Value relevance of the voluntary disclosure of advertising expenditure: A study of Canadian listed companies.

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Abstract

Advertising expenditure is one of the most important budget items supporting marketing activities for most companies, and may be treated as an intangible asset. Through the impact on demand and costs, advertising activities affect the firm's pricing and output decisions as well as the firm's market value (Tannous, 1997; Chauvin & Hirschey, 1994). Despite the significant economic importance of advertising expenditure, not much attention has been given to the value relevance of advertising expenditure and the impact of advertising expenditure disclosure on firms' market value. Most of the empirical studies for value relevance of advertising expenditure have been conducted using data from the US and UK Academic research on the value relevance of advertising expenditure in Canada is nonexistent. The accounting standard applied in Canada is different from that used in prior US and UK studies. . Canada adopts Canadian GAAP before 2011, and switches to IFRS from 2011onwards. Both regimes do not require firms in Canada to disclose advertising expenditure. However, most US studies use data before 1994 to analyze value relevance of advertising expenditure. Before 1994, disclosing advertising expenditure is mandatory for US firms under US GAAP. The UK evidence uses data before 2005, during which period UK firms still adopt UK GAAP. Although UK. GAAP does not require companies to disclose advertising expenditure, unlike IFRS, different accounting standards can lead to different financial data reporting and different results. In addition, studies on the impact of voluntary disclosure of advertising expenditure on market value are nonexistent. Furthermore, Canada has a more stable financial system than that of the US and UK In this context, the objective of this thesis is to initiate research on the important dimension of advertising expenditure among Canadian firms. The findings of this thesis will enhance understanding of the relationship between advertising expenditure and market value, and companies' decisions to voluntarily disclose advertising expenditure on their market value.

Table of Contents

1. Introduction

Financial reporting and corporate disclosure are important methods for management in communicating company performance to outside investors. Corporate disclosure is essential for the performance of an efficient and effective capital market (Healy & Palepu, 2001). The study of corporate disclosure has a long history in academic research (e.g., Bowman & Haire, 1976; Verrecchia, 1983; Darrough & Stoughton, 1990). Over the last thirty years, the corporate disclosure literature has increased substantially with researchers exploring a wide range of issues.

A number of corporate disclosures are mandatory whilst others are voluntary. For instance, R&D expenditures are mandatory for companies to disclose in the US (Shah et al., 2009). However, advertising expenditures are voluntary for companies to disclose (SEC, 1994). Many companies are motivated and tend to engage in voluntary disclosure, owing to the benefits in brand value and market value (e.g., Barth et al., 1998; Simpson, 2008). Voluntary disclosure is an important area of academic research (e.g., Verrecchia, 1983; Gigler, 1994; Verrecchia, 2001). One stream of research in voluntary disclosure focuses on disclosure equilibrium and examines how competition and new entrants to a specific industry affect companies' disclosure decisions. Such a focus illustrates that a number of researchers recognize the impact of proprietary costs on the disclosure decision (e.g., Darrough, 1990; Newman & Sansing, 1993; Gigler, 1994; Feltham, 1992; Wagenhofer, 1990; Sankar, 1995). Conversely, there is evidence of research into whether or not certain expenditures generate intangible assets, most of which focuses on firms' R&D activities (e.g., Hand & Lev, 2003).

Very few studies focus on the value relevance of advertising expenditure and the voluntary disclosure of advertising expenditure (e.g., Legoria, 2005; Simpson, 2008; Shah et al., 2009), even though advertising expenditure is an important type of expenditure that can be treated as an intangible asset, such as brand value and goodwill. Advertising expenditure is one of the most

important budget items to support marketing activities for most companies. The advertising of products can encourage customers to purchase them, but advertising expenditure can be expensive and increase the total costs of products). Thus, advertising activities, in the form of demand and costs, affect the firm's pricing and output decisions as well as the firm's market value (Tannous, 1997; Chauvin & Hirschey, 1994). In addition,, advertising can create market-based assets that can contribute to the increased revenue and also enhance overall shareholder value (Simpson, 2008; Shah et al., 2009). According to Hsu and Jang (2008), advertising expenditure is also found to be effective in creating awareness, enhancing consumer knowledge, and influencing both short-term and long-term consumer preferences, thereby generating additional revenue. Furthermore, advertising has multi-period effects on sales and market share, rendering it a possible durable source of profit. Some research also states that advertising expenditure has a positive relationship with a company's intangible assets (e.g., Chauvin & Hirschey, 1993; Chauvin & Hirschey, 1994). Advertising also positively affects brand equity through brand associations and perceived quality (e.g., Graham & Frankenberger, 2000; Barth et al., 1998; Keller & Parameswaran, 2011).

Canada uses Canadian GAAP before 2011, and adopts IFRS in 2011. Disclosing advertising expenditure in the financial statements is not mandatory under both Canadian GAAP before 2011 and IFRS after 2011. However, a number of companies voluntarily disclose advertising expenditure in their financial statements. It is possible that the valuation benefits of disclosing advertising expenditure motivate these firms to voluntarily disclose advertising expenditure. On the other hand, disclosing advertising expenditure may damage firms' competitive position in product markets (Simpson, 2008). The proprietary costs arising from disclosure can motivate firms to not voluntarily disclose advertising expenditures (Newman & Sansing 1993; Darrough, 1993). Research of the literature does not turn up any study that examines the value relevance of advertising expenditures and the impact of advertising expenditure disclosure on firms' market value in Canada.

First, this thesis aims to contribute to the literature on the value relevance of advertising expenditure, and the impact of voluntary disclosure of advertising expenditure on firms' market value in a Canadian context. There are a number of studies that focus on the value relevance of advertising expenditures and voluntary disclosure in the US (e.g., Chauvin & Hirschey, 1997; Graham & Frankenberger, 2000; Core et al., 2003). There are also a number of studies about value relevance of advertising expenditures in the UK and Korea (e.g., Shah et al., 2009; Han & Manry, 2004). According to Conchar et al. (2005), literature and future studies would benefit particularly from studies that are based on different countries and data sources. In addition, the accounting standard applied in Canada is different from that in the US (US uses US GAAP). Most US studies use data before 1994 to analyze value relevance of advertising expenditure (e.g., Hirschey & Spencer, 1992; Chauvin & Hirschey, 1993; Cheng & Chen, 1997; Chauvin & Hirschey 1997). In 1994, the Securities and Exchange Commission (SEC) issues Financial Report Release No. 44 (FRR44), which overturns the SOP 93-7 requirement for separate disclosure of advertising expenditures. Firms are required to disclose advertising expenditure in their financial statements before 1994 in the US. The US context is significantly different from the current Canadian context. Even though the UK starts to use IFRS in 2005, the data from the study regarding the UK context is collected from 1990 to 1998 (e.g., Shah et al., 2009). The UK adopts UK GAAP before 2005. Korea starts to use IFRS in 2011; however, the data from the relevant Korean study is collected from 1988 to 1998 (e.g., Han & Manry, 2004). Korea adopts the Korean GAAP before 2011. Although both the UK GAAP and Korean GAAP do not require firms to disclose advertising expenditures, research into the impact of the decision to voluntarily disclose advertising expenditure on companies' market value is nonexistent. Therefore, the Canadian context under both Canadian GAAP and IFRS, with fresh data from 2007 to 2014, is different from prior studies. Moreover, Canada has a more stable financial system than other countries and has avoided financial crises for 180 years (Haltom, 2013). Thus, this study, with its focus on a Canadian context, is important for decision makers and accounting standard setters.

Furthermore, results of previous studies about the value relevance of advertising expenditure are contradictory. Even though most studies find that advertising expenditures are positively related to market value (e.g., Hirschey, 1985; Morck & Yeung, 1991; Shah et al., 2009), a number of studies indicate that advertising expenditures do not have an impact on market value (e.g., Bublitz & Ettredge, 1989; Sougiannis, 1994; Core et al., 2003). Also, few studies point out that the relationship between advertising expenditures and market value is negative or uneven (e.g., Han & Manry, 2004; Heimonen & Uusitalo, 2009). The inconsistency in the results of the above studies is an important and significant reason for this one. In addition,, academic research on the impact of voluntary advertising expenditure disclosure on firms' market value is nonexistent. To investigate the impact of voluntary advertising expenditure disclosure on firms' market value can make this study different from previous studies.

Secondly, the results of this study may be of interest to market participants and accounting policy makers. Based on this study, market participants may wish to re-evaluate their disclosure policy. Although value relevance is not a specific criterion for accounting policy makers, policy makers could be interested in the results about value relevance (Barth et al., 2001). This study is able to show that the advertising expenditures disclosed and estimated can be useful to market participants. Therefore, accounting policy makers may have a concern about the disclosure requirement of advertising expenditure based on the results of this study. The focus of this thesis is on the value relevance of advertising expenditure and whether or not the decision to voluntarily disclose advertising expenditure affects a company's market value. Furthermore, this study examines whether these factors influence companies' market value differently, depending on the industry.

The two questions addressed in this thesis are: (1) Are advertising expenditures value relevant for Canadian listed companies? (2) How does the market value companies that voluntarily disclose advertising expenditure compared to those who do not? In this study, the data is collected from Bloomberg (i.e. Bloomberg Terminal is a computer system provided by

Bloomberg L.P). All sample firms are selected from companies listed on the TSX from 2007 to 2014. The first sample contains all the firms that voluntarily disclose advertising expenditures from 2007 to 2014. The second sample contains all firms in the first sample and matched firms that do not voluntarily disclose advertising expenditures from 2007 to 2014. The factors (independent variables) considered in this study are advertising expenditures, voluntary disclosure of advertising expenditures. The dependent variable is market value. Control variables are R&D expenditures, book value, earnings, dividends and capital contributions.

The remainder of this thesis is structured into the following sections: Section 2 presents a review of related literature on disclosure and value relevance of advertising expenditures. Section 3 develops the theoretical framework and hypotheses. Section 4 describes the data collection, sample selection and measurement of variables. Section 5 presents the methodology and results. Section 6 discusses the research results. Section 7 concludes the research and outlines implications.

2. Literature review

The purpose of this study is to examine whether or not advertising expenditures have value relevance, and if the voluntary disclosure of advertising expenditures affects a company's market value. Value relevance is defined as the ability of financial statement information to capture and summarize firm value. Value relevance is measured as the statistical association between financial statement information and stock market values or returns (Beisland, 2009). This literature review will focus primarily on both the theoretical and empirical literature covering the value relevance of advertising expenditures and voluntary disclosure. The review will start with literature about voluntary disclosure and then value relevance of advertising expenditure.

Advertising is one of the most visible and least understood of a firm's marketing expenditures (Graham & Frankenberger, 2000). Graham and Frankenberger's study (2000) examines the effect of advertising expenditures on financial performance by measuring the

contribution made by year-to-year differences in advertising expenditures to the asset values and subsequent market values of publicly traded firms. Their study focuses on the asset value of advertising expenditures for a sample of 320 listed companies with disclosed advertising expenditures for each of the 10 consecutive years ending in 1994 in the US and finds that changes in advertising expenditures are significantly related to earnings up to 5 years following the year of the expenditure (i.e., Sample firms report both positive earnings and advertising expenditures). Furthermore, the asset values are significantly related to the market values of the companies. Across all industries, the asset value of advertising expenditures appears to have a 3-year life with the highest value on the current year and decreasing value in following years. The results of the quantitative study show that the earnings and valuation regressions provide support for the asset value of advertising. Furthermore, Graham & Frankenberger's results illustrate that real dollar advertising changes are associated with future earnings and with market values, which illustrates that advertising expenditures are associated with market value of companies. Shah and Akbar (2008) support the value relevance of advertising expenditure and conclude that valuation models are usually treated as a better choice in exploring the intangible nature of advertising expenditure, because market value captures both the current and future profitability effects of advertising.

