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THE USE OF PRO FORMA EARNINGS PER SHARE BY CANADIAN HIGH TECH COMPANIES

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The use of pro forma earnings per share by Canadian high-tech companies

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Executive Summary

Our study examines the disclosure of non-GAAP (Generally Accepted Accounting Principles) earnings by high tech firms. Non-GAAP earnings are earnings numbers that exclude certain expenses which managers claim are non recurring. We discuss the two incentives that motivate managers to disclose pro forma earnings per share: 1) to provide a value of EPS that is more representative of the activities of the firm; and 2) for opportunistic reasons, which can mislead investors. We examine the disclosure of pro forma EPS made by 12 Canadian high tech companies over the year 2012 to 2016. We find that excluding restructuring items is the most likely exclusion that firms eliminate from GAAP EPS to obtain their pro forma earnings number. We also find that on average, these technology firms make 5 exclusions in determining their pro forma earnings number. Finally, we find that pro forma EPS is on average higher than GAAP EPS for each firm and each year.

1. Canadian GAAP and Pro Forma Earnings

What are Pro Forma earnings?

NASDAQ defines pro forma earnings in two ways. First as a projection of earnings for internal or limited external use and secondly as a way of reporting earnings that excludes non-recurring items such as restructuring charges and extraordinary items.[1] More recently, it is this second definition that has gained significant attention in business parlance. In essence, pro forma earnings are performance measures that present the financial affairs of the company different from financial statements prepared under Generally Accepted Accounting Principles (GAAP). Companies argue that pro forma earnings provide a measure of profitability that better reflects the activities of the firm. In most cases, as will be discussed in this document, pro forma earnings are higher than GAAP earnings. Pro forma earnings are sometimes referred to as core, operating or adjusted earnings.

Why use Pro Forma earnings?

It is often argued that the most important accounting statistic is earnings per share. According to accounting standards, also known as Generally Accepted Accounting Principles, companies must disclose this number either at the bottom of their income statement or in the notes to the financial statements. These accounting standards ensure that the financial statements of companies are comparable across firms and over-time and are also credible. Having credible accounting statements is essential to the reliability of the accounting information.

While the accounting standards promote an efficient market, it also forces all companies to apply the same set of rules regardless of their specific characteristics. Some companies argue that GAAP earnings are not necessarily informative about their future performance since they are calculated following a rigid set of rules. Based on the premise that earnings derived using Generally Accepted Accounting Principles do not reflect economic earnings, Bryan and Lilien (2003) argue in the Harvard Business Review that firms should increase their reporting of alternative earnings measures – colloquially known as pro forma earnings. Further, they suggest that reporting with pro forma reporting should not be restricted so long as firms "fully account for their accounting" – in other words, are fully 'transparent'.

As mentioned by Doyle et al. (2003; abstract), pro forma earnings "excludes certain expenses that the company deems non-recurring, non-cash, or otherwise unimportant for understanding the future value of the firm." These expenses include asset-impairment, amortization and restructuring charges. The Securities and Exchange Commission (SEC) as part of its mandate must protect investors and ensure that the market operates fairly and efficiently. The SEC, in a press release in 2001 (SEC, 2001) cautioned public companies on their use of "pro forma" financial information and alerted investors to the potential dangers of using such information. Similarly, the Ontario Securities Commission (OSC), which has a similar mandate to the SEC, provided guidance regarding firms' disclosure of non-GAAP earnings. According to the staff notice first issued January 7, 2002, issuers who publish non-GAAP earnings measures are expected to define the measures clearly, to demonstrate their relevance and to ensure that they do not have the potential to mislead investors. Further, in the United States, the SEC has referred to use of pro forma earnings as a fraud risk factor (Leone, 2003) and formed a taskforce in July 2013 to scrutinize companies' disclosure of non-GAAP earnings (Rapoport, 2013). Canada has not been left out, with the OSC addressing the issue numerous times

[1] See the following website for the definition of NASDAQ: https://www.nasdaq.com/investing/glossary/p/proforma-earnings.

over the years, starting in 2003. More recently, the SEC and the OSC have renewed their focus on non-GAAP financial measures. The SEC issued Compliance and Disclosure Interpretations on the topic in January of 2010 (updated in July 2011) and again in May 2016 (Rapoport, 2016; Golden, 2017) while the OSC issued CSA Staff notice 52-306 in 2010 with the latest revision occurring in January 2016.

