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Performance Measures in Income Trusts: Quality and Relevance for Trust Unit Valuation

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Quality and Relevance for Trust Unit Valuation

Abstract

This study investigates motivations of income trusts' managers to engage in EBITDA smoothing through purposeful interventions in the setting of discretionary accruals. Two research questions are addressed. First, do income trusts use discretionary accruals to smooth EBITDA, and presumably cash distributions to unitholders? Second, do investors see through EBITDA smoothing, i.e. how do stock market participants value EBITDA components (i.e. EBITDA before discretionary accruals, discretionary accruals) and cash distributions? Our findings document that the EBITDA target deviation influences an income trust's accruals behavior. However, it would seem that Canadian investors do not adequately see through earnings management since they do not readjust the relationship between reported EBITDA and income trust valuation to take into account the discretionary accruals' component, suggesting that they do not adequately see through accruals management.

1. Introduction

Over the last five years, income trusts have become the angular stone of many Canadian investors' portfolio. The total market capitalization of income trusts went from less than 20 billion dollars in January 2000 to more than 140 billion dollars in June 2005, i.e. 11% of the market capitalization of all companies traded on the Toronto Stock Exchange (TSX) (Standard & Poors, April 18 2005). Initial public offerings (IPOs) of income trust units dominated the market for new equity issues and the most important IPO ever made in Canada, the Yellow Pages Income Trust, has generated more than 3 billion dollars (Globe and Mail, July 6 2005). Finally, Standard and Poors' announced that income trusts would be included in the S&P/TSX Composite Index beginning in the fourth quarter of 2005 (Globe and Mail, May 18, 2005).

An income trust is a legal entity structured to control an underlying operating company that operates a business (e.g. public, restaurants, consumer product companies and manufacturing companies) or holds a set of income generating assets (e.g. real estate, oil and gas properties, and mining properties). The revenues earned from the revenue-generating assets are distributed to unitholders periodically, with the objective of maximizing the periodic cash distributions. Distributable cash is essentially calculated by deducting from a non-GAAP measure, earnings before interest, taxes, depreciation and amortization (EBITDA), capital expenditures incurred to maintain the revenue-generating potential of the underlying asset, and interest and taxes paid. A cash reserve can also be made to smooth future cash flow distributions in more volatile businesses.

To assess the value, performance and risk of income trusts, financial analysts and rating agencies examine the level and stability of past cash distributions, and forecast

future distributions. For example, Dominion Bond Rating System (DBRS) provides stability ratings that measure the volatility and sustainability of distributions per fund unit over time. DBRS' stability ratings consider seven main factors, among which the stability and sustainability of EBITDA. The business press also regularly emphasizes the need to assess the potential for stable distributions to investors. For instance, in a special edition on income trusts, *Les Affaires* states: "It is important for investors to choose income trusts with stable and sustainable distributions. In the long run, it is the stability of the distribution that will dictate the value of the income trust. The most important tool to predict future distributions is cash available for distribution, a figure based on EBITDA" (Riverin, 2005, free translation). Thus, income trusts likely have strong incentives to smooth the level of cash distributions, and consequently EBITDA, from year to year.

Two research questions are addressed in this study. First, we investigate whether income trusts use discretionary accruals to smooth EBITDA, and presumably cash distributions to unitholders. We measure total accruals as the difference between income before extraordinary items and amortization, and cash flow from operations. We use total accruals *before amortization* because we are interested in EBITDA smoothing, a figure that excludes amortization. Discretionary accruals are estimated by deducting from total accruals the linear prediction from a model regressing total accruals on change in sales and lagged operating cash flows. Discretionary accruals are then regressed on the change in EBITDA before discretionary accruals from t-1 to t to examine whether discretionary accruals are used by income trusts to smooth EBITDA. If income trusts use discretionary accruals to smooth the value of EBITDA from year to year, then we expect

an increase (decrease) in EBITDA to be negatively (positively) related to discretionary accruals. Our results are consistent with our expectations.

Second, we examine whether investors see through EBITDA management, i.e. whether and how stock market participants value EBITDA components (i.e. EBITDA before discretionary accruals, and discretionary accruals), and cash distributions, using both a returns and price approach. First, we examine the ability of the level and change in EBITDA and discretionary accruals to explain the variability in annual stock returns and stock price. Our results suggest that Canadian investors do not readjust the relationship between reported EBITDA and unit price to take into account the discretionary accruals' component, suggesting that they do not adequately see through accruals management. We then add cash distributions to both models and compare the explanatory power of our first and second models to assess whether investors use cash distributions for valuation incremental to EBITDA. We find a significant association between cash distributions and stock returns and between cash distributions and share price. This result is consistent with theoretical and empirical evidence on the valuation of dividends for regular companies (e.g. Bhattacharya, 1979; Miller and Rock, 1985; Aharony and Swary, 1980; Asquith and Mullins, 1983).[2] Furthermore, F-tests on the change in explanatory power suggest that investors use cash distributions for valuation incremental to EBITDA.

[2] Prior theoretical work (Bhattacharya, 1979; Miller and Rock, 1985) and empirical evidence (Aharony and Swary, 1980; Asquith and Mullins, 1983) document the potential information content of dividends. Sivakumar and Waymire (1993) document that in an environment with few mandatory disclosure requirements or restrictions on accounting methods, dividends and dividend changes are more value-relevant than reported earnings.

Despite their growing importance to the Canadian market, income trusts have been the object of relatively little research attention. To the best of our knowledge, our paper is the first to address the issue of EBITDA and distribution smoothing. Our results could be of potential interest to security regulators who wish to assess the extent to which income trusts use existing accounting discretion to manage earnings.

The rest of the paper is organized as follows. Section 2 contains a description of the institutional environment in which income trusts are evolving. The theoretical background and research hypotheses are developed in section 3. The method is presented in section 4. Results are discussed in section 5. Finally, section 6 concludes.