A number of empirical studies delineate the situation in the period of mandatory disclosure of advertising expenditures in the U.S before 1994. In 1994, the Securities and Exchange Commission (SEC) issued Financial Report Release No. 44 (FRR44), which overturned the SOP 93-7 requirement for separate disclosure of advertising expenditures. It states that companies are not required to disclose their advertising expenditures in financial statements (Simpson, 2008; Shah & Akbar, 2008; Shah et al., 2009). However, there are still many companies that disclose their advertising expenditures after 1994. Firms that experience high valuation benefits from advertising during the mandatory disclosure period before 1994 are more likely to disclose their advertising expenditures in the voluntary disclosure period (Simpson, 2008).

2.1. Voluntary disclosure

A trade-off between proprietary costs and valuation benefits determines the incentives for companies to voluntarily disclose information in financial markets (Darrough, 1993; Simpson, 2008). Hayes & Lundholm (1996) indicate that a company's decision to disclose proprietary information involves trading off the valuation benefits of informing the financial market about the value of the company against the proprietary costs of helping competitors. Both capital market and product market (competitors) observe companies' disclosures. Verrecchia (2001) points out that if the goal of the company is to maximize the current market capitalization and there are proprietary costs associated with the disclosure of information, the company will disclose favorable information that enhances its market capitalization and withhold unfavorable information that decreases its market capitalization. For this study, advertising expenditure can be treated as favorable information that can enhance the market value of companies.

2.1.1. Incentives to voluntarily disclose

Valuation benefits from disclosure of information can motivate companies' voluntary disclosure. Although the accounting policy and legislation require a certain volume of mandatory disclosure in the financial reports of companies, these companies might still want to disclose information that is not required by regulation. Nevertheless, the information is useful in valuing a company's future strategy (Verrecchia, 2001). According to Verrecchia (1990), the quality of the private news that managers hold will influence their decision to disclose or withhold that piece of information. Greater quality private information implies a lower threshold level of disclosure and a higher probability of disclosure. If a manager holds good quality information, the market normally discounts the value of the assets further than it would otherwise (i.e. as the quality of information rises, the market applies more pressure on the manager to disclose the information, by discounting the value of the risky asset more strongly in the event the information is withheld). Disclosure of greater-quality news has the effect of decreasing the discount rate on the asset owing to the reduction in information risk. For instance, each time Apple Inc. releases a new

iPhone and presents an advertisement for new devices, the market value of Apple increases because of the good quality of information.

Chauvin & Hirschey (1994) find that advertising and R&D expenditures can be anticipated to provide an increase in valuable intangible capital. Also, advertising and R&D expenditures can exert a positive impact on the market value of a company. A number of other studies confirm the valuation benefits of advertising and are in support of an intangible capital treatment of advertising. These studies try to identify the duration of benefits that are created by advertising, with Bublitz & Ettredge (1989) suggesting that it is short-lived. In contrast, advertising expenditures provide positive market value influence; and the influence can last for three years, which is long-lived (Hirschey, 1982). Likewise, Hirschey & Weygandt (1985) suggest that advertising and R&D costs have a systematic impact on the market value of the firm, and the impact can last for five years. Therefore, treating advertising as an intangible capital identifies the valuation benefits of advertising disclosure. Similarly, Gu and Li (2010) find that the advertising expenditures of pharmaceutical companies have a positive relationship with the company's stock price, and that investors see advertising by pharmaceutical companies as a source of future economic benefits. In addition, investors treat advertising in pharmaceutical companies as a value-enhancing investment and will use advertising by pharmaceutical companies as a criterion to determine the value of pharmaceutical companies.

The disclosure strategies of a company determine the nature of the valuation benefits. According to Dontoh (1989), there are two categories of companies (A&B) that want to receive valuation benefits from disclosing information. The decision by an informed category A Company to voluntarily disclose information is based on the company's evaluation of the effect of the disclosure on its current market value. Therefore, one category A Company would voluntarily disclose news only if it holds enough favourable news. To be more specific, one category A Company that observes news that is barely favourable might not disclose the news if the average valuation it receives exceeds the valuation associated with the disclosure. On the

other hand, one category B Company would voluntarily disclose news only if the disclosure induces an external reaction among other players that increase its value. Specific, as expected profits are decreasing in competitors' output level, a category B Company would voluntarily disclose news only if the disclosure induces competitors to lower their output levels. Thus, the category B Company can have higher expected profits by disclosing information.

Reduction of information asymmetry (information risk) in capital markets can motivate companies to use voluntary disclosure. Healy & Palepu (1993, 1995) propose that a company's managers have superior information compared to external investors with regard to the company's future prospects. The external investors' attitudes about a company's capital market transactions, such as issuing public debt/equity or acquiring another firm, create information asymmetry. If this information asymmetry cannot be resolved, these companies will treat issuing public equity/debt transactions as expensive for current shareholders. Therefore, managers who expect to make capital market transactions have motives to voluntarily disclosure, in order to reduce the information asymmetry between external investors and managers (Myers & Majluf, 1984), thereby reducing the company's cost of outside financing (Verrecchia, 2001; Simpson 2008; Healy & Palepu, 2001). Moreover, Barry and Brown (1985, 1986) and Merton (1987) model the premium that investors demand for facing information risk when there is an information asymmetry between managers and external investors. If there is an information asymmetry between managers and external investors, investors demand a premium to offset the information risk. Therefore, managers in a company can reduce their cost of capital by reducing information risk through increased voluntary disclosure.

A number of empirical studies provide evidence that support the above findings on voluntary disclosure policies of companies issuing new capital. Lang and Lundholm (1993) find that financial analysts' ratings of disclosures are higher for companies issuing securities in the present and future. In addition, Lang and Lundholm (1997) find that there is a significant increase in disclosure starting half a year before the offerings through their analysis of disclosure

specifically for companies that make equity offerings. In particular, they also indicate that the significant increase in disclosure is for the types of disclosure over which companies have the most discretion. Furthermore, Healy et al. (1999) point out that companies with raised financial analyst ratings of disclosures have an abnormally high frequency of public debt offerings.

2.1.2. Incentives to not voluntarily disclose

Proprietary costs are relevant to the disclosure decision of a company. Companies' decisions to disclose information to investors are impacted by the concern that such disclosures can damage their competitive position in product markets (Verrecchia, 1983; Darrough & Stoughton, 1990; Wagenhofer, 1990; Feltham & Xie, 1992; Newman & Sansing 1993; Darrough, 1993; Gigler, 1994). Sankar (1995) suggests that unfavorable news is disclosed, and favorable news is withheld if the news is more informative regarding an industry-wide shock. Favorable news is disclosed and unfavorable news is withheld if the news is more informative about firm-specific shock. There is a positive relationship between proprietary costs and threshold level of disclosure. Increase in proprietary cost can cause an increase in the threshold level of disclosure. Managers in a company will follow a policy of full disclosure if the proprietary cost is zero. The higher the probability that proprietary costs are incurred, the less the probability that the company will disclose favorable information. In addition, unfavourable information is also instantly withheld to balance the non-disclosure of favourable information (Verrecchia, 1983; Wagenhofer, 1990).

Darrough and Stoughton (1990) introduce the model of a static entry game and find that an existing company with favorable information likes to disclose the information to the financial market to increase its market value, but, otherwise, the company does not wish to let the potential entrants know the information. On the other hand, an existing company with unfavorable news would not disclose the news to the financial market. This company might wish potential entrants to get the negative news, in order to discourage their entry. According to Feltham and Xie (1992), their further study of Darrough and Stoughton's research shows that managers in a company will order information and disclose favourable information to the

financial market and unfavourable information to industries. Managers always have a balanced concern for the effect and response of both the financial market and product industry (competition with other companies). Newman and Sansing (1993) extend the two studies above and illustrate that the existing company in the market may make truthful and complete disclosures for certain areas of its private news; however, noisy disclosures always appear for a number of other areas. They also find that the entry of new companies can impact the performance of existing companies:

> when the influence of entry on the performance is great, companies with very high or very low entry costs will make more informative disclosures than firms with moderate entry costs. When the influence of entry on performance is low, firms with good news will make more informative disclosures than firms with bad news. (Newman and Sansing, 1993, P. 93-94)

The proprietary costs of advertising activities are relevant to the market competition as well as other disclosures (Hayes & Lundholm, 1996; Simpson, 2008). In the market where advertising can expand the market, positive advertising spillovers appear. Spillover effects are economic events in one context that occur because of an element in a seemingly unrelated context. For example, externalities of economic activity are non-monetary effects upon non-participants (Blomstrom & Ari Kokko, 1998). Demand for all brands in that market increase when positive advertising spillovers exist. In this type of market, proprietary costs are relatively high and lead to a decrease in advertising disclosure (Bagwell, 2005). The existence of positive spillovers leads to high proprietary costs. Positive advertising spillovers can cause lower relative returns to advertising efforts of companies. For example, according to Szegedy-Maszak (2004), advertising for a new type of medicine for treating Adult Attention Deficit Disorder can raise the demand for all medicines available for this medical condition.. Likewise, in an industry that contains close substitute products, small companies can benefit from the advertising of the whole industry, regardless of their own contribution to its expenditures. In this circumstance, therefore, large companies in this industry do not want to advertise. Hence, positive advertising spillovers exist

when the level of competition is high (Telser, 1964). Tennant (1950) finds positive advertising spillovers in the early stages of the US cigarette industry; and Vardanyan and Tremblay (2006) point out positive advertising spillovers for various beer brands in the US brewing industry. Furthermore, Verrecchia (2001) and Simpson (2008) indicate that the larger the benefits competitors can get from a company's advertising expenditures, the lower the probability that the company will voluntarily disclose advertising expenditures.

2.2. Value relevance of advertising expenditures

Since the aim of this thesis' research question is to measure the value relevance of advertising expenditures, this part of the literature review will focus primarily on the prior research covering the relationship between market value and advertising expenditures. A number of studies investigate the relationship between market value and advertising expenditures and find that advertising expenditures are value relevant (e.g., Hirschey, 1982; Hirschey & Weygandt, 1985; Graham & Frankenberger, 2000). Specifically, Hirschey (1982) indicates that advertising expenditures have a significant market value impact. He analyses intangible capital by applying data on national media advertising from "Leading National Advertising" for a sample of 390 companies from 12 major product groups for 1977. Likewise, Hirschey and Weygandt (1985) point out that advertising expenditures are long-lived investments by adopting a cross-sectional valuation model based on 390 sample firms from the 1977 Fortune 500 companies (i.e., Book value based).