In 2003, the SEC introduced Regulation G to standardize the use of pro forma earnings per share. Regulation G forces companies to provide a quantitative reconciliation of GAAP earnings per share and pro forma earnings per share. Furthermore, pro forma earnings per share cannot be more predominant than GAAP earnings per share in earnings press releases. However, in its release Nos. 33-8039, 34-45124, FR-59 (https://www.sec.gov/rules/other/33-8039.htm), the SEC argues that the term pro forma earnings has no defined meaning and no uniform characteristics as a result, while cautioning public companies on their use of this "pro forma" financial information, it also alerts investors to the potential dangers of such information. Similar rules were enacted by the OSC in 2003 in the revised CSA staff notice 52-306.

To inform or to mislead?

There are two different points of views on pro forma earnings per share. The first is that GAAP earnings are noisy and managers rely on pro forma earnings to provide a better measure of performance. Under this view, pro forma earnings disentangles the complicated part of GAAP to show recurring earnings information in a format which is easier to understand and which better enables stakeholders to evaluate a firm's current and future performance. That is, managers eliminate non-recurring items that have low predictive value for future earnings from the GAAP earnings. The second view, more consistent with some of the comments of the SEC, is that, managers may report pro forma earnings in an attempt to alter the perception of users (mislead the market). This can be done through the exclusion of recurring expenses in the calculation of pro forma earnings to increase earnings (e.g., Doyle et al. 2003; Lougee and Marquardt, 2004; McVay, 2006; Brown et al. 2012; Black et al., 2014; Shiah-Hou and Teng, 2016). Therefore, pro forma earnings, which are unaudited, can be used by managers to influence stakeholders' perceptions of the firm's performance if the audited GAAP earnings are not favourable (Brown et al., 2012).

The calculation of an earnings number that differs from GAAP earnings is not a new concept. Empirical studies demonstrate that GAAP numbers are modified substantially for debt contracting purposes. For example, Demerjian and Owens (2016), in a sample of 592 fixed charge covenants, document 356 different definitions of earnings in the covenants. According to the audit firm, PricewaterhouseCoopers (PwC 2014), credit rating agencies also use internally generated non-GAAP measures in determining the credit-worthiness of a company and the investment grade of their debt.

In this White Paper, we examine the use of pro forma earnings per share by publically listed Canadian high tech companies. High tech companies disclose pro forma earnings regularly in their press releases. The reason is that the industry's main assets are often internally developed intangible assets and the value of such internally generated intangible asset is not reflected on the balance sheet under GAAP. In addition, there is a mismatch between the costs and revenues for internally developed intangible assets. That is, the costs are recognized when developing the intangible assets while the revenues are recognized once the intangible asset is used. As a result, there is an argument to be made for why high tech companies should use non-GAAP measures to communicate additional information.

2. Analyses

Pro Forma Disclosure Prevalence

The list of companies used in this study is provided in Table 1.[2] We examine the disclosure of earnings per share for each firm's annual announcements from 2012 to 2016. Each company was publicly traded during that period of time except Kinaxis Inc. that went public in 2014. Therefore, we have a total of 58 observations. For each observation, we obtain the press releases for the annual earnings announcements. Using this information, we created a spreadsheet where GAAP net income and GAAP earnings per share were reconciled to adjusted net income (non-GAAP measure) and pro forma earnings per share. Not all firms used the term adjusted net income. In addition to adjusted net income, normalized net income was also used by some companies to refer to their non-GAAP earnings. Furthermore, some companies may generate a non-GAAP number for EBIT (Earnings before Interest and Taxes) or EBITDA (Earnings before Interest, Taxes, Depreciation and Amortization).

