

1. Introduction

In a world of corporate scandals and economic difficulties, the need for transparency is becoming ever more apparent. Managers are becoming increasingly cognizant of the demand from stakeholders and feel pressured into creating the impression that they are operating on a profitable basis. Examples of this attitude have appeared to be evident in the automobile industry. Following the decrease in automobile sales throughout 2008, General Motors (GM), Chrysler and Ford asked the United States (U.S.) government for a \$50 billion bailout to avoid bankruptcy (U.S. Treasury, 2009). During the following year, both GM and Chrysler filed for bankruptcy and had to be bailed out by the U.S. government (The Economist, 2009). Leading up to the financial crisis, GM sales started to decline, partly because of rising fuel costs, and access to the funds needed to finance its operations also dried up. GM was not alone; the entire automotive industry crisis of 2008–2010 was a part of the global financial meltdown that saw sales plummet (The Economist, 2009). As sales decreased, the automobile companies in Asia, Europe, and North America started to use creative reporting techniques to entice shareholders to invest in their companies (Bai, 2012; Bolt and Powell, 2016). The presentation of an image of increased profitability, when in fact performance is declining, is known as impression management (Brennan and Merkl-Davies, 2013). The idea that impression management could be an indicator that a company is in financial distress has motivated this research.

The origin of impression management is rooted in sociologist Erving Goffman's (1959) work on dramaturgical theory. The theory of impression management suggests that individuals attempt to influence the perceptions of

others, by regulating and controlling social interaction (Goffman, 1959; Leary and Kowalski, 1990; Merkl-Davies and Brennan, 2011a; Schlenker 1980; Tedeschi, 1981). According to Pontari and Schlenker (2006), the manipulation of impressions can involve the individual creating a “mix of truth, exaggeration and even lies” in order to achieve the desired goal (p. 117). It is not uncommon for individuals to be conscious of the impact they have on others. As a result of this perception, individuals will gauge what impressions they believe others to have of them to ensure their reputation is not damaged (Leary and Kowalski, 1990; Merkl-Davies and Brennan, 2011a).

Goffman (1959), in coining the term impression management, associated it with a stage performance whereby the individual, referred to as the actor, will perform differently depending on the setting (also see Tedeschi, 1981). This performance is also known as the dramaturgical approach (Goffman, 1959; Schlenker, 1980). The performance is described by Goffman (1959) as “the activity of a given participant on a given occasion which serves to influence in any way any of the other participants” (p. 26). To further develop the dramaturgical idea of life as a stage, Goffman (1959) suggests that social situations have front and back regions, otherwise known as the setting. The front region is “the place where the performance is given” (Goffman, 1959, p.110) and is used to give the appearance that certain standards and qualities are being upheld. Whilst present in the front region, actions that support the desired impression are accentuated but, at the same time, actions that do not contribute to the desired impression are suppressed. It is within the back region that these suppressed actions become apparent (Goffman, 1959). As a result of this behavior, the back region can be

defined as “a place ... where the impression fostered by the performance is knowingly contradicted” (p. 114). In a dramaturgical sense, the back region is the place where the actor can step out of character and be his or her true self.

Of late, impression management has transcended sociological boundaries and has become a widely used theoretical framework in general business and accounting studies (Bhattacharya et al., 2007; Bowen, Davis, and Matsumoto, 2005; Clatworthy and Jones, 2003; Guillamon-Saorin and García Osma, 2010; Merkl-Davies and Brennan, 2011b; Short and Palmer, 2003). In the business and accounting literature, impression management is conceptualized as, “managers us[ing] judgment in financial reporting...to alter financial reports to...mislead some stakeholders about the underlying economic performance of the company” (Healy and Wahlen, 1999, p. 368). Research in this area has recognized the existence of economic incentives for managers to display self-interested behavior in financial reporting (Goundar & Moriarity, 2009). More specifically, findings from the financial reporting literature indicate that some managers make disproportionate choices in disclosure and presentation in annual reports (Beattie and Jones, 2000; Lougee and Marquardt, 2004; Murphy and Zimmerman, 1993).

This paper seeks to determine whether managers in the auto industry were selective in the presentation of annual reports, by misreporting (committing fraud) financial results in a self-interested and self-serving manner. In doing so, the paper seeks to answer the following question: Does impression management exist within the automotive industry? Impression management is operationalized as (i) selectivity and (ii) strategic benchmarks. A fixed-effect regression model and a random-effect regression model are run. A Hausman test is used in order to choose

between the two models.

Our key findings are detailed as follows. The choice between GAAP and pro-forma earnings is not a good predictor of increased or decreased net income. We found that the car companies with less value-relevant GAAP earnings tend to place more emphasis on pro-forma earnings in times of declining profits (also see Bowen et al., 2005). Our results also suggest that the companies do not appear to place greater levels of emphasis on external benchmarks in times of increasing profits or on internal benchmarks in times of decreased profits.

The rest of this paper is structured according to the following sections. Section One highlights the unique features of the automobile industry as a fertile ground for research on impression management and its relations to forensic and investigative accounting. Section Two reviews the previous academic literature and explores the sociological origin of impression management. Section Three discusses the methodology and statistical techniques that will be used to analyze impression management in the automobile industry. Section Four presents and discusses the findings in greater detail. Section Five synthesizes the findings in relation to the wider literature on impression management and provides suggestions for future research in forensic and investigative accounting.

1.1 The Importance and the Unique Features of the Automobile Industry that Make it an Interesting Setting for the Study of Impression Management

Generally, managers are involved in impression management when their companies are facing declining financial performance (Godfrey, Mather, and Ramsay, 2003). Leaving out the obvious dangers of distortion, there is the risk that objectivity will be lost, selectivity and biases will creep into perception and

management desires will shape the manner in which financial data is presented in annual reports (Eisold, 2015; Russo, Stone, and Martin Jr., 2014). Given the auto makers' portrayal of strong financial performance (through the use of branding and strategies to convey an image of financial strength to stakeholders) before the GFC (see Ramey and Vine, 2005), and the subsequent requests for financial support for the industry after the GFC, (Rhodes and Stelter, 2010), there is a need for scholarship to address such distortions. This, coupled with the clandestine nature of the automobile industry (Eisold, 2015), and the opaqueness of operation (Ramey and Vine, 2005; Sturgeon and Van Biesebroeck, 2009), demands carefully designed systematic and scientific research to test for impression management in their annual reports.