Table 1 summarizes 20 historical key empirical studies on the value relevance of advertising expenditures. Nineteen of the 20 studies are under the context of the US. Advertising expenditure. Data is collected from mainly 3 data sources: Leading National Advertisers, COMPUSTAT and Korea Investors Service Database. The most frequently used database is COMPUSTAT, used by 14 of 20 studies. Overall, most of the studies investigate the relationship between market value and advertising expenditures. However, a number of studies find that advertising expenditures and R&D expenditures have a positive and consistent impact on the market value of the

company (e.g., Connolly & Hirschey, 1984; Hirschey, 1985; Morck & Yeung, 1991; Erickson & Jacobson, 1992). In addition, advertising expenditures can be treated as a type of investment in intangible assets with expectable positive impact on future cash flows (Ben-Zion, 1978; Chauvin & Hirschey, 1993, 1994 & 1997; Graham & Frankenberger, 2000).

In contrast, four of the studies indicate that advertising expenditures do not have a significant market value impact (e.g., Bublitz & Ettredge, 1989; Sougiannis, 1994; Core et al., 2003; Han & Manry, 2004). Core et al. (2003) use a valuation approach and find that advertising expenditures do not have a consistent relationship with market value. Likewise, Sougiannis (1994) finds an insignificant advertising parameter in his study of corporate R&D valuation. Bublitz and Ettredge (1989) use a returns-based methodology and point out that advertising expenditures do not provide benefits beyond the period in which the costs are incurred, which implies advertising expenditures are classified as expenses only. Moreover, Han and Manry (2004) adopt a valuation model based on 3191 firm-year observations from the Korean Stock Exchange between 1988 and 1998 and find that advertising expenditures are negatively related to the stock price of companies, and that the magnitude of this negative relationship is similar to the relationship between other expenses and stock prices. This finding indicates that advertising expenditures are not believed to represent future economic benefits, and investors believe the economic benefits of advertising expenditures expire in the current period.

Table 1. Summary of empirical studies on advertising and market valuation

Paper	Data	Samples	Finding(s)

Ben-Zion (1978)	**Data Period:** 1969 **Advertising data source:** Leading National Advertisers	N=71	A number of costs items (Advertising & R&D etc.), which are usually treated as expenditures should be, at least partly, treated as investment expenditures.
Hirschey (1982)	**Data Period:** 1977 **Advertising data source:** Leading National Advertisers	N=390 (Company years)	Advertising expenditures have a significant market value effect.
Connolly & Hirschey (1984)	**Data Period:** 1977 **Advertising data source:** Leading National Advertisers	N=390 (Company years)	Great positive partial impacts of advertising intensity and R&D intensity on relative exceed value normalized by sales
Hirschey (1985)	**Data Period:** 1977 **Advertising data source:** Leading National Advertisers	N=390 (Company years)	Market value is more closely related to R&D, advertising intensity, and increasing than to variables reflecting the size distribution of firms
Hirschey & Weyganddt (1985)	**Data Period:** 1977 **Advertising data source:** Leading National Advertisers	N=390 (Company years)	Both advertising and R&D expenditures are positively related to market value
Jose et al. (1986)	**Data Period:** 1963 to 1977 **Advertising data source:** COMPUSTAT	N=155 (Company years)	Promotional & advertising intensity can influence the value of the company in several ways consistent with zero-sum-game and non-price competition
Lustgarten & Thomadakis (1987)	**Data Period:** 1964 to 1978 **Advertising data source:** COMPUSTAT	N=970 (Company years)	The response of q to concentration, company specialization, and advertising and R&D expenditures changes over time and across companies
Bublitz & Ettredge (1989)	**Data Period:** 1974 to 1983 **Advertising data source:** COMPUSTAT	N=1325 (Company years)	Advertising classified as an expenditure and R&D valued as a long-loved asset

Morck & Yeung (1991)	**Data Period:** 1978 **Advertising data source:** COMPUSTAT	N=1644 (Company years)	Positive effect of advertising and R&D expenditures on market value grows with a company's multinational scale.
Erickson & Jacobson (1992)	**Data Period:** 1972 to 1986 **Advertising data source:** COMPUSTAT	N=1287 (Company years)	Neither R&D nor advertising expenditures increase the market value of the company more than other types of expenditures/investments.
Hirschey & Spencer (1992)	**Data Period:** 1975 to 1990 **Advertising data source:** COMPUSTAT	N/A	Advertising expenditures have a durable effect on market value only in the case of large companies.
Chauvin & Hirschey (1993)	**Data Period:** 1988 to 1990 **Advertising data source:** COMPUSTAT	N=4653 (Company years)	Both advertising and R&D expenditures are long-lived intangible capital.
Chauvin & Hirschey (1994)	**Data Period:** 1989 to 1991 **Advertising data source:** COMPUSTAT	N=2693 (Company years)	Advertising as an important source of goodwill for the overall sample. Goodwill effects of advertising are consistently positive for both manufacturing and non-manufacturing companies.
Sougiannis (1994)	**Data Period:** 1975 to 1985 **Advertising data source:** COMPUSTAT	N=573 (Company years)	Report on insignificant advertising parameter.
Cheng & Chen (1997)	**Data Period:** 1974 to 1992 **Advertising data source:** COMPUSTAT	N=17577 (Company years)	Book Value deflated model points out a positive relationship between advertising expenditures and market value of company.
Chauvin & Hirschey (1997)	**Data Period:** 1974 to 1990 **Advertising data source:** COMPUSTAT	N=28907 (Company years) Average 1700 each year	Both advertising and R&D expenditures involve intangible capital factors that assist build market values.

Graham & Frankenberger (2000)	**Data Period:** 1985 to 1994 **Advertising data source:** COMPUSTAT	N=1370 (Company years)	Provide results that support the asset value of advertising expenditures.
Tsai (2001)	**Data Period:** 1996 to 1998 **Advertising data source:** COMPUSTAT	N=1542 N=1503 (Company years)	Companies facing more uncertainty in the market tend to invest more in R&D projects but not in advertising expenditures.
Core et al. (2003)	**Data Period:** 1975 to 1999 **Advertising data source:** COMPUSTAT	N=108493 (Company years)	Find no impact of advertising on market value.
Han & Manry (2004)	**Data Period:** 1988 to 1998 **Advertising data source:** Korea Investors Service Database	N=3191 (Company years)	Advertising expenditures are negatively related with stock price. Benefits of advertising expenditures expire in the current period, similar to other costs.

More recently, Shah and Akbar (2008) contribute a relatively comprehensive review on the advertising expenditure and its impact on firm value, and suggest that advertising expenditures should be treated as an investment in a company that can increase market value. Hsu and Jang (2008) support the argument in their investigation of the relationships between advertising expenditure, intangible value, and risk in stock returns of restaurant firms between 2000 and 2005. They find that advertising can create market-based assets that can contribute to increased revenue, thereby enhancing overall shareholder value. Their results show a significantly positive effect of advertising on the market value (intangible value) of firms, suggesting that advertising expenditures create intangible benefits for restaurant firms. From the viewpoint of an investor, advertising is a good investment that is able to increase the intangible value of restaurant

companies. In addition, Hsu and Jang (2008) also point out that investors usually treat advertising campaigns positively.

Similarly, Conchar, Crask and Zinkhan (2005), by applying a meta-analysis, present a review (using findings of 88 models reported in 15 studies) and find a positive relationship between levels of advertising and promotional expenditures and the market value of the firm. The results illustrate that advertising and other marketing activities are usually expected to provide future cash flows and create increases in the wealth. Later in the same year, Singh, Faircloth and Nejadmalayeri (2005) support the above result. They use data from the country-wide annual list of the best performing companies complied by Stern Stewart. They point out that advertising expenditure is negatively related to the cost of equity and positively related to debt utilization, resulting in a lower weighted average cost of capital (higher market value of firm). They also suggest that stock investors like to invest in stocks with higher product market exposure, which means they prefer to invest money in companies that perform a high level of advertising activities. Thus, a greater number of disclosed advertising expenditures can increase the number of stock investors for a company. Shah et al. (2009) contribute a study that examines whether or not ACNielsen MEAL major media advertising expenditure estimates, which are publicly available at a cost, have value relevance in the UK. By using a valuation model and collecting data from ACNielsen MEAL, their result illustrates that advertising expenditures are positively related to market value. Conchar, Crask and Zinkhan (2005) find that it is possible that increases in company spending on advertising send a signal to the investors that the firm has enough funds to perform these types of marketing activities. Specifically, advertising expenditures of a company may become an indicator to investors that this company is financially healthy and strong. The above research also indicates that the coefficient of advertising expenditures on company market value shows investor anticipations for future cash flows based on current level of advertising expenditures.

A number of authors also point out that only effective advertising expenditures are positively related to market value (e.g., Tannous, 1997; Nejadmalayeri et al., 2013). Effective advertising expenditures can be defined as the proper amount of advertising expenditure that can benefit the revenue of companies. If a company's advertising to sales ratio (advertising expense/sales) is high, it indicates that the advertising activities do not generate sales, and the advertising activities are not successful (Tellis, 2003). Nejadmalayeri, Mathur and Singh (2013) find that although more advertising by a company improves the liquidity of its bonds in the market, it does not lower the firm's cost of debt. However, firms with ineffective advertising experience reduce bond market liquidity and incur a higher cost of debt. Therefore, without a real positive economic impact, advertising has little or no value for bond investors. Advertising activities can improve a company's value but only up to a point after which more advertising will cause negative consequences (Tannous, 1997). Similarly, Heimonen and Uusitalo (2009)'s study about the beer market in Finland shows that the impact of advertising on market share is not the same across different brands. It is possible that a number of weak brands cannot get any benefits on brand value and market value after advertising. In effect, they are wasting their money and still lose in the competition with strong brands.

Many authors have used other approaches and models to enhance understanding of the nature of the effect of advertising expenditures. A number of researchers use models that relate advertising expenditures to brand value of the company (e.g., Kallapur & Kwan, 2004; Barth et al., 1998; Peterson & Jeong, 2010). Barth, Clement, Foster and Kasznik (1998) have already stated that brand value estimates are positively associated with advertising expense, operating margin, and market share. Peterson and Jeong (2010) prove the above result by using a parsimonious model and indicate that bigger advertising expenditures and bigger R&D expenditures are related to bigger brand values. Bigger brand values are, in turn, related to bigger company-level financial performance metrics. Specifically, results of their model point out that advertising can improve company-level financial performance in different circumstances. Likewise, Grullon, Kanatas and Weston (2004) also state that visibility with investors of a

company, which is measured by its product market advertising, has important effects for the stock market. Firms with greater advertising expenditures have a bigger number of both individual investors and better liquidity of their common stock.

Other authors have analyzed the relationship between advertising expenditures and the company's sales (e.g., Abdel-Khalik, 1975; Megna & Mueller, 1991; Picconi, 1977). Megna and Mueller (1991) find a positive and significant relationship between advertising expenditures and the company's sales in distilled beverages and toy industries. On the other hand, Picconi (1977) finds no significant relationship between advertising expenditures and increased future benefits as measured by subsequent sales.