Table 1
List of companies

Ticker	Company Name	Annual EPS
BB	BlackBerry Limited	2012 to 2016
CLS	Celestica Inc.	2012 to 2016
GIB A	CGI Group Inc.	2012 to 2016
CMG	Computer Modelling Group Ltd.	2012 to 2016
CSU	Constellation Software Inc.	2012 to 2016
DSG	Descartes Systems Group Inc.	2012 to 2016
ESL	Enghouse Systems Limited	2012 to 2016
KXS	Kinaxis Inc.	2014 to 2016
MDA	MacDonald Dettwiler and Associates Ltd.	2012 to 2016
MNW	Mitel Networks Corporation	2012 to 2016
OTC	Open Text Corporation	2012 to 2016
SW	Sierra Wireless Inc.	2012 to 2016

[2] These 12 firms are listed on the TSX300 index.

Table 2
Adjustments made to earnings per share and their frequency

Category	Items included in the category	Number of observations	Total number of observations
Tax	Impact of taxes	40	40
Equity	Loss due to change in fair value of redeemable preferred shares	1	
	Fair value adjustment on derivative products	1	2
Compensation	Stock compensation expense	34	
	Executive compensation expenses	3	
	Past Service Credits on pension and other post-retirement plan amendments	2	39
Foreign Exchange	Impact of Foreign Exchange	15	15
Inventory	Net Impact of Inventory provision/recovery	3	3
Impairment	Imairment/Write-off of goodwill	2	
	Impairment Charges	1	3
Non-recurring items	Restructuring charges	18	
	Litigation and related expenses	3	
	Acquisition integration costs	12	
	Other non-recurring charges	18	
	Non-GAAP net income from discontinued operations	4	55
Amortization	Acquired intangibles amortization	31	
	Depreciation expense	5	36
Gains and losses	Extraordinary Gain (Loss)	4	4
Debt and related expenses	Interest expense	4	
	Debt retirement costs	2	
	Debt and warrant retirement costs, including write-offs of deferred financing costs	2	
	Debenture fair value adjustment	3	11
Other revenues	Investment Income	4	4
Other	Non-controlling interest adjustment	2	
	Acquisition accounting for deferred revenue	1	
	Purchase accounting adjustments	1	
	Other not disclosed	6	10
Total Number of Adjustments			222

What are the adjustments?

For these 58 observations, a total of 222 adjustments were made to earnings per share. The list is provided in Table 2. The adjustments are categorized into 12 different categories based on their nature. The most important category is Non-recurring items with a total of 55 adjustments. This is not surprising since, in theory, firms use pro forma earnings per share to present a more recurring earnings number. This is accomplished by eliminating transitory items, which are often one-time in nature such as restructuring charges. The main problem here is that firms can include some recurring items in restructuring charges without proper disclosure to increase the pro forma earnings, in order to manipulate the perception of investors.

The second most frequent category of adjustments is Tax, with a total of 40 adjustments. Most of these adjustments refer to deferred tax assets/liabilities such as deferred tax recovery, deferred income taxes, etc. The next category is compensation and more specifically stock compensation expenses. Most companies do not view this non-cash item as a "real" expense. This was evident in the opposition to the accounting standard (IRFS 2: Share-Based Payments) that require the expensing of executive stock options. As majority of the high tech companies are often not profitable in the early stages, stock option awards form a useful tool for attracting and retaining top talent necessary for survival in the market place.