2. Institutional Environment

An income trust (also called income fund) is a legal entity structured to hold equity and interest-bearing debt from an underlying operating company that operates a business (e.g. public, restaurants, consumer product companies and manufacturing companies) or holds a set of income generating assets (e.g. real estate, oil and gas properties, and mining properties). It is initially financed by selling equity to unitholders in the form of units and using the proceeds to purchase the operating company or the revenue-generating assets. The revenues earned from the revenue-generating assets are then distributed to unitholders periodically, with the objective of maximizing the periodic cash distributions. To achieve this objective, the income trust ideally owns mature assets that require little ongoing capital expenditures, face little competition and provide a predictable stream of cash flows (King, 2003) (see Figure 1).

{Insert Figure 1 here}

Income trusts differ from regular corporations because they are a flow-through structure that allows income to be taxed at the investor level only. Interest payments to the income trust reduce the operating company's taxable income and minimize corporate taxes at the operating company level. The income trust then distributes the interest earned to unitholders and claims a deduction on its taxable income for the distributions, to achieve the goal of distributing all taxable income for the year. Finally, investors tax themselves on the distributions according to their individual circumstances. Therefore, they can receive a higher level of cash distribution than is possible when the same assets are held by a corporation (King, 2003).

Distributable cash is calculated by deducting from earnings before interest, taxes, depreciation and amortization (EBITDA) capital expenditures incurred to maintain the revenue-generating potential of the underlying asset, actual interest expense paid on third-party debt, overhead and fixed costs, and actual taxes payable resulting from a mismatch of revenues, interest expenses and cash distributions. A cash reserve can also be made to smooth future cash flow distributions in more volatile businesses. The reconciliation of EBITDA to distributable cash is normally provided in the quarterly MD&A and in the annual report. An example, taken from Transforce Income Fund's annual report for the year ended December 31, 2004 is provided below[3]:

[3] The annual report is available at the following URL: http://www.sedar.com/csfsprod/data53/filings/00753893/00000001/C%3A%5CMartine%5CTransforce%5CAss2005%5CRAP05A.pdf

Reconciliation of EBITDA[1] to Distributable Cash
(Unaudited)

Periods ended December 31 (In thousands of dollars)	Three months 2004	Three months 2003	Twelve months 2004	Twelve months 2003
OPERATING ACTIVITY				
EBITDA[1]	**42,474**	26,123	**141,236**	90,212
Add (Deduct):				
Long term incentive plan expense	**1,636**	–	**1,636**	–
Interest	**(3,200)**	(1,947)	**(10,879)**	(7,517)
Cash taxes	**(1,226)**	(1,325)	**(6,554)**	(6,295)
Distributable cash from operations	**39,684**	22,851	**125,439**	76,400
FINANCING ACTIVITY				
Long term incentive plan disbursement	**(1,200)**	–	**(1,200)**	–
Scheduled debt repayment	**(2,697)**	(2,513)	**(12,112)**	(7,924)
Distributable cash from financing activity	**(3,897)**	(2,513)	**(13,312)**	(7,924)
INVESTING ACTIVITY				
Capital expenditures	**(15,299)**	(2,624)	**(31,430)**	(7,802)
Proceeds from Disposals of Assets	**5,903**	2,258	**17,546**	11,555
Distributable cash from investing activity	**(9,396)**	(366)	**(13,884)**	3,753
Total distributable cash earned	**26,391**	19,972	**98,243**	72,229
Distributions and dividends declared	**(22,716)**	(16,429)	**(74,767)**	(65,650)
Cash Surplus	**3,675**	3,543	**23,476**	6,579

To assess the value and performance of income trusts, investors normally look at their cash return (also called yield), i.e. the amount of cash distributions in a given period, divided by the price of one income trust unit at the end of that same period. They also examine the level and stability of past cash distributions, and forecast future distributions. As the starting point to the calculation of distributable cash, EBITDA therefore is an important performance measure for income trusts.

3. Research Propositions

3.1. EBITDA Smoothing

According to the smoothing hypothesis, income smoothing occurs when the accounting components of earnings, i.e. accruals, are managed to reduce the variability of reported earnings around some level considered normal for the firm (Bartov, 1993; Leuz *et al.*, 2003). The literature generally suggests that income smoothing is used to manage earnings towards some predetermined level (e.g. last year's earnings, the bonus target or

the latest analysts' consensus), to signal private information about the level of future cash flows (Dye, 1988), to protect managers' job (Fudenberg and Tirole, 1995 and DeFond and Park, 1997) and/or to minimize borrowing costs and income taxes (Trueman and Titman, 1988 and Rozycki, 1997).

Income trusts have strong incentives to reduce the variability of cash distributions from year to year because it is the stability of the distributions that dictates the value of units. To reduce the variability of cash distributions, income trusts can either reduce or increase capital expenditures, or use discretionary accruals to make sure that EBITDA is stable. The first objective of our study is to examine whether the latter is the case. Our first research proposition (stated in the alternative form) is:

Proposition 1:

An increase (decrease) in EBITDA leads to negative (positive) discretionary accruals.

3.2. EBITDA Smoothing and Market Valuation

Given income trusts' incentives to use discretionary accruals to smooth EBITDA from year to year, our next research question is whether investors see through EBITDA management, i.e. whether and how stock market participants value EBITDA components (i.e. EBITDA before discretionary accruals, and discretionary accruals), and cash distributions.

On one hand, prior research shows that accruals are more value-relevant than cash flow from operations in markets with high liquidity and sophisticated investors (e.g. US markets), in that the key purpose of financial statements is to provide useful information

helping investors to assess a firm's performance. Nondiscretionary accruals are more valued than discretionary accruals (Dechow, 1994; Subramanyam, 1996). Balsam, Bartov and Marquardt (2002) document a negative association between unexpected discretionary accruals and abnormal returns around 10-Q filing date for US firms. Furthermore, the price reaction of sophisticated investors precedes that of unsophisticated ones. Overall, this suggests that investors reassess earnings figures for US markets.

