THE BEHAVIOUR OF CANADIAN INCOME TRUST FUNDS DURING THE EX-DIVIDEND DAY PERIOD

by

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Abstract

This paper examines a sample of 89 Canadian Income Trust Funds to test the relevance of two possible explanations of ex-dividend day pricing: the tax clientele hypothesis, which highlights the marginal tax rates of long-term investors; and the short-term hypothesis, which relies on dividend capture activities of securities dealers and other short-term traders. Canadian Income Trust Funds are well suited for studying these two hypotheses due to the tax treatment of the income distributions and to the size and regularity of the dividend payments. The empirical results indicate that the tax clientele hypothesis, the short-term trading hypothesis, and the market microstructure hypothesis all play a part in explaining the ex-distribution day price behaviour of Canadian Income Trust Funds.

EXECUTIVE SUMMARY

This paper examines a sample of 89 Canadian Income Trust Funds to test the relevance of two possible explanations of ex-dividend day pricing: the tax clientele hypothesis, which highlights the marginal tax rates of long-term investors; and the short-term hypothesis, which relies on dividend capture activities of securities dealers and other short-term traders. Canadian Income Trust Funds are well suited for studying these two hypotheses due to the tax treatment of the income distributions and to the size and regularity of the dividend payments. The short-term trading hypothesis argues, that short-term traders (i.e. securities dealers who face equal effective tax rates on dividends and capital gains) may profit from positive (or negative) ex-distribution day returns by executing various short-term dividend capture strategies. Following the work of Al-Aabed (2004) and Koski and Scruggs (1998) statistical tests focused on analyzing abnormal trading volumes were based on the data sorted into the various event windows. Event windows varied in length to try and capture the different trading strategies of short-term traders. The price drop-off ratio (DOR) statistic and the incremental ex-date return statistics were used to investigate the tax clientele hypothesis. The DOR is expected to equal the relative tax differential between dividends and capital gains while the incremental ex-date return depends on both the dividend yield and the difference in tax rates (Elton and Gruber, 1970). The empirical results from the aggregate sample provide some evidence of the tax clientele hypothesis while the empirical results for energy income funds and low distribution funds tend to support the short-term trading hypothesis and the market microstructure hypothesis. As such, it can be concluded that the tax clientele hypothesis, the short-term trading hypothesis, and the market microstructure hypothesis all play a role in explaining the ex-distribution price behaviour of Canadian Income Trust Funds.

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1 INTRODUCTION

Over the last fifty years numerous studies have investigated the effect of marginal taxes on dividends relative to capital gains on the behaviour of stock prices and volumes on ex-dividend days. Modigliani and Miller (1961) theorize that the price of a share on an ex-dividend day should fall by the dividend amount. Assuming perfect capital markets Modigliani and Miller (1961) maintain that in perfect capital markets investors should be indifferent to either dividend income or capital gains, or else arbitrage opportunities would exist. To a certain degree the early empirical studies of Campbell and Berank (1955) and Durand and May (1960) seemed to support the Modigliani and Miller theory. Both Campbell and Berank (1955) and Durand and May (1960) studied the effect of dividend payouts on stock prices. While both studies found that on average the price drop of a stock was less than the dividend payout, neither study found this difference to be statistically significant and thus were later seen as support for the Modigliani and Miller theory.

Recognizing that the early empirical studies of ex-date pricing were not entirely conclusive, numerous other studies and theories have followed in an attempt to explain why the ex-dividend day price fall of stock may not correspond with the magnitude of the dividend. The three most popular theories to date are the tax clientele hypothesis, short-term trading hypothesis and the market microstructure hypothesis.

This paper examines a sample of 89 Canadian Income Trust Funds to test the relevance of two possible explanations of ex-dividend day pricing: the tax clientele hypothesis, which highlights the marginal tax rates of long-term investors; and the short-term hypothesis, which relies on

dividend capture activities of securities dealers and other short-term traders. Canadian Income Trust Funds are well suited for studying these two hypotheses due to the tax treatment of the income distributions and to the size and regularity of the dividend payments. The short-term trading hypothesis argues, that short-term traders (i.e. securities dealers who face equal effective tax rates on dividends and capital gains) may profit from positive (or negative) ex-distribution day returns by executing various short-term dividend capture strategies.