The financial dependency between those manufacturing automobiles and those in charge of compliance and regulation presents a unique setting for the study of impression management. In an industry in which declining financial performance is pervasive, impression management can play a key role in restoring reputation and image (e.g. see Abrahamson and Park, 1994; Bolt and Powell, 2016; Courtis, 2004a). In the auto industry, this is important as the manufacturers try to regain and sustain legitimacy in response to the adverse feedback they received after the GFC. The increased scrutiny placed on auto manufacturers in the aftermath of the 2008 global financial meltdown meant that the industry was under the watchful eyes of regulators, which, one would assume, makes departure from regulation highly risky. The accentuated scrutiny is an added incentive to employ impression management to make sense of the materials presented in the annual

reports and structural re-organization in the auto industry (e.g. see Arndt and Bigelow, 2000; Ogden and Clarke, 2005).

1.2. Contributions to Forensic and Investigative Accounting

The study makes two important contributions to the forensic and investigative accounting literature. First, managers can employ impression management to distort the quality of financial reports through creative accounting (Jones, 2012). Previous studies have shown that as a firm's performance decreases, impression management increases and as a firm's performance increases, impression management decreases (Bowen et al., 2005; Lougee and Marquardt, 2004; Short and Palmer, 2003). Companies experiencing financial pressures may use more subtle forms of impressions of their performance and prospects, "by manipulating the content and presentation of information in corporate documents with the purpose of 'distort[ing] readers' perceptions" (Godfrey et al., 2003, p. 96). Managers facing pressure to meet analysts' expectations, may engage in impression management by separating negative events such as fraud, from the organization as a whole (Brennan and Merkl-Davies, 2013). In the Enron fraud for example, "corporate communications became increasingly vague and ambiguous as the firm's financial situation began to deteriorate" (Merkl-Davies and Brennan, 2007, p. 5). It would appear that Enron managed the impression of a financial decline with words, when their actual numbers told a different story (p. 5). The capital misallocation that results from impression management has serious implications and entails the same risks as managers that manipulate company financial statements to offset poor performance. Thus, developing models to test for impression management is important in assisting readers of corporate reports to

detect potential deception inherent in such practices.

The second contribution builds from the first. We developed a model using panel data, to test for impression management in disclosure reports. A panel data model is suited to explore both quantity and time dimensions in predicting the likelihood of distorted financial reporting when there are cross-sectional units (i.e., number of companies) and multiple time periods. More specifically, a panel regression model allows for the probability estimation on the occurrence of managing impression through creative accounting, by predicting the outcome from a set of explanatory variables over a period of time (Jones, 2012). A panel regression model can be used to describe changes (occurrence or non-occurrence) of impression management in managers reporting overtime. Forensic accountants can employ the model to look for trends in financial reporting and use the findings to inform policy. Thus, like other research on corporate fraud (Beasley et al., 2000, Beneish, 1997; Farber, 2005), this paper uses panel data to study the interaction between managerial financial misreporting (i.e., committing accounting fraud) and earnings forecasts.

2. Prior Research and Hypothesis Development

Several studies have been conducted into impression management in an accounting context (Brennan, Guillamon-Saorin and Pierce, 2009; Brennan and Merkl-Davies, 2013; Entwistle, Feltham, and Mbagwu, 2006). A central theme running through these studies is the application of impression management to real-world accounting phenomena (Bhattacharya et al., 2004; Elsbach, Sutton, and Principe, 1998; Godfrey et al., 2003; García Osma and Guillamon-Saorin, 2011;

Short and Palmer, 2003). These studies cover an array of issues and industries, but none have ventured to cover impression management in the car manufacturing sector. The dearth of literature in this area seems rather strange, considering that a KPMG report noted that, “managers were more likely than non-managers to commit fraud, particularly when the fraud was of significant value” in the automotive industry (KPMG, 2009, p. 5). Perhaps more important, is that in the same study, KPMG noted that financial conditions such as the impact that the global financial crisis (GFC) had on the automotive industry, increased the motivation to commit fraud and the rationalization that it was not fraud (p. 14).

In the automotive industry, one issue that seems to drive the prevalence of fraud is the intense pressure that managers are under to meet shareholders and analysts’ expectations (Whyte, 2016). Given the competitive nature of the automotive business and the financial conditions of some of the leading car manufacturers during and after the GFC, one wonders whether the detection and prevention of fraud was a priority. On balance, the conditions for managers to distort financial reports were present, albeit, in different guises, as they always have been. As such, this is an opportune time to examine the financial reports of these companies in order to test for red flags of misreporting financial information.

Impression Management in Annual Reports

The sociological exploration of impression management acts as a foundation in many other aspects in life. In particular, impression management is increasingly applied and researched in corporate reporting contexts (Bhattacharya et al., 2004, 2007; Bowen et al., 2005; Cassar, 2001; Clatworthy and Jones, 2001; Merkl-Davies and Brennan, 2011b; Schrand and Walther, 2000). Now more than

ever, corporations are subject to the scrutiny of the public eye; as such, it could be expected that they need some way to manage the impressions they give to the public. Judging from current research in accounting, impression management is most commonly defined as a technique that is used to distort a third party's view of the business's financial performance (Brennan et al., 2009; Clatworthy and Jones, 2003, 2006; Elsbach et al., 1998; Godfrey et al., 2003; Hofmann and McSwain, 2013; García Osma & Guillamon-Saorin, 2011; Pennington and Tuttle, 2008; Russo et al., 2014). In applying the work of Goffman (1959), the managers could be seen to be the actors and the users of financial information could be defined as the audience in the front region. The managers must perform in a manner that meets the expectations of the users and portray the company's financial information in the best possible light. This supports the key assumption that managers are motivated to reflect their business in a positive light, which may mean hiding bad performance as much as possible (Brennan et al., 2009; Neu, 1991; Neu, Warsame, and Pedwell, 1998). This assumption also supports the idea of impression motivation in an accounting context (e.g. see Leary and Kowalski, 1990).

