept	-0.087	-1.226	-0.830**
	(-0.17)	(-0.53)	(-2.11)
L_GC	-0.460	2.882	0.896***
	(-1.24)	(0.46)	(3.44)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	122	49	73
Adj R^2	-0.061	-0.888	0.139

TABLE 2.8 (continued)

Gift Card liabilities and Investment Efficiency for Constrained Firms

Panel C: Size_*Decile* =1

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV* Coefficient (t-values)**	***XINV*≥0 Coefficient (t-values)**	***XINV*<0 Coefficient (t-values)**
Intercept	0.257	-0.095	-0.593
	(0.72)	(-0.2)	(-1.28)
L_GC	-0.149	-0.586	0.270
	(-0.42)	(-0.73)	(0.89)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	239	122	117
Adj R^2	0.194	0.208	0.268

Panel D: Size_*Decile* =0

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV* Coefficient (t-values)**	***XINV*≥0 Coefficient (t-values)**	***XINV*<0 Coefficient (t-values)**
Intercept	0.668**	1.049**	-0.458**
	(2.37)	(2.15)	(-2.45)
L_GC	-0.971***	-1.627***	0.882**
	(-3.58)	(-3.81)	(2.36)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	251	90	161
Adj R^2	0.170	0.148	0.323

TABLE 2.8 (continued)

Gift Card liabilities and Investment Efficiency for Constrained Firms

Panel E: *Debt_Rating*=1

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	*ABS_XINV* Coefficient (t-values)	*XINV*≥0 Coefficient (t-values)	*XINV*<0 Coefficient (t-values)
Intercept	0.280	0.005	-0.246
	(1.12)	(0.02)	(-1.12)
L_GC	-0.833**	-1.285**	0.337
	(-2.43)	(-2.05)	(1.25)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	392	181	211
Adj R^2	0.206	0.225	0.285

Panel F: *Debt_Rating*=0

Dependent Variable = Abnormal CAPEX Investment (*XINV*)

Variable	*ABS_XINV* Coefficient (t-values)	*XINV*≥0 Coefficient (t-values)	*XINV*<0 Coefficient (t-values)
Intercept	0.666***	0.771***	-0.286
	(4.11)	(2.86)	(-1.55)
L_GC	-0.439**	-0.353	0.322**
	(-2.59)	(-1.45)	(2.47)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	473	206	267
Adj R^2	0.073	0.053	0.236

TABLE 2.8 (continued)

Gift Card liabilities and Investment Efficiency for Constrained Firms

Panel G: *Paper_Rating*=1

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV* Coefficient (t-values)**	***XINV*≥0 Coefficient (t-values)**	***XINV*<0 Coefficient (t-values)**
Intercept	0.232	0.251	-0.239
	(1.57)	(1.24)	(-1.39)
L_GC	-0.457**	-0.453	0.246
	(-2.55)	(-1.53)	(1.18)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	461	194	267
Adj R^2	0.207	0.180	0.351

Panel H: *Paper_Rating*=0

	Dependent Variable = Abnormal CAPEX Investment (*XINV*)		
Variable	***ABS_XINV* Coefficient (t-values)**	***XINV*≥0 Coefficient (t-values)**	***XINV*<0 Coefficient (t-values)**
Intercept	0.471***	0.219	-0.437**
	(3.29)	(0.83)	(-2.3)
L_GC	-0.608**	-0.782*	0.416
	(-2.13)	(-1.88)	(1.62)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
N	404	193	211
Adj R^2	0.132	0.222	0.149

*, **, *** Indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2.8 presents results between financially constrained and unconstrained firms. Table 2.8, Panel A and B reports results with the subsets when constrained firms are defined by *Payout_Decile*. Table 2.8, Panel C and D reports results with the subsets when constrained firms are defined by *Size_Decile*. Table 2.8, Panel E and F reports results with the subsets when constrained firms are defined by *Debt_Rating*. Table 2.8, Panel G and H reports results with the subsets when constrained firms are defined by *Paper_Rating*. All variables are defined in Appendix 2.A and all continuous variables are winsorized within 1 percent of the top or bottom percentiles. All standard errors are clustered at firm levels (e.g., Petersen 2008).