The following section of this paper will explore the literature surrounding the ex-dividend day pricing phenomenon. As it is the goal of this paper to study the ex-dividend day price behaviour of Canadian income trust funds, the following three sections explore issues surrounding income trust funds. In particular, Section 3 provides an overview of the (business) income trust structure and tax related issues. Section 4 outlines the methodology and data used to conduct the empirical research pertinent to this paper. Finally, Section 5 summarizes this paper's empirical results with a strong emphasis on how the results are similar or conflict with the prominent ex-dividend day pricing theories.

2 EX-DIVIDEND DAY PRICING THEORIES

The most influential work in support of the tax clientele hypothesis was conducted by Elton and Gruber (1970). Elton and Gruber (1970) put forward a tax based argument which stated that ex-dividend day stock prices are set in such a way that in equilibrium marginal long-term investors will be indifferent between buying and/or selling either before or after the ex-dividend day. Specifically Elton and Gruber (1970) show that buyers and sellers in a stock transaction are indifferent between trading cum-dividend and ex-dividend when the drop off ratio is equivalent to the ratio between the difference of the stock price pre and post a dividend payout and the dividend amount. In particular the drop of ratio is equal to the following equation

$$\text{DOR} = \frac{P_{cum} - P_{ex}}{D} = \frac{1 - t_d}{1 - t_g} \qquad (1)$$

where P_{cum} is the stock price cum-dividend, P_{ex} is the expected price on the ex-dividend day, D is the amount of the dividend per share, t_d is the tax rate on dividends and t_g is the capital gains tax rate (Bauer, Beveridge, and Sivakumar, 2002). Elton and Gruber (1970) contend that the drop off ratio should reflect the difference between dividend taxes and capital gain taxes faced by long term investors. Because dividends are often taxed more heavily than capital gains (i.e. $t_d > t_g$), the theory suggests that the ex-dividend day price drop (i.e. P_{cum}-P_{ex}) should be less than the dividend amount[1]. Elton and Gruber (1970) also point out that the magnitude of a stock

[1] A drop off ratio that is less than one implies that the ex-dividend day stock price drop is less than the dividend amount. A drop off ratio that is greater than one indicates an ex-dividend day stock price drop that is greater than the dividend amount. A drop off ratio of one coincides with the Miller and Modigliani theory (1961), i.e. the ex-dividend stock price drop is equal in magnitude to the dividend payout.

price drop on its ex-dividend day can indicate the type of investor holding the stock and their corresponding tax status. Using data from April 1, 1966 to March 31, 1967 on the New York Stock Exchange, Elton and Gruber (1970) find evidence that is largely supportive of their theory that long-term investors are relatively indifferent to dividend days when compared to other trading days (i.e. on average the drop off ratio is close to one). Elton and Gruber (1970) do however find that the stock price drop is smaller than the dividend amount in high dividend yield stock securities. This finding leads them to conclude that stockholders in higher tax brackets prefer to hold stocks with low dividend yields (high capital gains) to avoid the high dividend taxes they face. While conversely stockholders in low tax brackets prefer to hold stocks with high dividend yields as dividends serve as an immediate source of income. Elton and Gruber's (1970) tax-based ex-date pricing explanation became widely accepted at the time of its publication, as the prevailing tax structure yielded evidence that seemed to support their explanation[2].