On the other hand, stock market valuation of discretionary accruals is consistent with two alternative scenarios: 1) managerial discretion improves the ability of earnings to reflect economic value, or 2) discretionary accruals are opportunistic but priced by an efficient market (Subramanyam, 1996). Under the first scenario, managers improve value relevance of earnings by managing earnings and then communicating private information about future profitability of the firm. In the second scenario, discretionary accruals are seen as an opportunistic distortion of earnings. In that case, value relevance of discretionary accruals provides evidence that stock market is functionally fixated on earnings. Consistent with this scenario, Teoh and Rao (1998) and Balsam *et al.* (2002) find a negative relationship between discretionary accruals and post-equity offering stock returns, suggesting that investors naively fix on pre-equity offering earnings without correcting for discretionary accruals.

Since the actual impact of EBITDA quality on market valuation is unclear, we refrain from making directional predictions for our second research proposition:

Proposition 2:

The discretionary accruals component of EBITDA is valued differently than the nondiscretionary accruals component by investors.

4. Method

4.1 Sample and Data

Sample income trusts are drawn from www.investcom.com. Financial data is obtained from *Compustat Research Insight* and it is pooled over the 2000-2004 period. Investcom (www.investcom.com) lists 241 income trusts as at December 1, 2005, and 176 of the 241 income trusts are found in *Compustat Research Insight*. Smoothing tests are based on a sample of 366 income trust-year observations. Returns tests are based on a sample of 324 income trust-year observations. Finally, value-relevance tests are based on a sample of 353 income trust-year observations.

4.2 Models and Variables

4.2.1 EBITDA Smoothing

The following pooled regression models are used to examine the use of discretionary accruals to smooth EBITDA:

(1) $ACCRUALS_{i,t} = \beta_0 + \beta_1 \Delta SALES_{i,t} + \beta_2 ADJOCF_{i,t-1} + \varepsilon_{i,t}$

(2) $DISCRACCRUALS_{i,t} = \beta_0 + \beta_1 \Delta EBITDA_{i,t} + \varepsilon_{i,t}$

Where:

ACCRUALS	=	Income before extraordinary items + amortization + interests + taxes – adjusted cash flow from operations (ADJOCF), scaled by lagged assets
ADJOCF	=	Cash flow from operations in t-1 plus interest expense, plus taxes, scaled by lagged assets
Δ*SALES*	=	Change in sales from t-1 to t, scaled by lagged assets
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1), scaled by lagged assets
Δ*EBITDA*	=	Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged assets

The first model is used to estimate nondiscretionary and discretionary accruals. Consistent with Collins and Hribar (2002), we measure total accruals as the difference between income before extraordinary items and amortization, and cash flow from operations. We use total accruals *before amortization* because we are interested in EBITDA smoothing, a figure that excludes amortization. Nondiscretionary accruals reflect an income trust's economic environment or its underlying level of activity independent of strategic earnings management by its executives. Model (1) implies that a firm's current period total accruals (*ACCRUALS*) are more or less determined in a systematic manner by its current performance ($\Delta SALES$), and lagged adjusted cash flow from operations (*ADJOCF*). Prior empirical evidence is consistent with such propositions. First, variation in sales is a proxy for firm performance. Second, lagged adjusted cash flow from operations (i.e., cash from last period) is assumed to systematically determine current period nondiscretionary accruals since changes in cash flow and in accruals are correlated over time (Dechow, 1994). Property, plant and equipment normally serves to control for other nondiscretionary components such as the portion of depreciation expenses that is not conditional on firm's performance or activity level, or upon managerial discretion (Jones, 1991). It is not included in Model (1) because we are measuring accruals before amortization[4]. The estimated nondiscretionary accruals measure is subtracted from sample income trusts' actual total accruals to obtain an estimate of discretionary accruals. In order to control for potential size effects, all variables are scaled by lagged assets.

[4] Unfortunately, our sample is currently too small to consider running separate regressions by industry or type of income trust.

The second model is used to examine whether discretionary accruals are used by income trusts to smooth EBITDA. Income trusts have incentives to maintain a constant level of EBITDA from year to year because EBITDA is the starting point to the calculation of distributable cash. We examine the relationship between discretionary accruals and the change in EBITDA from t-1 to t before discretionary accruals. If income trusts use discretionary accruals to smooth the value of EBITDA from year to year, then $\Delta EBITDA$ will be positively related to discretionary accruals. In order to control for potential size effects, all variables are scaled by lagged assets.

4.2.2 Stock Market Valuation

Consistent with Easton and Harris (1991), the following pooled regressions are used to examine the explanatory power for annual stock returns of EBITDA and cash distributions:

(1) $$RETURNS_{i,t} = \beta_0 + \beta_1 EBITDA_{i,t} + \beta_2 DISCRACCRUALS_{i,t} + \beta_2 \Delta EBITDA_{i,t} + \varepsilon_{i,t}$$

(2) $$RETURNS_{i,t} = \beta_0 + \beta_1 EBITDADISTR_{i,t} + \beta_2 DISCRACCRUALS_{i,t} + \beta_2 \Delta EBITDA_{i,t} + \beta_3 DISTR_{i,t} + \beta_4 \Delta DISTR_{i,t} \varepsilon_{i,t}$$

Where:

RETURNS	=	Cumulative annual returns for year t
EBITDA	=	EBITDA before discretionary accruals, scaled by lagged market value of equity
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1), scaled by lagged market value of equity
$\Delta EBITDA$	=	Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged market value of equity
EBITDADISTR	=	EBITDA before discretionary accruals and cash distributions, scaled by lagged market value of equity

DISTR	=	Cash distribution for the year t scaled by lagged market value of equity
Δ*DISTR*	=	Change in Cash distribution from t-1 to t, scaled by lagged market value of equity.