There are various tools at the disposal of the managers that can be used to create the desired impressions. The annual financial reports released by a company are a tool often used to convey impression management techniques (Brennan and Merkl-Davies, 2013; Elsbach et al., 1998; Pennington and Tuttle, 2008). This is largely due to the fact that most of the accounting narratives within the report are less regulated and do not require an external audit (Brennan et al., 2009; Brennan and Merkl-Davies, 2013; Clatworthy and Jones, 2003; Merkl-Davies and Brennan,

2007). The second of Leary and Kowalski's (1990) impression management components, impression construction, is promoted by the action of exploiting the lack of regulation in the accounting narratives and subsequently includes impression management techniques.

2.5. The Seven Components of Impression Management

Impression motivation is central in the presentation of annual reports that will reflect managers' performance in a favorable light to stakeholders (e.g. see Bowen et al., 2005). When managers want to highlight positive financial growth, they act upon their motivation by implementing several techniques of impression management in the accounting narratives. This act, in a business context, is impression construction (Leary and Kowalski, 1990). There are seven impression management techniques that have been researched by Brennan et al. (2009) and Brennan and Merkl-Davies (2013). These seven techniques relate to the disclosures in accounting narratives and are defined as follows: (1) syntactical manipulation; (2) rhetorical manipulation; (3) thematic manipulation; (4) visual and structural manipulation; (5) selectivity; (6) benchmarking; and (7) attribution of performance.

Impression management is to be operationalized using selectivity and strategic benchmarking.¹ The reason for choosing selectivity is that recently, managers have been persistent in using increasing levels of "selectivity and vagueness in their financial reporting rather than outright misrepresentations" (Rahman, 2012, p. 8). Thus, an investigation of managers' efforts to alter the perception of their stakeholders through selectivity is worth exploring (e.g. see

¹ For further information on the other techniques of impression management, please refer to the works of Brennan et al. (2009) and Brennan and Merkl-Davies (2013).

Bowen et al., 2005). Benchmarking was chosen because it is seen as one of the most commonly used techniques employed by managers to compare performance indicators with reference points, such as the company's own past performance or industry averages and competitors (performance referents) (Rahman, 2012, p. 4; also see Cassar, 2001; Guillamon-Saorin 2006; Hofmann and McSwain, 2013; Lewellen et al., 1996; Merkl-Davies and Brennan, 2007; Schrand and Walther, 2000).

2.5.1. Selectivity: H_1

The role of selectivity in the accounting narratives concerns management choosing the figures for financial performance that will reflect the firm in the best possible light (Brennan et al., 2009; Clatworthy and Jones, 2006; Merkl-Davies and Brennan, 2007). When deciding which figures are to be included for the purpose of demonstrating financial performance, the managers can choose from one of two figures; figures that are generated from GAAP, or figures that are defined as pro-forma figures (Brennan et al., 2009; Lougee and Marquardt, 2004; James and Michello, 2009; Johnson and Schwartz, 2005). Pro-forma earnings are unaudited figures, referred to as figures that are not prepared under the regulation of GAAP (Brennan et al., 2009; Entwistle et al., 2006; Merkl-Davies and Brennan, 2007). As these figures are unaudited and unregulated, managers are given unfettered discretion with regard to the way these figures can be calculated. Furthermore, Fox (1998) introduces the idea that pro-forma figures are “earnings excluding all the bad stuff”. The term “bad stuff” is used to refer to items in the profit and loss or balance sheet that are most commonly non-cash items or one-off occurrences (Bhattacharya et al., 2004, 2007; Entwistle et al., 2006; Fox, 1998;

Johnson and Schwartz, 2005; Lougee and Marquardt, 2004). Some examples of these figures include depreciation, interest and tax (Johnson and Schwartz, 2005).

It was hypothesized by Bhattacharya et al. (2004), James and Michello (2009) and Lougee and Marquardt (2004) that the disclosure of pro-forma figures will become more frequent if the firm in question is not as profitable as it should be, and its GAAP earnings are of low quality. Examples of pro-forma disclosures described by Entwistle et al. (2006) and Bhattacharya et al. (2007) include net income excluding special items, adjusted earnings and earnings before certain items. Bhattacharya et al. (2004) and Lougee and Marquardt (2004) conducted research into this hypothesis and found it to be accurate. Their findings confirmed that firms that carried negative earnings surprises, for example an unexpected drop in profit, were most likely to make use of the pro-forma disclosures to downplay the negative news and to meet analysts' expectations (Bhattacharya et al., 2004; Lougee & Marquardt, 2004).

There are two critical perspectives on the use of pro-forma figures that have been explored in the accounting literature. The first perspective is that managers believe that the disclosure of pro-forma earnings is more relevant than the disclosure of GAAP earnings (Bhattacharya et al., 2004, 2007; James and Michello, 2009; Johnson and Schwartz, 2005; Lougee and Marquardt, 2004). This assumption is derived from the suggestion that pro-forma figures exclude items included in GAAP earnings that are "deemed to be transitory and non-representative of future earnings" (Bhattacharya et al., 2007, p.582). With the exclusion of these figures, stakeholders are then able to focus on the most relevant financial data.