The preceding review of the relevant literature on value relevance of advertising expenditures shows that prior studies present conflicting findings. Most of literature finds a positive relationship between market value and advertising expenditures. However, a small number of studies indicate that advertising expenditures do not have a significant market value impact (e.g., Bublitz & Ettredge, 1989; Sougiannis, 1994; Core et al., 2003; Han & Manry, 2004). Thus, this study aims to contribute additional research on this research topic.

Moreover, the preceding review of the relevant literature on the value relevance of advertising expenditures shows that the majority of studies and evidence on the relationship between advertising expenditures and market value come from the United States. There is also some evidence on this issue for the UK in recent years. The US evidence suggests that it is difficult to conclude for all companies that advertising expenditures have an association with market value. However, it does seem to be the case for companies in the mandatory disclosure period (most US studies use data from the period of mandatory disclosure of advertising expenditure before 1994). There is no evidence regarding the value relevance of advertising expenditure for Canadian firms.

Canada adopted Canadian GAAP before 2011 and then changed to International Financial Reporting Standards in 2011. Disclosing advertising expenditure in the financial statements is not mandatory under both Canadian GAAP before 2011 and IFRS after 2011. Most US studies use data before 1994 to analyze value relevance of advertising expenditure (e.g., Hirschey & Spencer, 1992; Chauvin & Hirschey, 1993; Cheng & Chen, 1997; Chauvin & Hirschey 1997). In 1994, the Securities and Exchange Commission (SEC) issued Financial Report Release No. 44 (FRR44), which overturned the SOP 93-7 requirement for separate disclosure of advertising expenditures. Firms were required to disclose advertising expenditure in their financial statements before 1994 in the US The US context is significantly different from the current Canadian context. The UK adopted UK GAAP before 2005 and has been using IFRS since 2005; the data from the study regarding the U.K context was collected from 1990 to 1998 (e.g., Shah et al., 2009). Furthermore, although the UK GAAP also does not require firms to disclose advertising expenditures, no studies exist about the impact of the decision to voluntarily disclose advertising expenditure on companies' market value. Therefore, the Canadian context under both Canadian GAAP and IFRS is different from prior studies. In addition, different accounting standards may lead to different financial data reporting, and lead to a different relationship between market value and advertising expenditures from the US and UK cases.

Canada has a stable financial system and has avoided financial crises for 180 years (Haltom, 2013). Furthermore, Canada has approximately 80 banks, 6 of which hold 93% of the market share. Office of the Superintendent of Financial Institutions (OSFI) is one overarching financial regulator in Canada. It supervises all categories of financial companies (i.e. banks, mortgage lenders, insurance companies). In addition, securities markets are governed, largely harmonized, by Canada's 13 provincial and territorial governments (Haltom, 2013). In contrast, US has one of the world's most fragmented financial systems, and was hit hard by the financial crisis in 2008. Moreover, US has almost 7000-chartered banks and a large number of regulators. Depending on the charter of the bank, one US bank can be governed by the Federal Reserve System, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, or state

regulators (Haltom, 2013). That long list is only the list for bank regulators. Therefore, this study aims to contribute to the literature on the value relevance of advertising expenditures in a stable financial system, by using data from Canada, which is different from US and UK financial systems.

Conversely, Conchar et al. (2005) point out that most advertising and promotion studies collect their data from the same source, which is the COMPUSTAT. Literature and future studies would benefit particularly from studies that are based on different data sources (Conchar et al., 2005). As a consequence, this study aims to contribute by using data from Canada on advertising expenditures, derived from Bloomberg.

3. Theoretical framework and hypotheses

3.1. Theoretical framework

Theoretically, the model proposed for this study is an extended version of Ohlson's (1989) model (see Equation 1), in which market value can be expressed as a linear function of earnings, book value and net shareholders cash flows (dividends less capital contributions).

Equation 1. Ohlson's model

$$\boldsymbol{MV_{it} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 E_{it} + \alpha_3 D_{it} + \alpha_4 CC_{it} + \varepsilon_{it}}$$

The preceding literature review suggests that advertising expenditures have a significant market value impact (Hirschey, 1982). In addition, most studies indicate advertising expenditures have a positive effect on market value (Connolly & Hirschey, 1984; Hirschey, 1985; Morck & Yeung, 1991; Erickson & Jacobson, 1992). The review also suggests that advertising expenditures can be treated as a type of investment in intangible assets (Ben-Zion, 1978; Chauvin & Hirschey, 1993, 1994 & 1997; Graham & Frankenberger, 2000), which are long-lived (Hirschey & Weygandt, 1985).Also, a large number of recent studies in the US and

UK find that R&D expenditure can be treated as an intangible asset and is positively related to market value (e.g., Hirschey, 1982; Hirschey & Weygandt, 1985; Hirschey and Spencer, 1992; Sougiannis, 1994; Graham & Frankenberger, 2000; Akbar & Stark, 2003; Shah et al., 2009; among others). Empirically, the model used in this study is an extended version of Shah et al. (2009)'s model, which adds advertising expenditure and R&D expenditure into Ohlson's basic model (see Equation 2).

Equation 2. Shah, Stark and Akbar's model

$$\boldsymbol{MV_{it} = \alpha_0 + \alpha_1 ADV_{it} + \alpha_2 RD_{it} + \alpha_3 BV_{it} + \alpha_4 E_{it} + \alpha_5 D_{it} + \alpha_6 CC_{it} + \varepsilon_{it}}$$

Based on the above, the model proposed for this study aims to examine the relationship between advertising expenditures, R&D expenditures, book value, earnings, dividend, capital contributions and market value (see Equation 3). A dummy variable, disclosure of advertising expenditures, and its interaction with advertising expenditure are also included in the model.

Equation 3. Valuation model of the study

$$\boldsymbol{MV_{it} = \alpha_0 + \alpha_1 ADV_{it} + \alpha_2 RD_{it} + \alpha_3 BV_{it} + \alpha_4 E_{it} + \alpha_5 D_{it} + \alpha_6 CC_{it} + \alpha_7 Disc_{it} + \varepsilon_{it}}$$

For the above equations; MV represents market value of the company where t is six months after year end, ADV represents advertising expenditures, RD represents R&D expenditures, BV represents book value, E represents earnings, D is dividend, CC is capital contributions, Disc represents disclosure of advertising expenditures and ε is a mean zero random variable (subscripts i and t represent firm i and time t at year end).

3.1.1. R&D expenditures

Companies spend on R&D activities in order to find and create new products or services. R&D expenditures have value relevance; for example, Ben-Zion (1978) argues that R&D expenditure should not be treated as expenditures only; it should be treated as investment. R&D

expenditures can be treated as an intangible asset. Intangible assets account for more than 80% of market value of Fortune 500 firms (Luo and de Jong, 2010). By adopting a market valuation model, Hirschey (1982) suggests that R&D activities can generate intangible assets. He also finds that R&D expenditures have statistically significant and positive intangible assets impacts. Chauvin and Hirschey (1993) support the argument by analyzing 4653 firm years from 1988 to 1990 through COMPUSTAT and indicate that R&D expenditures have consistent large impacts on market value of companies. In addition, they also suggest that R&D expenditures can help investors to expect the future cash flows of companies, and can be treated as a form of intangible assets. Moreover, companies with more R&D activities can produce a comparative advantage that enables them to prevent imitation by competitors (Erickson and Jacobson, 1992). R&D expenditures are one of key basic factors that help determine the market value of companies (Hirschey and Spencer, 1992). Further, a number of empirical studies also support the contention that R&D expenditures have a positive impact on the market value of the company (e.g., Connolly & Hirschey, 1984; Hsu and Jang, 2008; Morck & Yeung, 1991; Shah et al., 2009, Akbar et al., 2011).

3.1.2. Book value

Book value of a company refers to the value of the total assets of the company. Market value can be expressed as a linear function of earnings, book value, and net shareholder cash flows. In addition, book value can be treated as a proxy for the present value of anticipated future normal earnings and an unbiased predictor of market value (Ohlson, 1995). Collins, Maydew and Weiss (1997) argue that the value relevance of book value is increasing. Collins, Pincus and Xie (1999) support the argument by treating book value as a value relevant factor and find a positive relationship between book value and stock price for both surviving and loss companies. Furthermore, a positive relationship between book value and market value has been found through empirical studies by applying valuation models (Akbar & Stark, 2003; Akbar et al., 2011; Barth et al., 1998; Barth et al., 1999; Core et al., 2003; Shah et al., 2009).

3.1.3. Earnings

Earnings are the amount of profit that a company creates during a time period (i.e. quarter, year). Earnings of a company are the main determinant of its share price, because earnings and the conditions related to them can indicate whether the company will be profitable and successful in the long run (Eccles et al., 2002). Ohlson (1995) supports the above argument and finds that market value can be expressed as a linear function of earnings, book value and net shareholder cash follows. Although Collins, Maydew and Weiss (1997) argue that the value relevance of earnings is decreasing, market value and earnings are positively related. Barth, Beaver and Landsman (1998) find that market value of equity is positively related to net incomes, regardless of the financial health of a company. Furthermore, a positive relationship between earnings and market value has been found through empirical studies (Akbar & Stark, 2003; Akbar et al., 2011; Barth et al., 1998; Barth et al., 1999; Core et al., 2003; Shah et al., 2009).

3.1.4. Dividend

A dividend is the payment made by a company to its stockholders and is defined as a distribution of profits. When a company gains a profit, it can re-invest it in the company, and/or pay a proportion of this profit as a dividend to stockholders (Sullivan & Sheffrin, 2003). The effect of a company's dividend on the current price of its stocks is a matter of considerable importance, not only to the corporate managers, who must set the policy, but also to investors planning portfolios and to economists seeking to understand and appraise the function of the capital market (Miller & Modigliani, 1961). Financial theory describes the market valuation of equity in terms of expected future dividends (e.g., Dividend discount model). However, Miller and Modigliani (1961) propose a dividend irrelevance theory, which suggests that market value is unrelated to the timing of expected payout prior to or after any finite horizon in an ideal world. The idealized circumstances here can be defined as a situation where both the tax system and information asymmetry impacts are excluded. Nevertheless, dividend is relevant to the market value of a company without idealized circumstance (i.e. tax system or information asymmetry

influence included in real world) (Penman & Sougiannis, 1998). Hand and Landsman (2005) support the above argument by observing a positive coefficient for dividend more in line with symmetric information theory, which they define thus: "If these results of a positive relationship between dividends and market value are accepted at face value, they could be consistent with signaling model". They also suggest that based upon an asymmetric distribution of information, dividend can have a positive impact on corporate valuation. By analyzing 30 companies listed in Tunisian Stock Exchange from 1984 to 1997, Rees (1997) estimates that dividends have a positive effect on market value of companies. Furthermore, most findings in recent studies suggest that dividends are materially positively priced in the cross-section of company market values (Fama & French, 1998; Giner & Rees, 1999; Akbar & Stark, 2003; Akbar et al., 2011; Shah et al., 2009).