Model (1) examines the association between annual stock returns, the level and change in EBITDA before discretionary accruals, and discretionary accruals. Consistent with prior research (e.g. Francis et al., 2003), we expect *EBITDA* and *ΔEBITDA* to be positively associated to stock returns. Consistent with our second research proposition, we do not make any prediction as to the sign of the association between annual stock returns and discretionary accruals. Model (2) examines the between annual stock returns, the level and change in EBITDA before discretionary accruals and cash distributions, discretionary accruals as well as cash distributions and change in cash distributions. Again, we expect a positive association between annual stock returns, *EBITDA*, *ΔEBITDA* and *DISTR*, and we do not make any directional prediction for *DISCRACCRUALS*. To assess whether investors use cash distributions for valuation incremental to EBITDA, we also compare the explanatory power of Model (1) to the explanatory power of Model (2). If investors use cash distributions for valuation incremental to EBITDA, the F-test on the change in explanatory power between models (1) and (2) will be significant.

Finally, consistent with Ohlson (1995), the following pooled regressions are used to examine the value-relevance of EBITDA, discretionary accruals and cash distributions, incremental to book value:

(1) $MVALUE_{i,t} = \beta_0 + \beta_1 BV_{i,t} + \beta_2 EBITDA_{i,t} + \beta_3 DISCRACCRUALS_{i,t} + \varepsilon_{i,t}$

(2) $MVALUE_{i,t} = \beta_0 + \beta_1 BV_{i,t} + \beta_2 EBITDADISTR_{i,t} + \beta_3 DISCRACCRUALS_{i,t} + \beta_4 DISTR_{i,t} + \varepsilon_{i,t}$

Where:

MVALUE	=	Market value of equity at the end of the year
BV	=	Book value of equity at the end of the year
EBITDA	=	EBITDA before discretionary accruals
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1)
EBITDADISTR	=	EBITDA before discretionary accruals and cash distributions
DISTR	=	Cash distribution

All variables are scaled by common shares outstanding at the end of the year.

Model (1) examines the value-relevance of EBITDA before discretionary accruals, and discretionary accruals incremental to book value. Model (2) examines the value-relevance of EBITDA before discretionary accruals and cash distributions, discretionary accruals, and cash distributions incremental to book value. We expect book value per share, EBITDA per share and distribution per share to be positively related to stock price. Consistent with our second research proposition, we do not make any directional prediction for *DISCRACCRUALS*. We also compare the explanatory power of the basic Ohlson valuation model to the explanatory power of Model (1) to assess whether investors use EBITDA before discretionary accruals and discretionary accruals for valuation incremental to book value. Similarly, we compare the explanatory power of Model (1) to the explanatory power of Model (2) to assess whether investors use cash distributions for valuation incremental to book value, and EBITDA. If EBITDA before discretionary accruals and the discretionary accrual component of EBITDA provide value-relevant information incremental to book value, then the F-test on the change in explanatory power between the basic Ohlson valuation model and Model (1) will be significant. Similarly, if cash distributions provide value-relevant information

incremental to book value, and EBITDA, the F-test on the change in explanatory power between models (1) and (2) will be significant.

5. Results

5.1 Descriptive Statistics

Table 1 presents the industry and category distribution of sample income trusts. Investcom.com identifies four different categories of income trusts: Business, Resource, Utilities and Real Estate. The web site further classifies income trusts among the TSX industry indices. We rely on Investcom.com's classification. Table 1 shows that most sample income trusts either belong to the business (143 income trust-years) or resource (149 income trust-years) categories. The number of complete observations doubles between 2000 and 2004: 48 income trust-year observations are included in the sample in 2000 while 107 income trust-year observations are available for 2004. This trend is consistent with the increased use of the income trust structure over the period studied.

{Insert Table 1 here}

Table 2 presents mean values of selected financial performance metrics by category of income trust and year. Table 2 shows that the average income trust's market value is significantly higher than its book value. For instance, the average market-to-book ratio of the total sample for 2004 is close to 2 (706.5 million dollars / 357.8 million dollars). Average EBITDA, cash flow from operations and cash distributions generally follows a stable or increasing trend between 2000 and 2004 for all four categories of income trusts, with a few exceptions. This is consistent with income trusts' incentive to maintain a stable cash distribution from year to year to preserve the value of the units. It

is also consistent with the existence of an incentive to smooth EBITDA from year to year to pay out a stable cash distribution to unitholders. Table 2 also shows that the percentage of operating cash flows paid out as cash distributions is the highest in the utilities and real estate income trusts (between 53.54% and 86.66% of operating cash flows). The percentage of cash distributions paid out by business and resource trusts has increased steadily between 2000 and 2004, ranging from 24.22% to 73.33% for business trusts and 22.17% and 64.32% for resource trusts. Cash return (cash distribution divided by market value) has followed a similar trend. Finally, cash return has been more volatile in the utilities and real estate categories.

{Insert Table 2 here}

Table 3 presents Pearson correlations between variables included in our regression models. All correlations are below the 0.51 threshold for the smoothing model, except for the correlation between accruals and discretionary accruals (the two variables are not included in the same model). The 0.71 correlation between total accruals and discretionary accruals suggests that accruals composing EBITDA are to a large extent discretionary. Thus, income trusts not only have the incentive but also the opportunity to smooth EBITDA. All correlations are also below the 0.58 threshold for the return model, except for the correlation between EBITDA and ΔEBITDA (0.70), which are correlated by design.