The second perspective is that the pro-forma figures can be used as a device to intentionally distort the impressions that the users of the financial information have of the firm (Bhattacharya et al., 2004, 2007; James and Michello, 2009; Johnson and Schwartz, 2005; Lougee and Marquardt, 2004). A key concern is that this style of disclosure will be more likely to mislead unsophisticated, uninformed and inexperienced investors as they are less likely to be aware of the differences in disclosures (James and Michello, 2009; Lokanan, 2014). This concern arises from the assumption that managers purposefully use pro-forma figures to make undesirable figures seem attractive and to boost profitability (James and Michello, 2009; Johnson and Schwartz, 2005; Hofmann and McSwain, 2013).

H₁: It is implicit in the research that when there is good performance, firms will use generally accepted accounting principles (GAAP) earnings; when there is bad performance they will use pro-forma earnings. We hypothesize that $f(\text{increased/decreased earnings}) = \text{disclosure of GAAP earnings/pro-forma earnings}$.

2.5.2. Benchmarking: ***H₂***

One of the most crucial issues that face managers in global competitive markets is the supervision of organizational performance (Fiegenbaum, Hart, and Schendel, 1996). A key requirement of the managers is to make sure that the organization that employs them is successful not only in the short term, but more importantly, in the long term. As recognized by Venkatraman and Ramanujam (1986), organizational performance is a broad topical area. To simplify this concept, Venkatraman and Ramanujam (1986) broke it down into three subgroups: financial performance, operational performance and organizational effectiveness. For the purpose of this research, only financial performance is relevant. Financial

performance as it is used in this paper is concerned with analyzing the performance of an organization by using its profitability indicators (also see Clatworthy and Jones, 2006; Venkatraman and Ramanujam, 1986; Zahra and Pearce, 1989).

A benchmark, or performance referent, is a comparable figure from historical data, which can help to interpret present-day financial outcomes (Fiegenbaum et al., 1996; Short and Palmer, 2003). Benchmarks are used as a way to manage financial performance (Fiegenbaum et al., 1996; Krische, 2005; Kulik and Ambrose, 1992; Lewellen, Park, and Ro, 1996; Merkl-Davies and Brennan, 2007; Palepu, Healy, and Bernard, 2004; Schrand and Walther, 2000; Short and Palmer, 2003). Merkl-Davies and Brennan (2007) explore two types of financial performance comparison. The first type of comparison involves selectively choosing the lowest figure from a previous financial period to amplify an increase in earnings (Schrand and Walther, 2000). Schrand and Walther (2000) found supporting evidence that managers strategically chose benchmarks from the prior period's earnings to enhance the earnings of the current period.

The second type of comparison involves the selective use of reference points (Short and Palmer, 2003). There are two categories of reference points a manager can choose from when preparing financial information: internal and external reference points (Kulik and Ambrose, 1992; Palepu et al., 2004; Short and Palmer, 2003). Internal reference points are the financial benchmarks that are created within the firm (Kulik and Ambrose, 1992; Short and Palmer, 2003). External reference points are derived from an industry average (Kulik and Ambrose, 1992; Short and Palmer, 2003). In their work on performance referents in organizations,

Short and Palmer (2003) found that managers preferred to benchmark their performance on an internal basis rather than an external one. They did, however, state that a key influence on the type of benchmark disclosed depends on the size of the firm. Smaller firms will be less complex and are less likely to have any external interest; therefore, in companies of this size, it is more likely that they will disclose internal benchmarks (Short and Palmer, 2003; also see Dalton et al., 1998). As larger firms have a greater possibility of receiving external interest on a global scale, they would benefit more by using external reference points (Dalton et al., 1998; Short and Palmer, 2003; Zahra and Pearce, 1989). We

H₂: In relation to the use of strategic benchmarks, in the prior research, firms are expected to use strategic benchmarks to create the impression of good performance. As such, it is hypothesized that f (increased/decreased earnings) equals the use of internal/external benchmarks.

The foregoing literature review has provided great insights into some of the key constructs and techniques of impression management in accounting disclosures of annual reports. However, several gaps remain in the literature. A wide range of sample subjects has been employed in the previous studies, ranging from the use of listed companies (Entwistle et al., 2006; Johnson and Schwartz, 2005; García Osma and Guillamon-Saorin, 2011) to the use of a sample of business students' perceptions of accounting disclosures (James and Michello, 2009; Krische, 2005; Pennington and Tuttle, 2009). Although this selection is very diverse, one industry of note has been excluded from the research: the automotive industry. The main aim of this paper is to address this gap by examining selectivity and strategic benchmarking in the annual reports of several companies in the automotive industry.

3. Methodology

3.1. Empirical Model

To test for impression management in the automotive industry, panel data analysis was used. Panel data analysis was the chosen method because the behavior entities for each automotive car manufacturing companies were observed across time, i.e. the same companies and variables were measured at different time periods. The variables themselves changed over time, but not the entities. Panel data allowed for time ordering the variables and tracking their changes over time (Allison, 2005). An analysis of the variables at different points in time allowed for individual heterogeneity to be accounted for by the model (Torres-Reyna, 2007). At the same time, panel data analysis allowed us to control for variables that cannot be observed or measured (Free, 2001). Two techniques are usually used for hypothesis testing, when analyzing panel data: fixed-effect and random-effect models.

The fixed-effect model is important to analyze the impact of variables that vary across time (Wooldridge, 2010). Fixed-effects regression is the model to use when you want to control for omitted variables that differ between cases, but are constant over time (Torres-Reyna, 2007, p. 9). It allows you to examine changes in the variables over time and to estimate the effects of the independent variables on the dependent variable (p. 9). The fixed-effect model allows for heterogeneity and individuality among the entities (in this case, the car companies) by allowing its own intercept value (Free, 2001). Although the intercept may vary across car companies, it does not vary over time (i.e. it is time-invariant). The equation for the fixed-effect model is:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + U_{it}$$

Where

α_i ($i=1 \dots n$) is the unknown intercept for each entity

Y_{it} is the dependent variable, where i = entity and t = time.