Somewhat surprising is the next category, based on the number of adjustments: Amortization. This category includes the amortization of acquired intangibles (31 adjustments) and depreciation expenses (5 adjustments). Two possible explanations can justify these adjustments: 1) Firms may believe that these items should not be amortized and 2) they are non-cash items. However, these two possible explanations are not consistent with the notion that the charges are non-recurring items. If these intangible assets are amortized, it is because they have a limited useful life. A good example of this is a patent. For acquired intangibles, because the acquisition costs are not expensed when purchased (due to future benefits), the cost must be allocated over their useful life through amortization to obtain a correct measure of net income.

The next category is foreign exchange gains and losses (15 adjustments). Most likely, companies exclude this adjustment from net income since it is not part of their main business activities. However, one could argue that if a company does not hedge against foreign exchange fluctuations, it accepts the impact of changes in currency in its operations. In that sense, it is a business risk that the companies accept as a part of their operations. Furthermore, by not hedging this risk, the foreign exchange losses become recurring in nature. The remaining categories include debt and related expenses (11 adjustments), gains and losses (4 adjustments), other revenues (4 adjustments), inventory (3 adjustments), impairment (3 adjustments) and equity (2 adjustments). Ten adjustments could not be classified in any of the afore-mentioned categories and are therefore included in an "Other" category.

Table 3 provides some descriptive statistics about the number of adjustments made by each firm in our sample. For the period from 2012 to 2016, the table provides the average number of adjustments made by each firm as well as the minimum and maximum number of adjustments in a given year. As indicated in the table, there are two companies that did not disclose pro forma earnings per share over the five year period: Computer Modelling Group and Enghouse Systems Limited. All other firms provide pro forma adjustments and the average number of adjustments is 3.7 per year. If we exclude the two firms that do not disclose pro forma adjustments, the average number of adjustments is 4.5.

Table 3
Average, maximum and minimum number of adjustments made by companies

Ticker	Company Name	Average # of Adjustments	Maximum # of Adjustments	Minimum # of Adjustments
BB	BlackBerry Limited	4.2	6	3
CLS	Celestica Inc.	4.0	4	4
GIB A	CGI Group Inc.	2.4	4	2
CMG	Computer Modelling Group Ltd.	0	0	0
CSU	Constellation Software Inc.	3.2	4	2
DSG	Descartes Systems Group Inc.	7.8	9	6
ESL	Enghouse Systems Limited	0	0	0
KXS	Kinaxis Inc.	1.3	2	1
MDA	MacDonald Dettwiler and Associates Ltd.	6.4	7	5
MNW	Mitel Networks Corporation	7.4	8	7
OTC	Open Text Corporation	5.0	5	5
SW	Sierra Wireless Inc.	3.2	4	3
	Average	3.7		

Six of the remaining ten companies have fewer than five adjustments, on average, per year: BlackBerry Limited, Celestica Inc., CGI Group Inc., Constellation Software Inc., Kinaxis Inc. and Sierra Wireless Inc. Open Text Corporation has a yearly average of five adjustments during the sample period. Each year, Open Text Corporation includes an adjustment for Tax, Stock compensation expense, Acquired intangible amortization, Other non-recurring charges and Other (no information provided). The remaining three companies have more than six adjustments per year. That is, MacDonald Dettwiler and Associates Ltd., Mitel Networks Corporation and Descartes Systems Group Inc. have, on average, 6.4, 7.4 and 7.8 adjustments respectively.

Next we examine the magnitude of the earnings number compared to the adjusted earnings number. Table 4 reports GAAP net income and adjusted net income in millions of dollars. Adjusted net income is the number that is used to calculate pro forma earnings per share. Some of these adjustments drastically change the amount of net income or net loss. It is important to note that all adjustments either increase earnings or decrease net losses. For example, in 2014, BlackBerry had a net loss of $5,873 million and the adjusted net loss was reduced to $711 million as a result of the large impairment of goodwill and the large provision for obsolete inventory that were excluded in determining pro forma earnings. The only exception to the income increasing or loss decreasing pattern of pro forma disclosure is Sierra Wireless Inc. (SW), which reported net income of $55 million and adjusted net income of $11 million in 2013.