{Insert Table 3 here}

5.2 Multivariate Results

Table 5 presents the results of the pooled regressions estimating discretionary accruals and examining the use of discretionary accruals to smooth EBITDA by income trusts in Canada between 2000 and 2004. All reported t-statistics are based on robust standard errors. Panel A of Table 5 estimates nondiscretionary accruals for sample income trusts. The model is significant at 0.001 with an adjusted R^2 of 8.4%. Consistent with prior research, nondiscretionary accruals are driven by income trusts' performance measured by sales growth ($p < 0.009$) and lagged adjusted cash flow from operations ($p < 0.001$). Our results indicate that a large proportion of the accruals composing EBITDA are discretionary.

Panel B of Table 5 presents the results of the EBITDA smoothing model. The model is significant at 0.000 and presents an adjusted R^2 of 25.1%. As expected, our results show a significantly negative association between *DISCRACCRUALS* and Δ*EBITDA* deviation ($p < 0.001$), suggesting that income trusts make use of discretionary accruals to smooth EBITDA from year to year.

{Insert Table 5 here}

Table 6 presents the results of the pooled regressions examining the association between annual stock returns, the level and change in EBITDA before discretionary accruals, discretionary accruals, and cash distributions. Again, all reported t-statistics are based on robust standard errors. Panel A of Table 6 presents the results of the pooled regression examining the association between annual stock returns, the level and change in EBITDA before discretionary accruals and discretionary accruals. The model is significant at 0.000 and presents an adjusted R^2 of 17.5%. EBITDA before discretionary accruals and the change in EBITDA before discretionary accruals are both positively and

significantly related to annual stock returns ($p < 0.002$ and $p < 0.001$). The association between the discretionary accrual component of EBITDA and annual stock returns is positive and significant ($p < 0.001$). This suggests that Canadian investors do not readjust the relationship between reported EBITDA and income trust unit valuation to take into account the discretionary accrual component, suggesting that they do not adequately see through accruals management.

Panel B of Table 6 presents the results of the pooled regression model examining between annual stock returns and the level and change in EBITDA before discretionary accruals and cash distributions, discretionary accruals and cash distributions. The model is significant at 0.000 and presents an adjusted R^2 of 19.7%. Consistent with our first model, EBITDA and ΔEBITDA are both positively and significantly associated with stock returns ($p < 0.001$ and $p < 0.001$) and the discretionary accrual component of EBITDA is positively and significantly related to annual stock returns ($p < 0.001$). Change in cash distribution is also positively related to annual stock returns ($p < 0.080$) while current year distribution is associated with stock returns ($p < 0.299$). Moreover, the F-test on the change in explanatory power between models (1) and (2) is significant ($p < 0.001$). This suggests that investors use cash distributions for valuation incremental to EBITDA.

{Insert Table 6 here}

Table 7 presents the results of the pooled regressions examining the value-relevance of EBITDA before discretionary accruals, discretionary accruals and cash distributions, incremental to book value. First, we perform a F-test on the change in explanatory power between the basic Ohlson valuation model (i.e. book value and

earnings) and Model (1). Untabulated results show that the F-change is significant ($p < 0.000$). This suggests that EBITDA provides value-relevant information to investors incremental to book value and earnings. Because EBITDA is the primary performance metrics for income trusts, our main valuation models exclude earnings.

Panel A of Table 7 presents the results of the pooled regression examining the value-relevance of EBITDA before discretionary accruals and discretionary accruals, incremental to book value. The model is significant at with an adjusted R^2 of 59.1%. Consistent with our expectations, *BV* is positively associated with stock price and the association is significant ($p < 0.001$). *EBITDA* and *DISCRACCRUALS* are positively associated with share price, and the associations are also significant ($p < 0.001$ and $p < 0.001$).

Panel B of Table 7 presents the results of the pooled regression examining the value-relevance of EBITDA before discretionary accruals and cash distributions, discretionary accruals, and cash distributions, incremental to book value. The model is significant at with an adjusted R^2 of 71.0%. Consistent with our expectations, *BV* and *EBITDA* are positively associated with stock price and the association is significant ($p < 0.001$ and $p < 0.001$). *DISCRACCRUALS* is positively associated with share price, and the association is also significant ($p < 0.001$). Finally, *DISTR* is positively associated with share price and the association is significant ($p < 0.001$). The F-test on the change in explanatory power between models (1) and (2) is significant ($p < 0.001$), indicating that cash distributions provide value-relevant information to investors incremental to book value, and EBITDA. Overall, the results of the price model are largely consistent with the results of the returns model.

{Insert Table 7 here}

6. Discussion and Conclusion

This paper investigates motivations of income trusts' managers to engage in EBITDA smoothing through purposeful interventions in the setting of discretionary accruals. An income trust is a legal entity that controls an underlying operating company that either operates a business or holds a set of income generating assets. The revenues earned from the revenue-generating assets are distributed to unitholders periodically, with the objective of maximizing the periodic cash distributions. The value and performance of income trusts depends on the level and stability of past cash distributions and forecasted future distributions. Income trusts calculate distributable cash by deducting capital expenditures, interest and taxes from EBITDA. Thus, they likely have strong incentives to smooth EBITDA, and presumably cash distributions, from year to year.

The first research question we seek to answer is whether income trusts use discretionary accruals to smooth EBITDA. We measure total accruals as the difference between income before extraordinary items and amortization, and adjusted cash flow from operations, i.e. before interests and taxes. Discretionary accruals are estimated by deducting from total accruals the linear prediction from a model regressing total accruals on change in sales and lagged operating cash flows. Discretionary accruals are then regressed on the change in EBITDA before discretionary accruals from t-1 to t to examine whether discretionary accruals are used by income trusts to smooth EBITDA. We find that the EBITDA target deviation influences an income trust's accruals behavior, i.e. that income trust use discretionary accruals to smooth EBITDA from year to year.