X_{it} represents one independent variable

β_1 is the coefficient for that independent variable

U_{it} is the error term

The fixed-effects regression model assumes that the time-invariant characteristics are unique to the entity (e.g. companies, country, persons, etc.) and should not be correlated with other characteristics in the model (Wooldridge, 2010). For the model to be considered reliable each entity needs to be different and the error terms should not be correlated with others (Torres-Reyna, 2007, p. 9).

In cases where the error terms are correlated, the random-effects model is used (Torres-Reyna, 2007, p. 9). Random-effects models are appropriate when there are reasons to believe that some omitted variables may be constant over time, but vary between cases, while others may be fixed between cases, but vary over time (Allison, 2005). The variations due to the omitted variables can be modelled using the random-effects model. The rationale behind the random-effects model is that unlike the fixed-effects model, the variation across entities is assumed to be random and uncorrelated with the independent variables included in the model (Torres-Reyna, 2007, p. 25). Here, the entities have a common mean value for the intercept (Free, 2001). The crucial distinction, therefore, between the fixed- and random-effect models is “whether the unobserved individual effect embodies elements that are correlated with the regressors in the model, not whether these

effects are stochastic or not” (Greene, 2008, p. 183). The equation for the random-effect model is:

$$Y_{it} = \beta X_{it} + \alpha + U_{it} + E_{it}$$

Where

E_{it} = within the entity error, and

U_{it} = between the entity error

The generally accepted way of choosing between the fixed and random-effect models is to run the Hausman test. In using the Hausman test, “the null hypothesis is that the preferred model is random effects versus the alternative the fixed effects” (Torres-Reyna, 2007, p. 29). The Hausman test “basically tests whether the unique errors (U_i) are correlated with the regressors[;] the null hypothesis is [that] they are not [correlated]” (p. 29). Statistically, fixed-effects are always a reasonable thing to do with panel data (they always give consistent results), but they may not be the most efficient model to run (Allison, 2005; Greene, 2008). Random-effects will give you reliable p-values as they are a more efficient estimator of the model. As such, the random-effects model should be run once it is statistically justifiable to do so (Free, 2001; Wooldridge, 2010). The Hausman test checks a more efficient model against a less efficient model, and attempts to ensure that the more efficient model gives reliable and consistent results.

3.2. Variables and Measurements

The independent variables are selectivity and benchmarking. Selectivity is measured by the number of disclosures of pro-forma and GAAP figures across the sample for the years 2005 to 2010. Benchmarking is measured as the number of

disclosures of internal and external benchmarks that was noted in the annual reports.

The dependent variable used in the study is net profit. The use of net profit could be questioned as a method of establishing a basis for the research. Other studies do measure impression management against profitability (Beattie and Jones, 2000; Brennan and Merkl-Davies, 2013; Burgstahler and Dichev, 1997; Clatworthy and Jones, 2001; Curtis, 2004a; Godfrey et al., 2003; Li, 2008; Sydserff and Weetman, 2002; Rutherford, 2003), but one of the main drawbacks of using profitability as a basis to measure financial performance is that the profit figure may not be truly accurate (Abrahamson and Park, 1994; Bhattacharya et al., 2004; Bowen, 2005). However, the mere fact that companies highlight their net income (e.g. Enron) in their annual reports as a reference of increasing profitability is sufficient reason to use it as a measure (Brennan and Merkl-Davies, 2013). Other measures such as Return on Asset (ROA) and Return on Equity (ROE) are derived from using net income (Nagar, Nanda, and Wysocki, 2003). So even if ROA and ROE are used as financial measures, question marks still remain regarding their reliability (Merkl-Davies, Brennan, and McLeay, 2011).

3.3. Sampling Procedure

The population of interest in the research is a single industry comprising of car manufacturing companies. A similar method was employed by Short and Palmer's (2003) research in the restaurant industry. The use of a single industry controls the variance of inter-industry terminology, which may only be used in one specific industry, and is considered appropriate for theory building (p. 211). For the present study, a purposive sample strategy was employed. A purposive sample

strategy involved “the deliberate choice of an informant due to the qualities the informant possesses” (Tongco, 2007, p. 147).

The automobile companies were chosen to specifically represent three different parts of the world: Europe, Asia and North America. There is a long history of parallel financial performance of automobile industries across the globe (Whyte, 2016). The automobile manufacturers selected from the three regions are market leaders with the largest market cap by jurisdiction and provide a basis for comparison and benchmarking. While the companies pursued different competing and investment strategies, the North American companies were under financial strain leading up to the GFC; as such, analyzing their financial performance and comparing them with automobile manufacturers from Europe and Asia, who were much more financially stable, allows for an evaluation of the impacted difference over time.

The final sample comprised of eight car manufacturing companies, with annual reports for each year from 2005 to 2010. Thus, there are eight cross-sectional units and six time periods. In all, therefore, there are 45 observations. The companies represent a general trend and, in the case of GM, it precipitated the automotive industry crisis in 2008 and triggered a public debate on their financial engineering operations among global car manufacturers in the U.S. and elsewhere. The companies selected for the research were:

- Audi, BMW Group and Volkswagen (VW) representing Germany
- Mazda, Nissan and Toyota representing Japan
- Ford and General Motors (GM) representing the USA

We have chosen eight car manufacturers and have three variables.

Selectivity (dummy variable GAAP earnings = 1; pro-forma earnings = 2),

strategic benchmark (dummy variable internal = 1; external = 2) and profit. Our intention is to examine the relationship between net profits and the explanatory variables - GAAP, pro-forma, internal benchmarks and external benchmarks. The sample size contains eight car manufacturing companies with annual reports from 2005 to 2010 (with the exception of GM, which is missing 2008 and 2009; and Nissan, which merged the annual reports of 2006 and 2007 as one). Together, this equates to 45 annual reports (or observations). The main objective is to determine the appropriate model to estimate the results. We will employ the Hausman test to determine the model that provides the greatest explanatory power. Using the Hausman test:

H₀: Random-effect model is appropriate

H₁: Fixed-effects model is appropriate

A statistically significant p-value will allow us to use the fixed-effect model; otherwise the random-effects model will be employed. The extensive range of annual reports across a number of years boosts the reliability and validity of the results within a single industry (see Schwandt, 2007). If a single year was used, this would not be representative of the companies as a whole, and thus would decrease the reliability and validity of the results.