Elton and Gruber (1970) started a research industry as nearly one hundred papers followed their leading work to either support, or criticize their original findings. Miller and Scholes (1982) and Kalay (1982, 1984) were the first to challenge the original findings of Elton and Gruber (1970). Specifically, Kalay (1982, 1984) criticizes Elton and Gruber's (1970) theory that one can infer the marginal tax rates of investors simply from the ex-dividend day price ratio (Chavula, 2004). Kalay (1982, 1984) points out that investment decisions cannot be made independently of risk and expected return and as a result some high tax bracket investors may choose to hold high yield securities while some low tax bracket investors may choose to hold low dividend securities. Kalay (1982, 1984) further argues that Elton and Gruber (1970) fail to account for the

[2] During the time of Elton and Gruber's (1970) study capital gains and dividend taxes were taxable at different rates and thus evidence seemed to support Elton and Gruber's theory that the marginal tax rate on two types of income affect the investment decision of investors (Bauer, Beveridge, and Sivakumar, 2002).

existence of short-term investors who face minimal or no tax differential between dividends and capital gains. Kalay (1982, 1984) counters Elton and Gruber's (1970) long-term equilibrium model by contending that short-term investors can make short-term arbitrage profits when cash dividends are discounted relative to capital gains (Al-Aabed, 2004). Kalay (1982, 1984) presents his own ex-dividend day pricing model (i.e. short-term trading hypothesis), which proposes that short-term arbitragers engage in transactions around the dividend day and the result of this arbitrage activity is an ex-dividend day price drop that is close to the dividend amount[3]. Kalay (1982, 1984) further suggests that any difference between the price drop and dividend amount is likely the result of transactions costs which constrain arbitrage opportunities.

Conversely, Green (1980) suggests that the arbitrage potential around ex-dividend days is not large enough to encourage a significant number of investors to engage in short-term transactions on a regular basis[4]. Unlike Elton and Gruber (1970) and Kalay (1979), Green (1980) attempts to model the dynamics of investors' timing decisions explicitly, to derive the equilibrium behaviour of stock prices around dividend payout days. Green (1980) finds that under certain conditions the drop off ratio can be an unbiased estimator of the average effective tax rate facing investors. Green (1980) also finds that the trading volume of stocks around ex-dividend days is very diverse and thus concludes that the tax composition of traders around ex-dividend days does not correspond with the tax composition of traders at other times. Consequently, Green (1980) concludes that although there is some evidence of the tax clientele effect being present in

[3] If the difference between the expected share price on the ex-dividend day and the dividend payout is greater than the transaction costs, short-term investors who are unaffected by the tax structure can sell the stock short prior to the dividend day and buy in back on the ex-dividend day thereby gaining a profit of $(1-t_d)[P_{cum}-P_{ex}-D-\alpha P]>0$ where t_d is the dividend tax rate, P_{cum} is the stock price prior to the dividend payout, P_{ex} is the stock price after the dividend payout, D is the dividend payout and αP accounts for all transaction costs (Al-Aabed, 2004).

[4] Green (1980) shows that the when transactions costs are accounted for the maximum profit that could be made by selling the stock and then repurchasing it after the dividend payment would be half of the dividend yield amount, and thus not great enough to seduce a large number of investors (Green, 1980).

the market, the drop off price ratio is not an effective way to estimate the effective tax rate of investors.

Booth and Johnston (1984) try to determine whether the tax clientele hypothesis or the short-term trading hypothesis appropriately characterizes Canadian stock price behaviour. Using TSE data from 1970 to 1980, Booth and Johnston (1984) are clearly able to reject the short-term trading hypothesis as it fails to explain the behaviour of ex-dividend day stock prices around the major tax reforms. Booth and Johnston (1984) point out that only if Revenue Canada had not taxed short-term trading income as regular income would the short-term trading hypothesis have been effectively able to characterize the ex-dividend day price ratio. Booth and Johnston (1984) do find a clear market preference for capital gains income over dividend income, but note that the drop off ratio is only consistent with a marginal investor with a low tax rate on capital gains. Thus, Booth and Johnston (1984) reject the tax clientele hypothesis as being a sufficient model to explain ex-dividend day stock price behaviour in Canadian markets. Instead they conclude that ex-dividend day trading is primarily limited to wealthy and sophisticated investors and that the nationality of investors may play an important role in determining stock price behaviour[5].