The second research question we investigate is whether investors see through EBITDA smoothing, i.e. how do stock market participants value EBITDA components (i.e. EBITDA before discretionary accruals, discretionary accruals) and cash distributions. We first examine the ability of the level and change in EBITDA and discretionary accruals to explain the variability in annual stock returns and stock price. Our results suggest that Canadian investors do not readjust the relationship between reported EBITDA and unit price to take into account the discretionary accruals' component, suggesting that they fail to adequately see through accruals management. We then add cash distributions to both models and compare the explanatory power of our first and second models to assess whether investors use cash distributions for valuation incremental to EBITDA. We find a significant association between cash distributions and stock returns and between cash distributions and share price. Furthermore, F-tests on the change in explanatory power suggest that investors use cash distributions for valuation incremental to EBITDA.

The results of this paper must be interpreted with caution for at least two reasons. First, while our results suggest that income trusts use discretionary accruals to smooth EBITDA, only the use of a matched sample can confirm that the phenomenon is specific to income trusts. Second, our sample is currently too small to consider running separate regressions by industry or type of income trust to estimate discretionary accruals or estimate discretionary accruals on a period other than the one studied. We plan on addressing these two caveats in the near future.

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Figure 1
Structure of an Income Trust

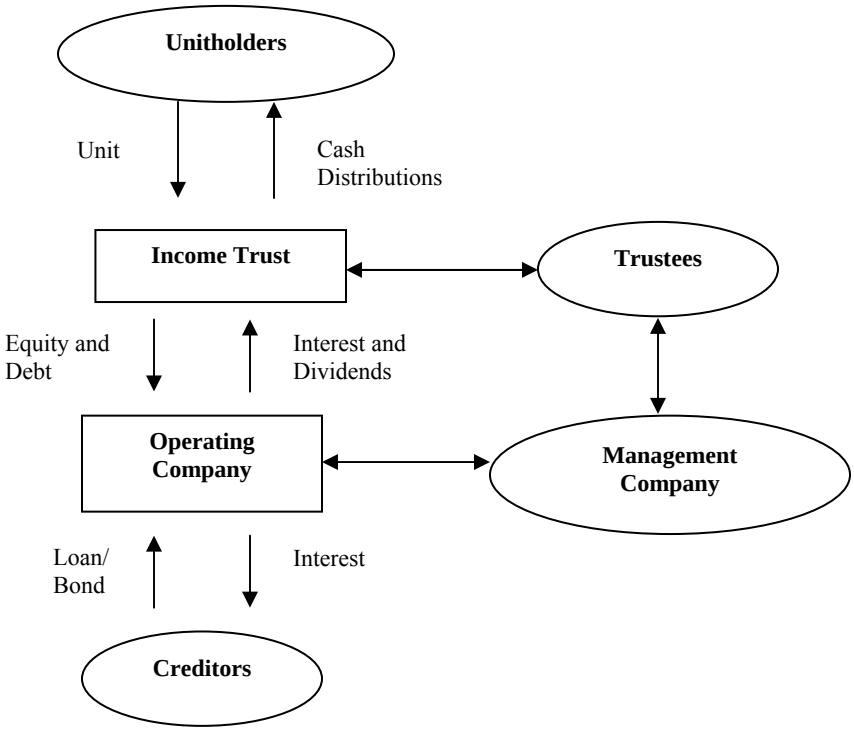

Table 1
Sample Distribution*

	2000	2001	2002	2003	2004	Total
Business						
Consumer Discretionary	1	1	2	3	7	14
Consumer Staples	4	5	4	6	11	30
Financials		2	2	3	3	10
Healthcare	1	1	1	1	1	5
Industrials	9	9	13	15	20	66
Materials	2	2	3	5	6	18
Total for Business	17	20	25	33	48	143
Resource						
Energy	21	22	31	36	39	149
Utilities						
Power	1	1	3	5	7	17
Telecommunication Services	0	0	0	0	2	2
Utilities and Infrastructure	1	1	1	2	3	8
Total for Utilities	2	2	4	7	12	27
Real Estate	8	6	6	7	8	35
Total	**48**	**50**	**66**	**83**	**107**	**354**

*This table presents the distribution of sample income trusts among the four categories used in www.investcom.com and the TSX industry indices.

Table 2
Descriptive Statistics*

	Business	Resource	Utilities	Real Estate	Total
Book Value					
2000	95.5700	202.7948	248.6500	374.0655	195.0094
2001	131.3603	285.3186	254.8683	416.5944	254.6250
2002	165.4924	304.3190	316.3200	395.6052	266.6411
2003	193.1074	404.5559	294.3650	414.7480	306.6125
2004	216.1564	528.3556	343.0029	430.5577	357.8732
Market Value					
2000	106.4014	307.5284	154.2250	410.6200	269.2904
2001	211.1444	388.1479	273.0800	467.3544	341.4839
2002	260.4361	495.4689	400.5722	510.7363	406.1108
2003	314.0749	774.5322	498.0508	525.1784	523.0073
2004	453.9967	1,128.5380	632.3608	622.4496	706.5759
EBITDA					
2000	30.7450	88.4452	42.7850	81.9690	65.0766
2001	33.8682	109.9872	34.3460	80.7463	72.4055
2002	36.4479	97.0055	34.5063	80.7044	66.9476
2003	32.0768	126.2833	38.7200	82.3930	71.7383
2004	46.6388	165.5430	45.6607	63.4375	88.3772
CFO					
2000	25.6541	78.1867	22.3400	47,9400	52.4510
2001	24.5321	106.5031	27.8880	49,8900	62.6027
2002	30.0444	88.8700	29.0550	58,9947	58.0817
2003	27.7470	114.3521	37.4500	46,5852	60.1973
2004	39.3168	151.4775	51.1964	55,3458	77.6372
Distribution					
2000	5.7209	24.4856	16.6450	41.8844	19.9537
2001	12.0418	54.1809	20.5100	41.8615	34.8424
2002	14.8432	37.4884	26.1550	39.7856	29.1287
2003	23.4500	63.0988	32.2300	37.7744	39.8508
2004	32.8215	85.1481	40.6386	43.3931	51.2435
Distribution / ADJCFO					
2000	0.2422	0.2217	0.7193	0.8415	0.3354
2001	0.3160	0.1973	0.5360	0.6762	0.3043
2002	0.5028	0.3318	0.8561	0.5354	0.4587
2003	0.6972	0.4452	0.8666	0.8074	0.6155
2004	0.7333	0.6432	0.8574	0.8505	0.7377
Cash Return (Distribution / Market Value)					
2000	0.0174	0.0331	0.1220	0.0985	0.0438
2001	0.0562	0.0371	0.0573	0.0826	0.0505
2002	0.0541	0.0659	0.0735	0.0585	0.0615
2003	0.0732	0.0686	0.0692	0.0681	0.0804
2004	0.0827	0.0785	0.0772	0.0761	0.0663