Table 4

GAAP net income (NI) and adjusted net income (Adj. NI) per year and per company in millions of dollars

Panel A: Annual value in dollars

Ticker	*2012*		*2013*		*2014*		*2015*		*2016*	
	NI	Adj. NI	NI	Adj. NI	NI	Adj. NI	NI	Adj. NI	NI	Adj. NI
BB	1,164	2,199	-646	-317	-5,873	-711	-304	-45	-208	-127
CLS	118	206	118	155	108	180	67	145	136	201
GIB.A	132	401	456	728	859	894	978	1,005	1,069	1,082
CMG	23	na	25	na	28	na	33	na	25	na
CSU	93	172	93	207	103	274	177	371	207	395
DSG	12	33	16	38	10	45	15	52	21	61
ESL	21	na	24	na	30	na	31	na	42	na
KXS	na	na	na	na	-0.2	9	13	17	11	19
MDA	86	127	105	180	47	208	143	221	140	211
MNW	49	51	10	44	-7	99	-21	89	-217	78
OTC	125	270	149	329	218	407	234	425	285	432
SW	27	33	**55**	**11**	-17	20	-3	26	15	22

Panel B: Average value over the period 2012 to 2016

Ticker	Net Income	Adjusted Net Income
BB	-1,173	200
CLS	109	177
GIB.A	699	822
CSU	135	284
DSG	15	46
KXS	8	15
MDA	104	189
MNW	-37	77
OTC	202	373
SW	16	22

Seven companies (BlackBerry Limited, Celestica Inc., CGI Group Inc., Constellation Software Inc., Descartes Systems Group Inc., MacDonald Dettwiler and Associates Ltd. and Open Text Corporation) consistently present adjusted net income higher then GAAP net income during the five years. As discussed preciously, to the extent that companies eliminate non-recurring items, the adjusted number can provide a better prediction of future profitability. However, it seems that some items eliminated from net income may not be transitory in nature. This seems to be the case for the amortization of acquired intangible assets or stock compensation expense, which we observed in all of the years we examined. It is probably for this reason that the SEC warns investors about the use of pro forma earnings.

While the frequency of the adjustments is interesting, it does not provide the magnitude of the adjustments to earnings per share. Table 5 provides this information. Clearly, the most important adjustment is Impairment charges included in the category Impairment. In dollar terms, the average impairment adjustment is almost $2.5 billion and the average value per share is $4.71. Additional analysis reveals that one company was responsible for majority of this item – BlackBerry in 2014. The difficulties that the company experienced during that year are common knowledge. Also related to BlackBerry is the net impact of inventory provision or recovery included in the category Inventory. The company had a provision for obsolete inventory of $553 million in 2012, a recovery of $166 million in 2013 and a provision of $1,907 million in 2014 is the year where BlackBerry recognized the impairment of $2.5 billion). In total, the average impact of these adjustments per share is $1.46.

Table 5
Average amount of the adjustments made to earnings in value and per share

Category	Items included in the category	Average value of adjustments per share[3]	Average value of the adjustments
Tax	Impact of taxes	-0.18	-14,672,025
Equity	Loss due to change in fair value of redeemable preferred shares	0.35	6,760,000
	Fair value adjustment on derivative products	-0.17	-5,500,000
Compensation	Stock compensation expense	0.38	19,973,294
	Executive compensation expenses	0.05	2,233,333
	Past Service Credits on pension and other post-retirement plan amendments	-0.46	-15,950,000
Foreign Exchange	Impact of Foreign Exchange	0.08	1,859,467
Inventory	Net Impact of Inventory provision/recovery	1.46	764,666,667
Impairment	Imairment/Write-off of goodwill	0.64	336,000,000
	Impairment Charges	4.71	2,475,000,000
Non-recurring items	Restructuring charges	0.42	89,539,055
	Litigation and related expenses	0.03	18,533,333
	Acquisition integration costs	0.29	60,305,500
	Other non-recurring charges	0.14	18,564,111
	Non-GAAP net income from discontinued operations	2.51	68,325,000
Amortization	Acquired intangibles amortization	1.74	68,223,065
	Depreciation expense	0.04	3,020,000
Gains and losses	Extraordinary Gain (Loss)	-0.75	-48,870,500
Debt and related expenses	Interest expense	0.03	5,402,500
	Debt retirement costs	0.07	2,350,000
	Debt and warrant retirement costs, including write-offs of deferred financing costs	0.12	12,900,000
	Debenture fair value adjustment	0.07	10,666,667
Other revenues	Investment Income	-0.00	-200,000
Other	Non-controlling interest adjustment	-0.74	-15,650,000
	Acquisition accounting for deferred revenue	0.09	9,100,000
	Purchase accounting adjustments	0.08	9,700,000
	Other not disclosed	0.03	10,742,167