3.1.5. Capital Contribution

Capital contribution can be defined as the total value of share capital that shareholders have directly purchased from the issuing company. Early valuation studies usually combine capital contribution and dividend together to measure the impact of the two factors on corporate valuation. Ohlson (1995) suggests that net shareholder cash flow (the difference between dividends and capital contributions) has a negative impact on market value of equity. However, recent studies have argued that dividend and capital contributions are separately value relevant. Akbar et al. (2003) find that capital contributions are negatively related to market value regardless of the different types of deflator employed in a valuation model (i.e. a sign convention used that treats capital contributions as a negative number). They also argue that it is inappropriate to combine dividends and capital contributions into net shareholder cash flows as if the two factors have similar effects in explaining market value. Hand and Landsman (2005) support the argument and find positive coefficient for both capital contribution (0.9) and dividend (3.47) in relation to market value. Further, a number of UK empirical studies have

proved the positive relationship (positive coefficient) between market value and capital contributions (Akbar, Shah & Stark, 2009, 2011).

3.2. Hypotheses

3.2.1. Advertising expenditures

As a pioneer of the research into the value relevance of advertising expenditures, Ben-Zion (1978) points out that：

> If advertising expenditure is treated as an investment, advertising expenditures might be treated as a signal to investors that the company is systematically investing in future profits. Investors will modify their valuation of company stocks based on levels of company spending on advertising expenditures.

Erickson and Jacobson (1992) support the argument by analyzing 1287 firm years from 1972 to 1986 through COMPUSTAT and suggest that increases in advertising expenditures might serve as a signal to the market that the company has the discretionary funds required to perform these advertising activities.

> Advertising activities can promote brand equity, which, in turn, produces financial value through enhanced cash flows attributed to customer loyalty, increased marketing efficiency, brand extensions, and higher margins (Keller & Parameswaran, 2011).

As a consequence, researchers are able to anticipate advertising as having an indirect effect on company value through the growth in sales and profits, as well as a direct effect, by virtue of creating brand-related intangible assets (Graham & Frankenberger, 2000). For the indirect impact, Kirmani and Wright (1989), Mela et al (1997) and Osinga et al. (2010) support that advertising is able to boost future sales and profits of companies. In addition, advertising

expenditures can create perfect market awareness, quality competitiveness and customer preference for companies, and can also accelerate the speed of customer response and cause quick market penetration (Koslow et al., 2006; Tellis, 2009). Srinivasan et al. (2009) support the argument and suggest that "advertising helps develop instant awareness of new products that may accelerate the diffusion process". They also conclude that company advertising can lead to more and quicker cash flows, resolve the changeability in seasonal demand, and decrease customer risks with safer cash flows. Moreover, advertising can help companies generate a barrier to competition, create bargaining power against suppliers, and accomplish better dynamic effectiveness and elasticity in accommodating environmental variations than its competitors (McAlister, 2007). All of the above advantages of advertising expenditures can lead a company to have higher market value (Luo & de Jong, 2010). Also, Luo and de Jong (2010) find that the more analysts element in company advertising expenditures and reflect it in their earnings anticipations, the more likely the advantages of advertising expenditures are transmitted into company market value.

For the direct impact, Chemmanur and Yan (2009) suggest:

> Advertising can signal quality not only to the product market, thereby allowing consumers to price the firm's products correctly in equilibrium, but also to stock market investors on the true value of a firm's projects, thus allowing them to price the firm's equity correctly in equilibrium.

Grullon et al. (2004) support the above argument and point out that advertising expenditures enable companies to benefit more from information approaches, to be in touch with investors, and get better investor attention. They also find that advertising expenditures decrease investors' search expenses and give a sign to company-specific competitiveness regarding its current and new products. Further, advertising expenditures can be treated as an intangible asset, Hirschey (1982) uses the market valuation model and suggests that both advertising and R&D can be viewed as intangible capital assets. He comments that they "find support for the treatment of

advertising and R&D expenditures since each has a highly significant positive influence on market value…"(P. 388). According to Luo and de Jong (2010), advertising can create intangible assets and have a direct impact on company market value, and intangible assets are able to explain more than 80% of the market value of Fortune 500 firms.

The treating of advertising expenditure as an intangible asset has also been supported by Hirschey (1985) and Hirschey & Spencer (1992). Moreover, a number of empirical studies have found that advertising expenditures and R&D expenditures have a positive and consistent impact on the market value of the company (Connolly & Hirschey, 1984; Hsu and Jang, 2008; Morck & Yeung, 1991; Shah et al., 2009). Based on the argument above, the following hypothesis is proposed:

Hypothesis 1: Advertising Expenditures are positively related to market value.

3.2.2. Voluntary disclosure of advertising expenditures

According to IFRS (International Financial Reporting Standards), listed companies in Canada are not required to disclose advertising expenditures. It is the companies' decision whether or not to disclose advertising expenditures. Verrecchia (2001) suggests that although the accounting policy and law require a certain volume of mandatory disclosure in the financial reports of companies, these companies might still want to disclose information that is not required by regulation. Nevertheless, the information is useful in valuing the company's future strategy. In addition, disclosure of information can lead to a reduction in the information asymmetry between managers and external investors. Thereby reducing the company's cost of outside financing (Healy & Palepu, 2001). Further, managers in a company can reduce their cost of capital by reducing information risk through increased voluntary disclosure, thereby enhancing the market value of the company (Barry & Brown, 1986; Merton 1987). Healy et al., (1999) support that enhanced disclosure information increases share prices of companies

significantly. Further, companies with high disclosure ratings have a higher share price than companies with low disclosure ratings (Gelb & Zarowin, 2000).

Conversely, advertising and R&D expenditures can be anticipated to provide increases in valuable intangible capital. Advertising investments provide a credible commitment to the capital market in valuing the market value of companies (Chauvin & Hireschey, 1994). Gu and Li (2010) have supported the above argument by analyzing advertising by pharmaceutical companies using regression analysis. They have found that stock investors treat advertising in pharmaceutical companies as a value-enhancing investment. Stock investors can always find out the future financial and economic benefits that are provided by advertising. Advertising activities can generate intangible assets and provide positive market value impact that lasts for 3 to 5 years. (Hirschey, 1982; Hirschey & Weygandt, 1985). Moreover, investors use advertising by pharmaceutical companies as a criterion to determine the value of pharmaceutical companies. Based on the argument above, the following hypotheses are proposed:

Hypothesis 2: Market value will be higher for firms that voluntarily disclose advertising expenditures relative to non-disclosers.

4. Data and methodology

4.1. Data and Sample selection

This research uses financial data from Bloomberg. Bloomberg Terminal enables financial professionals to access the Bloomberg Professional service. It provides real-time and historical financial data on firms listed on the Toronto Stock Exchange. Moreover, it covers more than 24,000 companies around the world. Through the Bloomberg Professional service, users are able to monitor and analyze real-time financial data and place trades. There are more than 320,000 subscribers in 174 countries around the world. This study chooses Bloomberg Professional service, because it contains a complete list of companies on the Toronto Stock Exchange (TSX).

Moreover, it contains a large span of data. Financial information reported by companies is available from 1994 until now.

All 876 sample firm-year observations are selected from listed companies in the TSX. Firm-year observations of firms are the number of firms multiplies the number of years each firm appears from 2007 to 2014. The initial sample contains all firms who report advertising expenditures in any year from 2007 to 2014. These firms are called disclosers in this research. This study finds 438 disclosure firm-years. The disclosers are organized by different industries using the firm's NAICS (North American Industry Classification System). The first sample in this study is the sample of disclosure firm-year observations. This paper aims to find out not only the value relevance of advertising expenditure, but also the impact of voluntary disclosure of advertising expenditure on companies' market value. Therefore, the second sample contains both disclosure firm-year observations and non-disclosure firm-year observations. The second sample in this study contains the sample of all firm-years.

To create a comparison sample, non-disclosure companies are identified that are similar to the disclosure companies in size, sector, stock exchange, and time period. Each disclosure company is matched with a non-disclosure company based on the following 4 requirements:

1. Stock Exchange. The disclosure companies and non-disclosure companies are all selected from Toronto Stock Exchange (TSX).
2. Company size. Disclosure companies and non-disclosure companies are treated as similar in company size if the total assets of non-disclosure companies are within 30 percent of the total assets of disclosure companies.
3. Sector. A non-disclosure company should have the same 2-digits NAICS code as the matched disclosure company.
4. Time period. A non-disclosure company should be in the same year as the matched disclosure company.

Nevertheless, it is also important to this research whether or not a non-disclosure company actually engages in advertising. The non-disclosers for the matched sample are selected from all firms who do not report advertising expenditures in any year from 2007 to 2014. It is possible that a company never advertises, which might be the reason it does not show advertising expenditures in its financial statements. Therefore, it is very important to identify whether a company advertises. Research for this paper included searches in TV advertisements, newspapers, magazines, brochures, newsletters and the Internet to discover whether the chosen matching firm advertises. The company who did advertise but did not show any advertising expenditures in its financial statement is a suitable non-discloser in this paper. Before 2007, it is very difficult for the researcher to identify whether a company advertises, owing to the lack of available historical information. Hence, this research paper focuses on data from 2007 to 2014.

After a preliminary exploration of the Bloomberg database, this study turned up 438 firm-year observations in the disclosure firm-years' sample from 2007 to 2014 in the analysis. In the all firm-years sample that is matched based on total assets, there are 876 firm-year observations in the analysis.

4.2. Variables

4.2.1. Dependent variable

The dependent variable for this study is the market value of a company. Market value for a company for a given calendar year t is measured six months after the end of the financial year. For instance, for a company whose financial year ends on December 31, 2013, market value is measured on June 30, 2014. The market value six months after the end of the financial year end is used to ensure that the information in the financial statements for a given financial year is reflected in the market price (Shah et al., 2009).

4.2.2. Independent variables

Advertising expenditures for disclosers are measured as advertising expenditures as reported in the financial statements for the year t, which is derived from Bloomberg. Since non-disclosers do not disclose, their advertising expenditure must be estimated. For each discloser, the process begins by computing the ratio of advertising expenditures to total assets. Then, the estimate of advertising expenditure by a non-disclosing firm is the ratio multiplied by the total assets of the non-disclosing firm.

Companies that disclose their advertising expenditures are classified as disclosers and are coded 1. Companies that do not disclose their advertising expenditures are classified as non-disclosers and are coded 0.

4.2.3. Control variables

R&D expenditures are measured as R&D expenditures as reported in the financial statements for the year t, which is derived from Bloomberg. In the sample of disclosure firm-years, in order to fill the missing data in R&D expenditures, their R&D expenditure must be estimated. For each firm with R&D expenditures, the process begins by computing the ratio of R&D expenditures to total assets. Then the average of this ratio is computed for each sector. Thus the estimate of R&D expenditure by a firm without R&D expenditure data is the sector average multiplied by the total assets of the firm without R&D expenditure data.

Book value is measured as the total assets of a company. Total assets are the total amount of assets owned by a company, and are equal to the combined value of equity and liabilities (Kimmel et al., 2010). Total assets are normally recorded in the financial statement (i.e., Statement of Financial Position) of the company at the end of year t.

Earnings are measured as net income as reported in the financial statements during year t with advertising and R&D added back to it.

Dividends are total dividends paid during the year t.

Capital contributions are measured as the total shares issued during the year t.