3.4. Data Collection

These reports were acquired from the investor relations' section of the respective company's website. Since the annual reports are made public, it can serve to reduce any confidentiality issues that may arise from using net income as a profitability measure. Using information that is made public by a company lessens the burden of collecting data. Before the annual reports can be published,

they go through a rigorous process of reviews to make sure they are fit for purpose. As the annual reports are highly regulated before they are published, the validity and reliability of the research are enhanced.

The appropriate measure of selectivity in the accounting narratives was to compare the use of GAAP and pro-forma figures. Following Short and Palmer (2003), a simple counting system was employed to record the number of times GAAP or pro-forma figures were used. Every time a GAAP or pro-forma figure was disclosed, this was tallied up to see which style of the figure was disclosed most frequently on a yearly basis. One of the hypotheses of this research is that an increase in profitability will result in a greater use of GAAP over pro-forma figures as financial performance indicators. Conversely, the less profitable the company is, the greater the disclosure of pro-forma figures. Hypothesizing that the use of earnings figure will depend on profitability, the net profit for each company was taken from the annual reports as a basis of profitability. Consequently, if the net profit figure was found to be higher comparably, it was then expected to see an increase in GAAP disclosures.

The appropriate approach to record the figures for benchmarking was very similar to the selectivity approach. Two types of disclosure were compared: internal and external reference points. Again, following Short and Palmer (2003), a simple counting system was applied. The only difference, however, was that in this paper, the counting accounted for the number of times an internal or external benchmark was disclosed in the annual report to represent financial performance. Given that the companies chosen were all global players in the automobile industry, external benchmarking will be preferred as a comparison. This coding

system is developed from the assumption that companies with a global interest will benefit more from disclosing external reference points (Dalton et al., 1998; Short and Palmer, 2003; Zahra and Pearce, 1989). With respect to profitability, it could be interpreted that the more profitable a firm is, the more likely the managers will want to compare themselves against an industry average. In years of reduced profitability, managers may prefer to benchmark internally if it makes the company appear financially stronger. This is loosely based on the findings of Short and Palmer (2003) that the size of the firm has an impact on the chosen type of benchmark disclosure.

4. Findings

4.1 Descriptive Statistics

Simple descriptive statistics and graphical methods are used to study the variations in the net profit among different car manufacturers over the years. Table 1 shows the overall mean and standard deviation of net profit for the car companies and suggests that for Audi, BMW, Volkswagen (VW), Ford and GM, there is not much variation in their net profits. For Mazda, Nissan and Toyota, however, there appears to be significant variation in their net profits.

INSERT TABLE 1 ABOUT HERE

4.2 Fixed-Effects Regression

To analyze the impact of the variables over time, fixed-effects regression was used. As can be seen in Table 2, the t test for the significance of the explanatory variables suggests that they have only an insignificant effect on the dependent variable ($t = - 0.91$, $p < .05$). The p-value associated with all the explanatory variables is not less than the significance level of 5%. The global

significance of the model is tested using the F test. Here the F statistic ($F(4, 33) = 0.67$, $p\text{-value} = 0.6148$) suggests that the model is not able to explain the variations in net profit. Selectivity and benchmarking have little to do with net income as GAAP, pro-forma, internal and external benchmarks all have insignificant effects. The p-values of the independent variables are all over 5%, meaning that they are not significant to explain the variation in net profits. That said, however, the coefficient of both GAAP Instances (14692.64) and Pro-Forma Instances (15741.77) are positive, indicating that a 100 percentile change in GAAP and pro-forma earnings leads to near 15 and 16 percentile (rounded figures) changes in the net income.

INSERT TABLE 2 ABOUT HERE

4.3. Random-Effects Model

Table 3 shows the results of the random-effects model. The test for the significance of the explanatory variables suggests that they all have only an insignificant effect on the dependent variable. In other words, the p-values associated with the explanatory variables are not less than the significance level at 5%. The global significance of the model is tested using Wald Chi-Square test. The Chi-Square statistic ($\text{Wald Chi}^2(4) = 5.53$, and the larger insignificant p-value = 0.2375) suggests that GAAP and pro-forma figures and internal and external benchmarks are not able to explain the variations in the net income. A closer look at Table 3 shows that all four independent variables have a p-value of more than 5%; as such, they are not significant to explain changes in the dependent variable, net income. Given this outcome, we cannot reject H_0 . Consistent with H_2 ,

the coefficient on GAAP Instances is positive (24461.99) and more than the coefficient of Pro-Forma Instances (18224.65). The positive coefficient for GAAP Instances and Pro-Forma Instances lends support to H_2 that the disclosure of GAAP earnings is preferred in times of increased profitability and not preferred in times of decreased profitability. Similar to the fixed-effect model's results, a 100 percentile increase in GAAP and pro-forma earnings leads to additional 25 and 18 percentile (rounded figures) increases in net income. On the other hand, for every unit increase in internal and external benchmarks, we expect a 12304.3 and 6652.48 decrease in net income.

INSERT TABLE 3 ABOUT HERE

4.4. Choosing between Fixed and Random-Effects: Hausman test

The Hausman test was then employed to determine which model is appropriate. The following assumptions are made:

H_0 = Random-effect model is appropriate

H_1 = Fixed-effect model is appropriate

In employing the Hausman test, we were interested in examining how similar the coefficients are to each other. As can be seen in Table 4, the probability value of the chi square statistics is 39.38%, which is more than 5%. Consequently, we cannot reject the null hypothesis; rather, the high chi square statistics mean that we have to accept the null hypothesis. Therefore, the result is not significant at the 5% level, and the random-effects model is more appropriate. In other words, the results from the Hausman test provide statistical evidence to show that the random-effects model is the best model to represent the data. In conclusion, the model fails to reject the null hypothesis. The Hausman test suggests that there is

not much difference in the predictive power of either the fixed-effect or the random-effects models.