[3] A positive (negative) number represents an increase (a decrease) in pro forma earnings per share compared to GAAP earnings per share.

Non-GAAP net income from discontinued operations (in the category "Non-recurring items") accounts for an average impact of $2.51 per share. Additional analysis indicates that this item relates most to Mitel Networks Corporation that had discontinued operations totaling $255.5 million in 2016. The impact of the adjustment per share is $10.02. This was related to the sale of its mobile business unit. The next most material adjustment is the amortization of intangible assets (in the category of Impairment) that had an average impact of more than $68 million and an average impact per share of $1.74. A total of six companies had such an adjustment in all five years examined in this study. The companies are Celestica Inc., Constellation Software Inc., Descartes Systems Group Inc., MacDonald Dettwiler and Associates Ltd., Mitel Networks Corporation and Open Text Corporation. This can hardly be argued to be non-recurring. BlackBerry only recorded such an adjustment in the fiscal year 2016.

It is interesting to note that some of the adjustments previously identified as frequent do not necessarily have a large impact on earnings per share. For instance, Tax (40 adjustments) has an average impact of -$0.18 per share and Foreign exchange (15 adjustments) has an average impact of $0.08 per share. However, other frequent adjustments have a more material impact such as Stock compensation expense (34 adjustments) that has an average impact of $0.38 per share and Restructuring items (18 adjustments) that has an average impact of $0.42 per share.

While the numbers presented in Table 4 seem to be very large, comparing earnings per share to pro forma earnings per share while indirectly controlling for firm size may give us a better understanding of the impact of the adjustments.[4] In Table 6, we compare GAAP earnings per share to pro forma earnings per share. The increase (decrease) in net income (loss) is presented in the following row for each firm. A negative number appears only when there is a decrease in net income or an increase in net loss, which only happens for Sierra Wireless Inc. in 2013 as discussed above.

The results are, in most cases, striking. For example, Descartes Systems Group Inc. always presented pro forma earnings per share that is at least 140% greater than GAAP earnings per share during the sample period. The pro forma earnings of Constellation Software Inc. is at least 100% greater than GAAP earnings per share for fiscal years 2013 to 2015. Similarly, Mitel Networks Corporation presents pro forma earnings per share that is at least 100% greater than GAAP earnings per share in four out of the five years. Moreover, its pro forma earnings per share in 2014 is 1,514% of the value of GAAP earnings per share. Also of interest is the result of Sierra Wireless Inc. in 2015 where pro forma is 1,064% of the value of GAAP earnings per share.

[4] We provide the amount per share since it is the information provided by the companies. However, we believe that earnings deflated by total assets provides a better control for size (that is, Net Income/Total Assets).