4.2.4. Sector interactions

This study applies North American Industry Classification System (NAICS) to classify industries. NAICS code is a six-digit code at the most detailed industry level. However, this study only uses the first two digits to classify business sectors (i.e., The first two digits designate the largest business sector). The reason this study chooses 2-digit NAICS code is because of the small number of advertising disclosure companies. The adoption of 2-digit NAICS classification can ensure that each sector has an adequate number of disclosure companies. However, a number of sectors still only get less than 10 disclosure companies.

Each 2-digits sector is a dummy variable; coded 0 if a company does not belong to the specific industry group, and 1 if a company belongs to the specific sector.

4.3. Linear regression analysis

In this study, the data were analyzed using linear regression. Linear regression aims to illustrate the extent to which the dependent variable is explained by independent variables (Andrew, 2013). According to the theoretical model and hypotheses proposed above, a valuation model is employed. The form of the basic valuation equation that was used is:

$$\boldsymbol{MV_{it+6months} = \alpha_0 + \alpha_1 ADV_{it} + \alpha_2 RD_{it} + \alpha_3 BV_{it} + \alpha_4 E_{it} + \alpha_5 D_{it} + \alpha_6 CC_{it} + \alpha_7 Disc_{it} + \varepsilon_{it}}$$

In this equation, MV represents market value of the company 6 months after fiscal year end; ADV represents advertising expenditures, RD represents R&D expenditures, BV represents book value, E represents earnings, D is dividend, CC is capital contributions, Disc represents disclosure of advertising expenditures and ε is a mean zero random variable (subscripts i and t

represent firm i and time t). When estimated, this equation is deflated by open market value in order to reduce problems caused by heteroscedasticity (i.e. heteroscedasticity refers to the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it). The model is evaluated for overall fit, statistical significance of the parameter estimates, as well as their direction and magnitude.

In addition to the above, this study also investigates whether value relevance of advertising expenditure is affected by different sectors. Some sectors rely more on advertising and marketing than others. For example, companies in consumer merchandize sectors that produce products of low unit price with a high turnover rate can get more benefits from advertising activities than companies in industrial merchandizing sectors that produce a high unit price (Shah and Akbar, 2008). Thus, the effectiveness of advertising activities can be different among different sectors.

Table 2. Descriptive statistics

	MV	ADV	RD	BV	E	D	CC
Disclosure firm-years – 438 firm-years							
Mean	1.527623	-0.09188	-0.076758	2.028337	0.100531	0.011907	0.000000
SD	1.642249	0.155909	0.117716	3.318955	0.345693	0.026734	0.000000
Minimum	0.080397	-2.14997	-1.029098	0.061941	-2.745930	0.000000	0.000000
Maxmum	13.43381	0.000000	0.000000	23.65910	2.526221	0.176840	0.000000
All firm-years (disclosure and non-disclosure) – 876 firm-years							
Mean	1.555231	-0.11458	-0.048387	2.111571	0.097613	0.014150	0.001007
SD	1.697932	0.212429	0.097101	3.378591	0.319043	0.030718	0.024201
Minimum	0.080397	-2.87173	-1.029098	0.008179	-2.746634	0.000000	0.000000
Maxmum	14.592677	0.000000	0.000000	19.873844	2.485350	0.270290	0.722148

Table 2 provides some descriptive statistics of the deflated variables used in the regression model for the two samples. With regard to the market value, a wide variation in its distribution is found ranging from a minimum of 0.08 (0.08) to a maximum 13.43 (14.59) and a mean of 1.53 (1.56) in disclosure firm-years sample (in all firm-years sample). The standard deviation for market value is 1.64 (1.70) in the disclosure firm-years sample (in all firm-years sample). A wider variation in the distribution of book value is found ranging from a minimum of 0.06 (0.008) to a maximum 23.70 (19.87) and a mean of 2.03 (2.11) in the disclosure firm-years sample (in all firm-years sample). The standard deviation for book value is 3.32 (3.38) in the disclosure firm-years sample (in all firm-years sample). Dividends have a narrow variation in its distribution; the range is from a minimum of 0 (0) to a maximum of 0.18 (0.27). The standard deviation for dividend is only 0.03 (0.03) in the disclosure firm-years sample (in all firm-years sample). Similar variations are found in the capital contributions. To be more specific, capital contributions is 0 for all firm-year observations in the disclosure firm-year sample. The remaining variables, advertising expenditures, R&D expenditures and earnings all exhibit similar variation in their distributions. Their standard deviations are all between 0.1 and 0.3. In addition, both advertising expenditure and R&D expenditure are negative numbers in this study.

In addition, to detect whether there is a multicollinearity problem, this study analyses the correlation across dependent variables and market value. Table 3 shows the correlation between variables is low. Further, the Variance Inflation Factors (VIF) of the ordinary least-squares regression analysis is well within the limits of 10.00 (Myers, 1990). Therefore, there does not seem to be multicollinearity effects in the study.

Table 3. Correlation between variables in the deflated equations

	MV	**ADV**	**RD**	**BV**	**E**	**D**	**CC**
Valuation equation: disclosure firm-years – 438 firm-years							
MV	1						
ADV	-0.26 ***	1					

RD	-0.18 ***	0.41 ***	1				
BV	0.21 ***	-0.13 ***	0.12 **	1			
E	0.07	-0.54 ***	-0.42 ***	0.12 **	1		
D	-0.09 *	-0.03	0.06	0.31 ***	0.14 ***	1	
CC	.	.	.	.	.	.	.
Valuation equation: all firm-years (disclosure and non-disclosure) – 876 firm-years							
MV	1						
ADV	-0.41 ***	1					
RD	-0.16 ***	0.17 ***	1				
BV	0.21 ***	-0.26 ***	0.11 ***	1			
E	0.17 ***	-0.56 ***	-0.30 ***	0.18 ***	1		
D	-0.06 *	-0.001	0.15 ***	0.27 ***	0.14 ***	1	
CC	-0.01	-0.04	-0.06 *	0.02	0.07 **	-0.09	1

Levels of significance for two-tailed tests: *: p< .10; **: p< .05; ***: P< .01

5. Results

5.1. Regression results

Two linear regression models are employed in the sample of disclosure firm-years, and three linear regression models are employed in the sample of all firm-years. Model 1 includes 6 independent variables for both samples; however capital contribution is constant in the sample of disclosure firm-years. Therefore, there are actually 5 independent variables in model 1 for the sample of disclosure firm-years. For disclosure firm-years sample, model 2 adds 2 sector dummies (Mining, Quarrying, and Oil and Gas Extraction & Manufacturing) together with interactions between the 2 sector dummies and advertising expenditures (i.e. for other 12 sectors, neither main effect nor interaction effect on market value is found to be consistent and statistically significant. They are not included for the purpose of brevity). For all firm-years sample, model 2 adds the advertising disclosure dummy and interaction between disclosure and advertising expenditures. Finally, for all firm-years sample, model 3 adds 2 sector dummies

(Mining, Quarrying, and Oil and Gas Extraction & Manufacturing) together with interactions between the 2 sector dummies and advertising expenditures. Table 4 and Table 5 present the regression result for the two samples separately.

Table 4. The value relevance of advertising expenditures – disclosure firm-years

Estimates of the relationship between market value and predict variables (the dependent variable is market value of the firm six months after the end of financial year)

	Model 1	**Model 2**	**VIF**
Independent variables:			
Advertising expenditures (H1)	-0.239***	-0.149***	1.50
Control variables:			
R&D expenditures	-0.162***	-0.083*	1.36
Book value	0.258***	0.210***	1.21
Earnings	-0.142**	0.163***	1.33
Dividend	-0.146***	-0.121***	1.17
Capital contributions			
Sector effects:			
Mining, Quarrying, and Oil and Gas		0.459***	1.59
MQOGE*Advertising expenditures		-0.073*	1.19
Manufacturing		0.164***	1.25
Manufacturing*Advertising expenditure		-0.03	1.37
Number of observations	438	438	
F-value	15.07	20.10	
Adjusted R Square	0.14	0.28	
R Square	0.15	0.30	
R Square Change	0.15	0.15	

Estimated coefficients are listed in the table

Levels of significance for two-tailed tests: *: p< .10; **: p< .05; ***: P< .01

Notes:

(1) The basic model estimated is:

$$MV_{it+6months} = \alpha_0 + \alpha_1 ADV_{it} + \alpha_2 RD_{it} + \alpha_3 BV_{it} + \alpha_4 E_{it} + \alpha_5 D_{it} + \alpha_6 CC_{it} + \varepsilon_{it}$$

(2) Two sector dummies are then added to estimated equation, together with interactions between the sector dummies and advertising expenditures.

(3) All regressions are estimated using opening market value as the deflator.

(4) Subscripts i and t represent firm i and time t, respectively. MV is the market value of the firm 6 months after the end financial year; ADV represents advertising expenditures, RD represents R&D expenditures, BV represents book value, E represents earnings, D is dividend, CC is capital contributions

(5) VIF is the average VIF of the 2 models

Table 5. The value relevance of advertising expenditures – all firm-years

Estimates of relationship between market value and predict variables (the dependent variable is market value of the firm six months after the end of financial year)				
	Model 1	**Model 2**	**Model 3**	**VIF**
Independent variables:				
Advertising expenditures (H1)	-0.416***	-0.403***	-0.337***	1.69
Disclosure (H2)		0.266***	0.081	2.81
Disclosure*advertising expenditures		-0.207***	-0.130***	1.68
Control variables:				
R&D expenditures	-0.134***	-0.132***	-0.114***	1.40
Book value	0.155***	0.120***	0.116***	1.20
Earnings	-0.122***	0.010	0.116***	2.00
Dividend	-0.065**	-0.046	-0.036	1.16
Capital contributions	-0.025	-0.033	-0.033	1.01
Sector effects				
Mining, Quarrying, and Oil and Gas			0.238***	4.359
MQOGE*Advertising expenditures			0.039	1.291

Manufacturing			0.145***	1.869
Manufacturing*Advertising expenditure			0.01	1.692
Number of observations	876	876	876	
F-value	38.83	40.72	31.10	
Adjusted R Square	0.202	0.262	0.288	
R Square	0.208	0.269	0.297	
R Square Change	0.208	0.061	0.028	

Estimated coefficients are listed in the table

Levels of significance for two-tailed tests: *: p< .10; **: p< .05; ***: P< .01

Notes:

(1) The basic model estimated is:

$$MV_{it+6months} = \alpha_0 + \alpha_1 ADV_{it} + \alpha_2 RD_{it} + \alpha_3 BV_{it} + \alpha_4 E_{it} + \alpha_5 D_{it} + \alpha_6 CC_{it} + \alpha_7 Disc_{it} + \varepsilon_{it}$$

(2) Two sector dummies are then added to estimated equation, together with interactions between the sector dummies and advertising expenditures.

(3) All regressions are estimated using opening market value as the deflator.

(4) Subscripts i and t represent firm i and time t, respectively. MV is the market value of the firm 6 months after the end of financial year; ADV represents advertising expenditures, RD represents R&D expenditures, BV represents book value, E represents earnings, D is dividend, CC is capital contributions, Disc represents disclosure of advertising expenditures

(5) VIF is the average VIF of the 3 models

The results provide the relationship between market value and six studied variables. First, whichever sample is employed, consistently positive influences of advertising expenditures on the market value of the company are found (advertising expenditure is negative number, negative coefficient indicates a positive relationship). Further, the coefficients for advertising expenditures are highly statistically significant (p=0.000). Therefore, the results support hypothesis 1. Furthermore, a positive relationship is found between voluntary disclosure of advertising expenditures and market value (p=0.000). Thus, the results support hypothesis 2. The interaction between voluntary disclosure of advertising expenditures and advertising expenditures is significantly and positively related to market value (interaction between

advertising expenditure and disclosure dummy is negative, thus a negative coefficient indicates a positive relationship).