INSERT TABLE 4 ABOUT HERE

5. Discussion and Implications

5.1. Selectivity

From the preceding discussion, it is clear that there is no significant finding that selectivity was used to influence the perception of net income in the car manufacturing industry. Bowen et al. (2005) explain that pro-forma earnings may be used by managers to present more favorable returns, thereby introducing positive bias in corporate narratives. At the very extreme, managers may collude with their inner circle of professional accountants to conceal negative outcomes completely (Abrahamson and Amir, 1996; Abrahamson and Park, 1994), or use selectivity and other presentation techniques to present a positive image of their companies' financial performance (e.g. see Beattie and Jones, 2000; Brennan et al., 2009; Clatworthy & Jones, 2001, 2006; Curtis, 2004a, 2004b). This line of reasoning posits that managers will strategically choose to present pro-forma earnings when their GAAP earnings fail or to meet analysts' expectations (Guillamon-Saorin and García Osma, 2010, p. 12).

Our results suggest that there are no significant findings, which could indicate that the disclosure of GAAP or pro-forma figures adhered to an increase or decrease in net profit. In contrast with Lougee and Marquardt (2004), Bhattacharya et al. (2004) and James and Michello (2009), we find no support for the hypothesis that the least profitable firms were most likely to disclose pro-forma figures than profitable firms. Rather, the results indicate that despite the

companies' actual performances, there has been no attempt to hide negative performance by selectively choosing the best disclosure strategy for the year. Consequently, the assumption that managers are motivated to hide bad performance to portray their companies in the best possible light is not substantiated in our study (Bhattacharya et al., 2007; Brennan et al., 2009; Bowen et al., 2005; Johnson and Schwartz, 2005; Lougee and Marquardt, 2004; Neu, 1991; Neu et al., 1998).

5.2. Benchmark

One common benchmark of “good” performance is the improvement in earnings relative to previous years (Bowen et al., 2005). Using the random-effects model to represent the data, our results suggest that the companies are more likely to use internal benchmark disclosure over external benchmarking in times of declining profits. The findings are consistent with the work of Short and Palmer (2003), which suggests that managers prefer to use internal reference points in times of declining profits. However, the findings are inconsistent with the prediction that large firms receiving external interest depend on external reference points (Dalton et al., 1998; Short and Palmer, 2003; Zahra and Pearce, 1989). The companies selected are market leaders and are known throughout the world, yet when disclosing financial performance, they rely heavily on the internal benchmark disclosures. The results therefore challenged the assumptions that managers are motivated to hide bad financial performance in disclosure reporting (Brennan et al., 2009; Neu, 1991; Neu et al., 1998).

Firms will try to emphasize performance comparison that will place them in the best possible light to stakeholders (Rahman, 2012, p. 4). With the

presentation of annual reports depending on the strategic interest of managers, greater demand is placed on simply meeting or exceeding a benchmark in the disclosures (Bowen et al., 2005). While it is somewhat dated, Burgstahler and Dichev (1997) provided evidence to suggest that managers take action to avoid reporting negative earnings in their disclosure reports. It is quite possible that the preference for internal benchmarks in times of declining profits could be the result of firms choosing the lowest prior-period benchmark earnings number in order to report the highest year-on-year earnings (Merkl-Davies and Brennan, 2007; Rahman, 2012; Schrand and Walther, 2000). To portray management in the best possible light, performance benchmarks are expected to contain performance comparators and benchmarks that display the company most favorably (Brennan et al., 2009, p. 790). This selective use of benchmarking serves to highlight positive changes in the companies' earnings (Cassar, 2001; Lewellen et al., 1996; Schrand and Walther, 2000; Short and Palmer, 2003).

6. Conclusion and Reflections

It was apparent from the outset of this research that no previous studies have been conducted into whether or not the automobile industry has employed impression management in its annual disclosure reports. In order to bridge this gap, the present study addressed the following objective: to investigate whether selectivity and strategic benchmarking are present in annual reports.

We employed a methodological approach similar to the one used by Bhattacharya et al. (2004), Lougee and Marquardt (2004) and James and Michello (2009) to test H_1 in that $f(\text{increased/decreased earnings})$ equals disclosure of GAAP earnings/pro-forma earnings. The results suggest that across the industry sample,

GAAP figures were the preferred type of disclosure despite profitability levels. In times of negative earnings, however, pro-forma figures were increasingly used.

With respect to H₂, we hypothesized that f (increased/decreased earnings) equals the use of internal/external benchmarks. Our results suggest that the examined companies preferred the use of internal benchmarking. For some of the companies (e.g. Ford) there were even years when no external disclosures were made. The results support the findings of Short and Palmer (2003) that managers prefer to internally benchmark financial performance. However, the findings are contrary to those of earlier research, which found that large firms with external interest will be more likely than their smaller counterparts to disclose external benchmarks (Dalton et al., 1998; Zahra and Pearce, 1989). Overall, the evidence suggests that the general trend for the automotive industry is not to employ impression management techniques in the form of selectivity or benchmarking.

6.1. Limitations of the Research

As with all investigations, ours are subject to two limitations. First, certain elements of the sample choice pose a threat to the representativeness of the study. The use of eight companies may not be representative of the industry as a whole. Although the sample consists of companies from three jurisdictions, this may still not be enough to generalize the results to the entire industry. As mentioned previously, two annual reports are missing for the years 2008 and 2009. This would appear to be around the time that GM entered bankruptcy, which may explain the omission of these reports. Using three companies from Germany as a potential representation of Europe is limited. Many other countries within Europe produce cars, such as the U.K., France and Italy. Due to the timeframe of this

research and resource inefficiencies, it was not practical to include more companies from these countries.