Table 6

GAAP earnings per share (EPS) and pro forma earnings per share (PF EPS) per year and per company

Panel A: Value per share and per year

Ticker	*2012*		*2013*		*2014*		*2015*		*2016*	
	EPS	PF EPS	EPS	PF EPS	EPS	PF EPS	EPS	PF EPS	EPS	PF EPS
BB	2.22	4.20	-1.23	-0.60	-11.18	-1.35	-0.58	-0.09	-0.86	-0.19
% increase		89%		51%		88%		84%		77%
CLS	0.56	0.98	0.64	0.83	0.60	1.00	0.42	0.92	0.94	1.40
% increase		75%		30%		67%		119%		47%
GIB.A	0.48	1.50	1.44	2.30	2.69	2.80	3.04	3.13	3.42	3.46
% increase		213%		60%		4%		3%		1%
CSU	4.37	8.13	4.39	9.76	4.87	12.94	8.36	17.51	9.76	18.64
% increase		86%		122%		166%		109%		91%
DSG	0.19	0.52	0.25	0.60	0.15	0.69	0.21	0.73	0.27	0.80
% increase		174%		140%		360%		248%		196%
KXS	na	na	na	na	-0.01	0.41	0.50	0.67	0.41	0.73
% increase						4,200%		34%		78%
MDA	2.71	3.98	3.00	5.13	1.30	5.76	3.94	6.08	3.84	5.78
% increase		47%		71%		343%		54%		51%
MNW	0.89	0.91	0.12	0.79	-0.07	0.99	-0.18	0.76	-8.52	0.62
% increase		2%		558%		1,514%		522%		107%
OTC	2.13	4.60	2.51	5.57	1.81	3.37	1.91	3.46	2.32	3.54
% increase		116%		122%		86%		81%		52%
SW	0.88	1.08	1.79	0.37	-0.53	0.63	-0.08	0.80	0.48	0.68
% increase		23%		(79%)		219%		1,064%		42%

Panel B: Average value over the years 2012 to 2016

Ticker	EPS	PF EPS	% Increase[5]
BB	-2.33	0.39	78%
CLS	0.63	1.03	68%
GIB.A	2.21	2.64	56%
CSU	6.35	13.40	115%
DSG	0.21	0.67	224%
KXS	0.30	0.60	1,437%
MDA	2.96	5.35	113%
MNW	-1.55	0.81	541%
OTC	2.14	4.11	91%
SW	0.51	0.71	166%

[5] The average is calculated by taking the average of each year percentage increase calculated in Panel A.

3. Discussion

The use of pro forma earnings by publicly traded companies in North American seems to have become the norm. This is particularly so among firms in the high technology industry. In practice, the basic idea of pro forma earnings per share is to exclude items such as transitory, non-recurring and non-cash items from net income. A consequence of the exclusions is that it leads to earnings that are significantly higher than GAAP earnings. The disclosure of pro forma earnings that is consistently higher than GAAP earnings leads skeptics to conclude that managers are possibly using pro forma earnings in a 'strategic' manner (e.g., to mislead). But can investors be fooled? Apparently they can be. Experimental research has found that the decisions of ordinary investors were influenced by whether and how a firm utilized pro forma earnings, primarily through an unintentional cognitive effect that influences perceived firm performance (Frederickson and Miller, 2004; Elliott, 2006).

Specifically, Frederickson and Miller (2004) showed that firms having 'both' pro forma and GAAP earnings disclosures were priced more highly by participants in their experiment. Similarly, Elliott (2006) found that in certain conditions pro forma earnings positively affected participants' assessment of firm performance. The implication of this finding is that if pro forma earnings are used 'strategically' (as it appears to be) – investors can be misled. Several studies reach similar conclusions (Doyle et al., 2013; Isidro and Marques, 2015; Leung and Veenman, 2018). This finding is not limited to ordinary investors. Andersson and Hellman (2007) also find that non-GAAP earnings can influence analysts' earnings per share forecasts.

On the other hand, both managers and regulators have suggested that if used properly, pro forma financial information can serve useful purposes. These include that it enables firms to focus investors' attention on critical components of earnings, such as the firm's core operations, and that it facilitates meaningful comparisons to prior periods. The goal of pro forma disclosure is to present a recurring value of earnings that can improve the predictive value of earnings. In other words, pro forma disclosures allow firms to provide a more value relevant (i.e., 'higher quality') measure of the firm's economic performance than is possible under GAAP.