Whichever sample is employed, a significant positive relationship is found between market value and R&D expenditures (R&D expenditure is negative number, negative coefficient indicates a positive relationship). Then, book value has a significant positive relationship with market value. Also, a significant negative relationship is found between market value and earnings.[1] Moreover, a negative relationship is found between dividend and market value in disclosure firm-years sample and model 1 in all firms-years sample. Finally, capital contributions do not contribute to the models significantly in both samples (capital contributions are constant in the disclosure sample).

For the sector effects, a significant and positive relationship is found between Mining, Quarrying, and Oil and Gas Extraction (MQOGE) sector and market value. However, the interaction between MQOGE sector and advertising expenditures is not statistically significant in relation to market value in the sample of all firm-years. Secondly, there is a positive relationship between the manufacturing sector and market value. Nevertheless, the interaction between the manufacturing sector and advertising expenditures is not statistically significant in relation to market value.[2]

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[1] In order to check the negative relationship between market value and earnings, separate regressions were applied for both positive earnings firm-years and negative earnings firm-years. The results show that earnings are positively related to market value for positive earnings firm-years. On the other hand, earnings are negatively related to market value for negative earnings firm-years (the results are attached in the appendix 3 & 4)

[2] For other 12 sectors, neither main effect nor interaction effect on market value is found to be consistent and statistically significant. They are not included for the purpose of brevity.

6. Discussion

6.1. Valuation results

First, according to the results of this empirical analysis, *advertising expenditures* are positively related to market value. The results are consistent with findings in relevant prior studies (e.g., Connolly & Hirschey, 1984; Hirschey, 1985; Morck & Yeung, 1991; Erickson & Jacobson, 1992). This finding demonstrates that advertising expenditures have value relevance by using a valuation-model approach on data for 2007 to 2014. Moreover, even combined with other predictor variables and interactions in the model, advertising expenditures still add much more explanation than the other significant variables (Stevens, 2009). Therefore, if companies spend more money on advertising, they are more likely to have higher market value. From the perspective of the indirect impact of advertising expenditure on market value, companies with more advertising activities can create greater market awareness, quality competitiveness and customer preference for companies, and also can accelerate the speed of customer response and cause quick market penetration (Koslow et al., 2006; Tellis, 2009). Further, advertising can help companies generate a barrier to competition, create bargaining power against suppliers, and accomplish better dynamic effectiveness and elasticity in accommodating environmental variations than its competitors (McAlister, 2007). Advertising is also able to boost future sales and profits of companies (Osinga et al., 2010). Also companies with more advertising expenditures are able to benefit from more information connected channels and approaches to get in touch with investors and get better investor attention, because investors can use advertising expenditure information to capture more useful information to value these companies (Grullon et al., 2004). More importantly, advertising expenditures can be treated as an intangible asset and have a direct impact on company market value. Therefore, companies that perform more advertising activities can create more intangible assets (Hirschey, 1982). Intangible assets account for more than 80% of the market value of Fortune 500 firms (Luo and de Jong, 2010). Thus, companies with more intangible assets that are created by advertising can have a higher

market value. The regression result of this study shows that advertising expenditure accounts for around 30% of market value. The finding also shows that both real advertising expenditures reported by the company itself and estimated advertising expenditures are positively related to market value. It is consistent with findings in Shah et al. (2009), who report that ACNielsen MEAL major media advertising expenditure estimates are positively related to market value. On the basis of this finding, advertising expenditures are able to capture information potentially useful to market analysts and investors in valuing companies.

Second *R&D expenditures* are positively related to market value. This finding demonstrates that if companies spend more money on research and development activities, they are more likely to have a higher market value. This finding is consistent with findings in Chauvin and Hirschey (1993), for instance, who found that that R&D expenditures have consistent large impacts on market value of companies. R&D expenditures can be viewed as intangible assets, which have significant and positive impacts on market value (Hirschey, 1982). Thus, companies that perform more R&D activities can create more intangible assets. This finding also demonstrates that R&D expenditures have value relevance by using a valuation-model approach, which is consistent with prior studies (e.g., Connolly & Hirschey, 1984; Hsu and Jang, 2008; Morck & Yeung, 1991; Shah et al., 2009, Akbar et al., 2011). R&D expenditures are one of the key basic factors that help determine the market value of companies, and companies with more R&D activities can obtain a comparative advantage that enables them to prevent imitation by competitors (Erickson and Jacobson, 1992; Hirschey and Spencer, 1992). On the basis of this finding, R&D expenditures are able to capture information potentially useful to market analysts and investors in valuing companies.

Third, *book value* is positively related to market value. This finding proves that if a company has a higher book value than others, this company is more likely to have a higher market value. This finding is consistent with findings in Collins, Pincus and Xie (1999), for instance, who suggest that there is a positive relationship between book value and stock price for both

surviving and loss companies. Furthermore, this finding demonstrates that book value has value relevance, which is consistent with Ohlson, (1995), for instance, who reports that book value can be treated as an unbiased predictor of market value. The results are also consistent with Collins, Maydew and Weiss (1997), who argue that the value relevance of book value is increasing. On the basis of this finding, book value is able to capture information potentially useful to market participants in valuing companies.

Fourth, *earnings* are found to be negatively related to market value. This result demonstrates that if companies earn less, they are more likely to have a higher market value. This result is not consistent with findings in Eccles et al. (2002), for example, who report that earnings of a company are the main determinant of its share price, because earnings and the conditions related to them can indicate whether the company will be profitable and successful in the long run. Landsman (1998) indicates that market value of equity is positively related to net income of equity. Moreover, previous findings also demonstrate that earnings have value relevance by using a valuation-model approach. For this study, one possible explanation might be that a number of firm-years in my data set get negative earnings. Further, a number of firm-years, with large market value, have negative earnings, which can drive the relationship sign. I had done a separate analysis for both positive earnings firm-years and negative earnings firm-years. The results show that earnings are positively related to market value for positive earnings firm-years. On the other hand, earnings are negatively related to market value for negative earnings firm-years (the results are attached in the appendix).

Fifth, *dividend* is found to be negatively related to market value, which seems counter-theoretical and counter-conceptual since it is proposed that if companies pay more dividends they would probably have higher market value. In addition, the relationship between capital contributions and market value is not significant at the 0.10 level in the sample of all firm-years, when sector and disclosure interactions are added to the model. This point demonstrates that when combined with more predictors in the model, dividend does not add any

explanation than other significant variables. This finding is inconsistent with the findings in Rees (1997), for instance, who found that dividends have a positive effect on market value of companies. Further, this finding is also inconsistent with the Dividend discount model, which describes the market valuation of equity in terms of expected future dividends (higher dividends lead to higher market value of equity). One possible reason for these findings is that most Canadian observations in the sample did not pay dividends during 2007 to 2014. Specifically, only 117 out of 438 observations in the disclosure firm-years sample and 278 out of 876 observations in the all firm-years sample did pay dividends. The dividend data, with large percentage of 0, can lead the result to be different from what the study expected. Further, it is also possible that companies with higher market value do not pay dividends, and lead to a negative relationship between dividends and market value. By checking the data set, a large number of firm-year observations with large market value do not pay dividends.

Sixth, the relationship between *capital contributions* and market value is not statistically significant at the 0.10 level. This result suggests that there is no relationship between capital contributions and market value. This finding is inconsistent with prior studies, which found a positive relationship between capital contributions and market value (e.g., Akbar et al., 2003; Hand and Landsman, 2005; Shah et al., 2009). One possible explanation about this finding is that this study does not follow the same measurement of capital contributions as used by Shah et al. (2009). Specifically, they measure capital contributions as the sum of equity raised for cash and for acquisitions, whereas this study measures capital contributions as the value of share issued. Only 10 observations out of 896 observations issued shares from 2007 to 2014 in this paper's data set. The rest firm-years did not issue shares, which made their capital contribution 0. Further, available data in Bloomberg produced the fact that only 75 Canadian securities out of over 3000 Canadian securities have issued shares in the 2014 financial period. Due to the unavailability of data, this study cannot use the same measure as Shah et al. (2009).

Seventh, the *voluntary disclosure of advertising expenditure* is positively related to market value. The results are consistent with findings in relevant prior studies (Verrecchia, 2001; Chauvin & Hirschey, 1994; Hirschey, 1982; Hirschey & Weygandt, 1985; Lang & Lundholm, 1993; Gu & Li, 2010). This finding demonstrates that the voluntary disclosure of advertising expenditure has value relevance by using a valuation-model approach on data for 2007 to 2014. Advertising expenditure is found to be positively related to market value of firms. Therefore, advertising expenditure can be treated as favourable information of firms. Managers always like to disclose favourable news and information to the financial market, since disclose favourable information can induce an external reaction among other players in the market to increase the value of their firms (Dontoh, 1989). Moreover, the disclosed advertising expenditures can provide an increase in valuing intangible assets (Chauvin & Hirschey, 1994). To be more specific, advertising expenditure can provide long-term positive and systematic market value influence (Bublitz & Ettredge, 1989). The influence can last for 5 years (Hirschey & Weygandt, 1985). On the other hand, voluntary disclose advertising expenditure can reduce the information asymmetry between managers and external financial market (Healy & Palepu, 1995). Further, Barry and Brown (1985, 1986) and Merton (1987) model the premium that investors demand for facing information risk when there is an information asymmetry between managers and external investors. If there is an information asymmetry between managers and external investors, investors demand a premium to offset the information risk. Therefore, managers in a company can reduce their cost of capital by reducing information risk through increased voluntary disclosure. Therefore, if a number of companies voluntarily disclose their advertising expenditures, the market value of these companies is more likely to be higher than non-disclosers. This finding also demonstrates that although market participants may still obtain the information about advertising expenditures of non-disclosers from third party companies (such as ACNielsen MEAL, AdForum and Ads of the World), investors still rely on the disclosed advertising expenditure in valuing market value..

Additionally, the interaction between the voluntary disclosure of advertising expenditure and advertising expenditure is positively related to market value. This finding demonstrates that the positive impact of advertising expenditure on market value for disclosers is stronger than that for non-disclosers. According to the regression results, the market value of disclosers is around 20% higher than that of non-disclosers. For managers, this finding shows that the market value of the firm who discloses advertising expenditure is 20% higher than that if the firm who does not disclose advertising expenditure, if the two firms have the same level of advertising expenditures. Therefore, managers in the non-disclosure firms should reconsider their decisions of advertising disclosure in the future.