*This table presents mean values of selected financial metrics by category of income trust and year.

Table 3
Pearson Correlations*

Panel A : Smoothing Model					
	ACCRUALS	Δ*SALES*	*ADJOCF*	*DACCRUALS*	Δ*EBITDA*
ACCRUALS	1.000				
Δ*SALES*	**0.110**	1.000			
ADJOCF	**-0.171**	**0.117**	1.000		
DACCRUALS	**0.719**	**0.273**	0.078	1.000	
Δ*EBITDA*	**-0.440**	**0.510**	**0.589**	**-0.253**	1.000
Panel B : Return Model					
	RETURNS	*EBITDA*	*DACCRUALS*	Δ*EBITDA*	*DISTR*
RETURNS	1.000				
EBITDA	**0.174**	1.000			
DACCRUALS	0.108	**-0.458**	1.000		
Δ*EBITDA*	**0.123**	**0.708**	**-0.577**	1.000	
DISTR	**0.140**	**0.026**	**0.230**	**-0.114**	1.000

*This table presents Pearson correlations between variables. Figures in bold denote significance at the 5% level.

** Variable definitions:

Smoothing Model

ACCRUALS	=	Income before extraordinary items + Amortization + Interests + Taxes – ADOCF, scaled by lagged assets
Δ*SALES*	=	Change in sales from t-1 to t, scaled by lagged assets
ADJOCF	=	Cash flow from operations in t-1, plus interests, plus taxes, scaled by lagged assets
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1), scaled by lagged assets
Δ*EBITDA*	=	Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged assets

Returns Model

RETURNS	=	Cumulative annual returns for year t
EBITDA	=	EBITDA before discretionary accruals, scaled by lagged market value of equity
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1), scaled by lagged market value of equity
Δ*EBITDA*	=	Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged market value of equity
DISTR	=	Cash distribution for the year t scaled by lagged market value of equity
Δ*DISTR*	=	Change in cash distribution from t-1 to t, scaled by lagged market value of equity

Table 4
Descriptive Information on the Financial Data of the Sample*

Variable**	Mean	Median	Minimum	Maximum
Panel A: Smoothing Model				
ACCRUALS	-0.0117	-0.0047	-0.5880	0.3669
Δ*SALES*	0.1639	0.0567	-0.6585	4.7283
ADJOCF	0.1597	0.1293	-0.0735	0.5646
DISCRACCRUALS	-0.0020	0.0029	-0.5933	0.3359
Δ*EBITDA*	0.1177	0.0587	-0.2530	1.2907
Panel B : Returns Model				
RETURNS	0.4122	0.2217	-0.7468	9.8586
EBITDA	0.3018	0.2298	-0.7258	1.4162
DISCRACCRUALS	-0.0102	0.0020	-1.0356	0.3443
Δ*EBITDA*	0.0842	0.0392	-0.5718	1.2123
EBITDADISTR	0.1930	0.1058	-0.2301	1.4120
DISTR	0.1089	0.0982	0.0000	0.8265
Δ*DISTR*	0.0303	0.0045	-0.3237	0.5773

* This table presents descriptive statistics for the variables included in the regression models.

** Variable definitions:

Smoothing Model

ACCRUALS = Income before extraordinary items + Amortization + Interests + Taxes – ADOPC, scaled by lagged assets

Δ*SALES* = Change in sales from t-1 to t, scaled by lagged assets

ADJOCF = Cash flow from operations in t-1, plus interests, plus taxes, scaled by lagged assets

DISCRACCRUALS = Total accruals – predicted accruals from model (1), scaled by lagged assets

Δ*EBITDA* = Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged assets

Returns Model

RETURNS = Cumulative annual returns for year t

EBITDA = EBITDA before discretionary accruals, scaled by lagged market value of equity

DISCRACCRUALS = Total accruals – predicted accruals from model (1), scaled by lagged market value of equity

Δ*EBITDA* = Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged market value of equity

EBITDADISTR EBITDA before discretionary accruals and cash distribution, scaled by lagged market value of equity

DISTR = Cash distribution for the year t scaled by lagged market value of equity

Δ*DISTR* = Change in cash distribution from t-1 to t, scaled by lagged market value of equity

Table 5
EBITDA and Smoothing*

Panel A – Estimating Discretionary Accruals

Variable	Predicted Sign	Coefficient	P > | z |***
Δ*SALES*	+	0.034	0.009
ADJOCF	-	-0.165	0.000
Intercept		0.012	0.056
N			354
R^2			8.4%
X^2 (p-value)			16.74 (0.001)

Panel B – Discretionary Accruals and EBITDA Smoothing

Variable	Predicted Sign	Coefficient	P > | z |***
Δ*EBITDA*	-	-0.219	0.000
Intercept		0.012	0.000
N			352
R^2			25.1%
F (p-value)			118.03 (0.000)