However, the argument that pro forma earnings is more value relevant than GAAP earnings is probably a problematic argument on two dimensions. First, even if pro forma earnings are more value relevant in aggregate than are GAAP earnings, they may still be used to mislead. That is, even if pro forma earnings provide additional information, the value of this information must be weighed against the cost of potentially misleading disclosure. How useful is a measure that increases disclosed income by over 100% over a three year period when the adjustments that are meant to be one-time are indeed recurring? Also, from our analyses, several restructuring charges are excluded from pro forma earnings per share and it is not always clear what companies include in these charges. Excluding recurring items may negatively affect the predictive ability of the earnings measure. Second, while pro forma earnings may be more value relevant than GAAP earnings, they may still be less informative than other publicly available 'less biased' earnings measures. For example, even if it is assumed that pro forma is unbiased (a very poor assumption given the above results), if pro forma earnings do not provide information beyond that provided by publicly available alternative earnings measures, then there is no justification for its disclosure.

Alternative publicly available metrics exist that, like pro forma, claim to measure recurring earnings. These include analysts' actual earnings, Standard & Poor's core earnings and even GAAP earnings from continuing operations. However, unlike pro forma, these measures are not constructed by firm managers who may have

an incentive to act strategically. The central question is, therefore, are firms' pro forma earnings (which can be biased) more useful than alternative measures? To address this question, we looked at the literature. The results of some studies suggest that analysts' earnings are generally more informative in the exclusions that they make and are less likely to have a motive of misleading investors as do managers. For example, in a survey of analysts Brown et al. (2015) find that they generally do exclude only one-time items in their earnings forecasts and Bentley et al. (2016) directly compare managers' and analysts' exclusions and find that analysts' exclusions are of higher quality and less aggressive. This suggests that investors will not be disadvantaged if pro forma is excluded from earnings announcements.

Regulate or Prohibit?

What are the implications of this paper– should pro forma be further regulated, or even prohibited? The Sarbanes-Oxley Act led the SEC to issue specific rules governing the disclosure of alternative earnings measures with the purpose of ensuring that these measures are not materially misleading, and that they are fully reconciled to GAAP earnings numbers. It is unclear, however, that this limited regulation has reduced the strategic use of pro forma earnings, and hence a firm's ability to mislead investors. Further, pro forma does not appear to provide investors additional (value relevant) information over other publicly available sources.

Consistent with these findings, we caution investors to be careful when using pro forma earnings per share. However, we also believe that, if firms want to disclose alternative earnings measures, they can do so through releases other than formal earnings announcements. By allowing (unaudited) pro forma earnings to be reported alongside (audited) GAAP earnings, a level of credibility, which is both undeserved, and potentially counter to the attainment of fair and efficient markets, is being attached to these pro forma earnings. GAAP earnings, which are the most important, reliable, and consistent indicator of firm performance, may be becoming lost in the earnings announcement.

In the absence of the proscription of pro forma disclosures, we recommend that investors not take the pro forma earnings number at its face value while making investment decisions. In addition, considering that Regulation G and OSC staff notice 52-306 require that firms must reconcile pro forma earnings per share with GAAP earnings per share, investors should closely examine the items that are excluded from GAAP net income. Some of the adjustments made to pro forma earnings could be viewed as questionable as they are recurring items. For example, when companies are required to amortize their intangible assets, it is because they have a limited useful life. In such a case, there appears to be little or no defensible reason for excluding this expense from pro forma earnings. Furthermore, accounting bodies around the world have agreed that stock compensation expenses should be recognized in the income statement. Consequently, it is illogical to exclude such an expense given its recurring nature.

Does it mean that investors should not use pro forma earnings when assessing the value of a company? Not really, but they should be careful and examine the items that are excluded from GAAP earnings before making any investment decisions.

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