6.2. Sector effects

First, according to the result of this empirical analysis, Mining, Quarrying, and Oil and Gas Extraction (MQOGE) sector is found to be positively related to market value. This finding proves that if companies belong to MQOGE sector, these companies are more likely to have higher market value. On the other hand, the interaction between MQOGE sector and advertising expenditures is not statistically significant (even at .10 level) with regard to market value. Therefore, advertising expenditure is not value relevant for companies in MQOGE sector. One possible explanation is that companies in consumer merchandizing sectors that produce products of low unit price with a high turnover rate can get more benefits from advertising activities than companies in industrial merchandizing sectors that produce high unit price (Shah and Akbar, 2008). On the basis of this finding, advertising expenditures might be not able to capture information potentially useful to market analysts and investors in valuing companies in MQOGE sector.

Second the manufacturing sector is found to be positively related to market value. This finding demonstrates that if companies belong to the manufacturing sector, these companies are more likely to have higher market value. However, the interaction between the manufacturing sector and advertising expenditures is not statistically significant (even at .10 level) in relation to

market value. Therefore, advertising expenditure is not value relevant for manufacturing companies. The results are inconsistent with Chauvin and Hirschey (1994), who find that the relationship between advertising expenditures and market value is positive and significant for manufacturing companies in the US. One possible explanation could be that this study does not follow the same classification of companies as adopted by Chauvin and Hirschey (1994) (NAICS vs. SIC). In addition, Chauvin and Hirschey (1994) use a different sample time period (1988 to 1990) from the sample period of this study (2007 to 2014). On the other hand, the findings of this study are consistent with the findings of Shah et al. (2009), for instance, who report that ACNielsen MEAL major media advertising expenditure measures are value relevant only for nonmanufacturing companies. Further, Ho et al. (2005) also indicate that nonmanufacturing companies get most benefits from advertising activities. On the basis of this finding, advertising expenditures might be not able to capture information potentially useful to market analysts and investors in valuing companies in manufacturing sector.

7. Conclusion

This study first investigates whether advertising expenditures have value relevance by using a valuation model approach on data for 2007 to 2014. The conclusion is that advertising expenditures are positively related to market value. The coefficients for most of the other variables are consistent with findings in relevant prior studies (e.g., Rees, 1997; Akbar & Stark, 2003; Shah et al., 2009). When the companies are divided by industries, even though firms in Mining, Quarrying, and Oil and Gas Extraction (MQOGE) sector and manufacturing sectors have higher market value, value relevance of advertising expenditures is only present for non-MQOGE companies and nonmanufacturing companies. On the basis of these evidences, advertising expenditures are able to capture information potentially useful to financial markets and investors in valuing companies, especially for non-MQOGE and non-manufacturing companies. Secondly, this study investigates whether the voluntary disclosure of advertising expenditures has value relevance. The conclusion is that the relationship between the voluntary

disclosure of advertising expenditures and market value is positive. Thus, if a number of companies voluntarily disclose advertising expenditures, the market value of these companies is more likely to be higher than non-disclosers. Furthermore, positive impact of advertising expenditure on market value for disclosers is stronger than that for non-disclosers.

This study contributes to the theoretical perspective. It answers the call for more empirical studies on the value relevance of advertising expenditures and the impact of advertising disclosure on companies' market value from a greater number of databases and countries other than the US and UK (Conchar et al., 2005; Shah et al., 2009). In addition, this study provides fresh evidence based on recent data (2007 to 2014) on how advertising expenditures are related to market value. More importantly, recent UK evidence (Shah et al., 2009) uses estimated advertising expenditures to investigate the value relevance of advertising expenditure. In this study, by using two samples, the results show that regardless of the nature of advertising expenditures (real advertising expenditures reported by disclosing firms and estimated advertising expenditures for non-disclosing firms), advertising expenditures are positively related to market value. Further, due to the availability of detailed sector observations on advertising, this study analyses firms on the basis of detailed classification of companies into 14 categories. Prior studies such as Shah et al. (2009) only divide firms into manufacturing and nonmanufacturing firms owing to the no availability of detailed sector observations on advertising. This study overcomes the limitation of Shah et al. (2009)'s study and answers the call for an analysis of value relevance of advertising expenditure across a range of key sectors. Finally, this study identifies the companies, who do not disclose advertising expenditures in specific years, for advertising activities. Thus, this study solves the limitation that a number of studies cannot identify whether or not the non-disclosers in their study engage in advertising (e.g., Legoria, 2005; Simpson, 2008). It is possible that a number of companies do not disclose advertising expenditure because they do not advertise; to treat these companies as non-disclosers may lead to inaccurate result.

This study also makes contributions to management and policy practice. Although value relevance is not a specific criterion of accounting policy makers, policy makers could be interested in the results about value relevance (Barth et al., 2001). This study shows that the advertising expenditures disclosed and estimated can be useful to market participants. To be more specific, advertising expenditures can help explain variations in market value. Therefore, accounting policy makers could consider the requirement of advertising expenditure disclosure, since benefits exist.

Similar to prior studies, this paper is subject to limitations. Advertising expenditures for non-disclosers are measured as the proportion of advertising expenditures to total assets that the matched disclosers spend on advertising expenditures. The estimated number of advertising expenditures could be biased (larger total assets companies have a higher market value in the same sector). Future research should involve obtaining the estimated advertising expenditures from a more reliable source or database, if they are available. Additionally, this study focuses on value relevance, and is not able to identify the reason for firms' decision to voluntarily disclose advertising expenditure. Further studies may need to collect interior managerial data to identify the reason for disclosers' decision to voluntarily disclose advertising expenditure, if the interior managerial data is available.

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Appendix

Appendix 1. Regression coefficients for disclosure firm-years observations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.038	.106		9.798	.000		
	ADV	-2.520	.579	-.239	-4.350	.000	.652	1.534
	R&D	-2.264	.720	-.162	-3.146	.002	.741	1.350
	Book value	.128	.024	.258	5.396	.000	.859	1.164
	Earnings	-.677	.265	-.142	-2.556	.011	.635	1.576
	Dividend	-8.968	2.900	-.146	-3.093	.002	.885	1.130
2	(Constant)	.864	.103		8.416	.000		
	ADV	-1.571	.561	-.149	-2.799	.005	.579	1.727
	R&D	-1.153	.697	-.083	-1.653	.099	.657	1.522
	Book value	.104	.022	.210	4.749	.000	.840	1.191
	Earnings	.776	.299	.163	2.598	.010	.416	2.407
	Dividend	-7.453	2.666	-.121	-2.796	.005	.872	1.147
	MQOGE	16.635	1.849	.459	8.999	.000	.632	1.582
	MQOGE*Adv	-4.381	2.629	-.073	-1.666	.096	.851	1.175
	Manufacturing	16.042	4.415	.164	3.634	.000	.802	1.248
	Manufacturing*Adv	-.087	1.363	-.003	-.064	.949	.766	1.306

a. Dependent Variable: Market value

Appendix 2. Regression coefficients for all firm-years observations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.012	.072		14.089	.000		
	ADV	-3.329	.297	-.416	-11.203	.000	.645	1.550
	R&D	-2.345	.564	-.134	-4.160	.000	.858	1.166
	Book value	.078	.016	.155	4.773	.000	.850	1.177
	Earnings	-.647	.203	-.122	-3.184	.002	.612	1.635
	Dividend	-3.598	1.765	-.065	-2.039	.042	.875	1.143
	Capital contribution	-1.788	2.102	-.025	-.851	.395	.993	1.007
2	(Constant)	.992	.070		14.183	.000		
	ADV	-3.217	.297	-.403	-10.817	.000	.595	1.680
	R&D	-2.313	.594	-.132	-3.893	.000	.714	1.400
	Book value	.060	.016	.120	3.822	.000	.832	1.202
	Earnings	.052	.215	.010	.242	.809	.506	1.976
	Dividend	-2.547	1.705	-.046	-1.494	.135	.867	1.154
	Capital contribution	-2.313	2.025	-.033	-1.142	.254	.990	1.010
	Disclosure	12.372	1.579	.266	7.835	.000	.716	1.396
	Disclosure*Adv	-3.697	.625	-.207	-5.916	.000	.674	1.485
3	(Constant)	.858	.073		11.735	.000		
	ADV	-2.695	.308	-.337	-8.760	.000	.537	1.860
	R&D	-2.000	.628	-.114	-3.184	.002	.617	1.620
	Book value	.058	.016	.116	3.711	.000	.820	1.219
	Earnings	.616	.233	.116	2.647	.008	.416	2.402
	Dividend	-1.968	1.686	-.036	-1.167	.243	.856	1.169
	Capital contribution	-2.288	1.992	-.033	-1.149	.251	.988	1.012
	Disclosure	3.782	2.699	.081	1.401	.161	.237	4.224
	Disclosure*Adv	-2.314	.691	-.130	-3.350	.001	.532	1.879
	MQOGE	11.680	2.886	.238	4.047	.000	.229	4.359
	MQOGE*Adv	2.534	2.106	.039	1.203	.229	.775	1.291
	Manufacturing	9.138	2.438	.145	3.748	.000	.535	1.869
	Manufacturing*Adv	.022	.778	.001	.029	.977	.591	1.692

a. Dependent Variable: Market value

Appendix 3. Regression coefficients for positive/negative earnings disclosure firm-years observations

Positive Earnings (Disclosure firm-years sample)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.999	.127		7.862	.000		
	ADV	-.715	.632	-.083	-1.131	.259	.508	1.970
	R&D	-.636	.743	-.054	-.855	.393	.694	1.441
	Book value	.072	.023	.178	3.138	.002	.854	1.170
	Earnings	1.675	.434	.305	3.860	.000	.441	2.267
	Dividend	-8.333	2.783	-.165	-2.994	.003	.904	1.106

a. Dependent Variable: Market value

Negative Earnings (Disclosure firm-years sample)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.574	.180		3.185	.002		
	ADV	2.479	2.062	.087	1.202	.231	.847	1.180
	R&D	-2.928	1.728	-.120	-1.694	.092	.879	1.137
	Book value	.396	.075	.370	5.271	.000	.898	1.113
	Earnings	-2.447	.412	-.416	-5.938	.000	.898	1.114
	Dividend	-24.454	12.159	-.139	-2.011	.046	.928	1.077

a. Dependent Variable: Market value

Appendix 4. Regression coefficients for positive/negative earnings all firm-years observations

Positive Earnings (all firm-years sample)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.999	.092		10.855	.000		
	ADV	-2.765	.382	-.404	-7.244	.000	.394	2.541
	R&D	-1.795	.614	-.116	-2.924	.004	.780	1.282
	Book value	.032	.017	.072	1.901	.058	.858	1.166
	Earnings	.463	.389	.070	1.191	.234	.358	2.794
	Dividend	-2.624	1.859	-.053	-1.412	.159	.875	1.143
	Capital contribution	-2.167	2.013	-.038	-1.076	.282	.991	1.009

a. Dependent Variable: MV/ Open MV

Negative Earnings (all firm-years sample)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.656	.122		5.366	.000		
	ADV	.742	1.127	.034	.658	.511	.854	1.171
	R&D	-2.242	1.431	-.077	-1.566	.118	.932	1.073
	Book value	.431	.045	.492	9.616	.000	.862	1.160
	Earnings	-1.448	.321	-.231	-4.513	.000	.858	1.166
	Dividend	-8.172	4.840	-.082	-1.688	.092	.962	1.040

a. Dependent Variable: MV/ Open MV