* This table presents the results of the pooled regressions estimating discretionary accruals and examining the use of discretionary accruals to smooth EBITDA by income trusts in Canada between 2000 and 2004. Parameter estimates are based on the following model:

(1) $ACCRUALS_{i,t} = \beta_0 + \beta_1 \Delta SALES_{i,t} + \beta_2 ADJOCF_{i,t-1} + \varepsilon_{i,t}$

(2) $DISCRACCRUALS_{i,t} = \beta_0 + \beta_1 \Delta EBITDA_{i,t} + \varepsilon_{i,t}$

**Variable definitions:

ACCRUALS	=	Income before extraordinary items + Amortization + Interests + Taxes – ADJOCF, scaled by lagged assets
Δ*SALES*	=	Change in sales from t-1 to t, scaled by lagged assets
ADJOCF	=	Cash flow from operations in t-1, plus interests, plus taxes, scaled by lagged assets
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1), scaled by lagged assets
Δ*EBITDA*	=	Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged assets

*** One-tailed if directional prediction, two-tailed otherwise

Table 6
Valuation of Income Trusts – Return Models*

Panel A: EBITDA and Discretionary Accruals

Variable**	Predicted Sign	Coefficient	P > | z |***
EBITDA	+	0.500	0.002
DISCRACCRUALS	+/-	1.315	0.000
Δ*EBITDA*	+	0.813	0.000
Intercept		0.182	0.0012
N			320
R^2			17.5%
F (p-value)			17.50 (0.000)

Panel B: EBITDA, Discretionary Accruals and Cash Distributions

Variable**	Predicted Sign	Coefficient	P > | z |
EBITDADISTR	+	0.593	0.000
DISCRACCRUALS	+/-	1.430	0.000
Δ*EBITDA*	+	0.710	0.001
DISTR	+	-0.320	0.299
Δ*DISTR*	+	0.659	0.080
Intercept		0.232	0.000
N			320
R^2			19.7%
F (p-value)			19.77 (0.000)

R^2 change: 5.7%
F change (p-value): 9.26 (0.000)

* This table presents the results of the pooled regressions examining the relative and incremental explanatory power for annual returns of selected financial metrics for income trusts in Canada between 2000 and 2004. Parameter estimates are based on the following models:

(1) $RETURNS_{i,t} = \beta_0 + \beta_1\ EBITDA_{i,t} + \beta_2\ DISCRACCRUALS_{i,t} + \beta_2\ \Delta EBITDA_{i,t} + \varepsilon_{i,t}$

(2) $RETURNS_{i,t} = \beta_0 + \beta_1\ EBITDADISTR_{i,t} + \beta_2\ DISCRACCRUALS_{i,t} + \beta_2\ \Delta EBITDA_{i,t} + \beta_3\ DISTR_{i,t} + \beta_6\ \Delta DISTR_{i,t} + \varepsilon_{i,t}$

The table also reports the result of a F-test on the change in explanatory power between the two models.

****Variable definitions:**

RETURNS	=	Cumulative annual returns for year t
EBITDA	=	EBITDA before discretionary accruals, scaled by lagged market value of equity
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1), scaled by lagged market value of equity
Δ*EBITDA*	=	Change in EBITDA from t-1 to t before discretionary accruals, scaled by lagged market value of equity
EBITDADISTR	=	EBITDA before discretionary accruals and cash distribution, scaled by lagged market value of equity
DISTR	=	Cash distribution for the year t scaled by lagged market value of equity

*** One-tailed if directional prediction, two-tailed otherwise

Table 7
Valuation of Income Trusts – Price Models*

Panel A: EBITDA and Discretionary Accruals

Variable**	Predicted Sign	Coefficient	P > | z |***
BOOKVALUE	+	0.518	0.000
EBITDA	+	2.700	0.000
DISCRACCRUALS	+/-	3.724	0.000
Intercept		6.615	0.000
N			346
R^2			59.1%
F (p-value)			71.33 (0.000)

Panel B: EBITDA, Discretionary Accruals and Cash Distributions

Variable**	Predicted Sign	Coefficient	P > | z |
BOOKVALUE	+	0.125	0.028
EBITDADISTR	+	2.519	0.000
DISCRACCRUALS	+/-	2.719	0.000
DISTR	+	6.662	0.000
Intercept		4.867	0.000
N			346
R^2			71.0%
F (p-value)			104.86 (0.000)

R^2 change: 22.2%
F change (p-value): 72.97 (0.000)

* This table presents the results of the pooled regressions examining the value-relevance of selected financial metrics for income trusts in Canada between 2000 and 2004. Parameter estimates are based on the following models:

(1) $MVALUE_{i,t} = \beta_0 + \beta_1 BV_{i,t} + \beta_2 EBITDA_{i,t} + \beta_3 DISCRACCRUALS_{i,t} + \varepsilon_{i,t}$

(2) $MVALUE_{i,t} = \beta_0 + \beta_1 BV_{i,t} + \beta_2 EBITDADISTR_{i,t} + \beta_3 DISCRACCRUALS_{i,t} + \beta_4 DISTR_{i,t} + \varepsilon_{i,t}$

The table also reports the result of a F-test on the change in explanatory power between the two models.

****Variable definitions:**

MVALUE	=	Market value of equity at the end of the year
BV	=	Book value of equity at the end of the year
EBITDA	=	EBITDA before discretionary accruals
DISCRACCRUALS	=	Total accruals – predicted accruals from model (1)
EBITDADISTR	=	EBITDA before discretionary accruals and cash distributions
DISTR	=	Cash distribution

All variables are scaled by common shares outstanding at the end of the year.

*** One-tailed if directional prediction, two-tailed otherwise