Second, the nature of the American car companies' disclosure reports limits the validity of the results. Due to their reporting style, some companies placed their disclosures in tables or graphs, which were outside the scope of this research. As a result, the number of disclosures was greatly reduced. In turn, this deficiency may not generate a suitable amount of disclosures to be truly comparable on an industry-wide basis. GM, for example, was lacking reports for 2008 and 2009 due to its bankruptcy and changeover in ownership. The data for these two years, which may have provided information that could have been material to the findings, could therefore not be acquired. Note also that in 2010, GM's reporting style changed as a result of its new post-bankruptcy management structure. Consequently, the results for 2010 were less comparable.

6.2. Future Research in Forensic and Investigative Accounting

Although the study is limited with respect to data collection, future studies may include other auto manufacturers and components of impression management that may have a relationship with corporate fraud. This is a fertile area for scholarly research. Based on a review of the extant literature, there is very little research linking the communication choices in discretionary accounting narratives to deception in corporate reports. Managers who adopt impression management reporting practices may find themselves being scrutinized by standard setters and risk increasing regulation over their reports. Impression management constitutes an important area of accounting research as it not only has the potential to undermine reporting quality, but can also provide insights into companies'

financial performances and fraudulent reporting practices. Due to its subtle and qualitative nature, there are often difficulties with data collection and coding, as such, impression management may not attract the attention of researchers as much as other forms of managerial opportunistic behaviour, such as earnings management (Brennan and Merkl-Davies (2013, p. 34). That said, there are still many questions that remain unanswered and present an opportunity for researchers looking to study an under-researched field (p. 34).

Within a business context, there is a distinct lack of research on the back region of Goffman's (1959) impression management theory. The call for more research in the back region appears to be consistent with research carried out in organizational settings (Short & Palmer, 2003). Most of the studies previously discussed are concerned with the presentation of information to the audience from the front region (see Goffman, 1959). There needs to be new immediacy given to more extensive research into the sociological aspect of the back region before impression management can be used as a theoretical anchor to study the disclosure mechanisms that managers use to influence their stakeholders' perceptions of their companies. Such research should focus on evaluating CEOs' and corporate annual reports, letters to shareholders, and other forms of corporate communication to detect how linguistic features are integrated to represent distinct impression management mechanisms. Research into the effects of the adverse financial performance and the use of impression management techniques to misreport or commit financial fraud can contribute to our understandings of the disclosure tools that managers use to produce distorted and fraudulent financial reports. We hope that the empirical model presented in this paper will advance research in this

direction and serve as a useful tool for exploring new areas of research in impression management.

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Table 1 Showing Mean and Standard Deviation of the Companies' Net Profits

Car company	Mean	SD
Audi	\$ 1,673.83	\$ 653.81
BMW	1,999	1,383.93
VW	3,470	2,391.88
Mazda	33,349.17	614,76.69
Nissan	253,957.6	334,375.9
Toyota	946,311.7	868,381.1
Ford	3,215	8,628.501
GM	11,193.5	19,637.15
Total	158,367.6	447,527.7

Table 2 Fixed-Effects Model

Panel variable: Car manufacturer (strongly balanced)	
Time variable: Year, 2005 to 2010	
Delta: 1 unit	
Fixed-effects (within) regression	Number of observation = 45
Group variable: Car manufacturer	Number of groups = 8
	Observation per group: min = 4
R-sq: within = 0.0755	average = 5.6
between = 0.1663	max = 6
overall = 0.1164	
F (4,33) = 0.67	
corr(u _i , Xb) = -0.3850	Prob > F = 0.6148

Net Profit 000s	Coef.	Std. Err.	t	P> t	95% Conf.	Interval
GAAP Instances	14692.64	166693	0.88	0.385	-19269.52	48654.81
ProForma Instances	15741.77	13804.2	1.14	0.262	-12343.08	43826.63
Internal Benchmarks	-2435.884	13146.7	-0.19	0.854	-29183.07	24311.31
External Benchmarks	11473.44	23726.5	0.48	0.632	-36798.48	59745.36
_cons	-373646.6	410079	-0.91	0.369	-1207959	460665.3
sigma_u	332402.45					
sigma_e	344570.05					
rho	48203225 (fraction of variance due to u _i)					
F test that all u _i = 0: F(7, 33) = 3.04 Prob > F = 0.0140						

Table 3 Random-Effects Model

Random-effects GLS regression	Number of observation = 45
Group variable: Car manufacturer	Number of groups = 8
R-sq: within = 0.0496	Observation per group: min = 4
between = 0.4113	average = 5.6
overall = 0.2326	max = 6
Wald chi2(4) = 5.53	
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.2375

NetProfit000s	Coef.	Std. Err	Z	P> z 	95% Conf.	Interval
GAAP Instances	24461.99	15284.46	1.6	0.109	-5494.995	54418.97
ProForma Instances	18224.65	11869.31	1.54	0.125	-5038.782	41488.07
Internal Benchmarks	-12304.3	10912.72	-1.13	0.26	-33692.84	9084.247
External Benchmarks	-6652.477	16150.97	0.41	0.68	-38307.79	25002.84
_cons	-180001.7	225237.8	-0.8	0.424	-621459.8	261456.4
sigma_u	240195.4					
sigma_e	344570.05					
rho	.3270211 (fraction of variance due to u_i)					

Table 4 Hausman Fixed Random Model

	Coefficients		(b-B)	sqrt(diag(V_b-V_B))
	(b)	(B)		
	fixed	random	Difference	S.E.
GAAP Instances	14692.64	24461.99	-9769.342	6711.311
ProForma Instances	15741.77	18224.65	-2482.876	7048.071
Internal Benchmarks	-2435.884	-12304.3	9868.415	7331.341
External Benchmarks	11473.44	-6652.477	18125.91	17380.82

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: H₀: difference in coefficients not systematic

$$\text{chi2}(4) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 4.09$$

Prob>chi2 = 0.3938