Porterba (1986) critically re-examines John Long's (1978) original study on the market valuation of cash dividends to determine whether or not investors view cash dividends and stock dividends differently around ex-dividend days. Through an examination of ex-dividend days between January 1965 and June 1984 of Citizens Utilities, Porterba (1986) finds that stock prices of cash-dividend shares fall by a smaller amount than their stock-dividend counterparts. In particular, Porerba's shows that ex-dividend day stock price movements reflect the difference

[5] Booth and Johnston (1984) find a marked difference between stocks listed solely on the TSE and stocks cross-listed with American markets. Suggesting that stock prices may be strongly influenced by the different nationalities of principle investors suggesting the need for different clienteles to effectively explain the stock price behaviour in different countries.

between the tax rate on dividends and the tax rate on capital gains. Given the differential tax treatment Porterba's (1986) finding is largely consistent with the tax clientele hypothesis that marginal investors value capital gains more than pre-taxed cash dividends.

Following Green (1980), Booth and Johnston (1984), and Porterba (1986) a number of studies in support of the short-term trading hypothesis where published. In particular Lakonishok and Vermaelen (1986) investigate the trading behaviour on ex-dividend days with eleven years worth of data from the NYSE and AMEX and find convincing evidence in support of the short-term trading hypothesis. Specifically, trading volumes are found to increase significantly around ex-dividend days for cash dividend paying stocks. However, in quick defence of the tax clientele hypothesis Barclay (1987) finds firm evidence that investor's investment decisions are significantly affected by the different tax treatments on dividends and capital gains[6].

Karpoff and Walking (1988) suggest that the tax clientele hypothesis of Elton and Gruber (1970) and Kalay (1982, 1984) are not competing hypotheses but rather complementary theories that can together be used to explain the ex-dividend day price behaviour of stock prices. Karpoff and Walking (1988) explain that investors who trade for reasons that are unrelated to dividend yields have incentives to make transactions according to tax clientele hypothesis[7] in order to maximize their after-tax returns (Karpoff and Walking, 1988). On the ex-dividend day short-term traders whose investment decisions are not affected by the tax structure, eliminate positive returns up to their marginal transaction costs. Karpoff and Walking (1988) also support Kalay's (1982, 1984) finding that high dividend stocks will attract more investors because the

[6] Barclay (1987) studied the drop off ratio before and after a new income tax legislation. Prior to the enactment of the dividend tax Barclay (1987) found that the drop off ratio was close to one. After the introduction of the dividend tax investors seemed to value a cash dividends less than capital gains.
[7] Since dividends generally face a higher taxation level then capital gains, tax-paying investors should sell the stock before the dividend day and buy the stock back after the ex-dividend day Campbell and Beranek (1955).

net benefits from the arbitrage transactions are greater. Karpoff and Walking (1988) conclude, that when there is active short-term trading, ex-dividend day returns are positively correlated to transaction costs and active short-term trading is largely concentrated in high dividend yield securities when transaction costs are low (Karpoff and Walking, 1988)[8].

Michaely and Vila (1996) present a model employing investors' heterogeneity, risky transaction costs and trading volumes. Michaely and Vila (1996) find the following short-term trading attributes hold in the market around ex-dividend days: (1) trading volumes are positively related to dividend yields; (2) trading volumes and transaction costs are inversely related; and (3) systematic risk and idiosyncratic risk have different effects on trading volumes. More specifically Michaely and Vila (1996) find a positive relationship between the tax heterogeneity of investors and the trading volumes around ex-dividend days. Consistent with the short-term trading hypothesis, Michaely and Vila (1996) attribute the abnormally high trading volumes around ex-dividend days to tax incentives, which make it possible for short-term traders to earn arbitrage profits. Michaely and Vila (1996) point out that tax-related trading around ex-dividend days creates a deadweight loss to society[9] and thus propose that there might be a more efficient mechanism to transfer the wealth around dividend days rather than through short-term trades.

Using a method similar to Lakonishok and Vermaelen (1986), Koski and Scruggs (1998) examine the trading volumes around ex-dividend days. However Koski and Scruggs (1998) use NYSE audit file data, which enables them to decompose total trading volume by trader type.

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[8] In particular, Karpoff and Walking (1988) found that short-term trading around ex-dividend days was not an effective explanation of stock price behaviour until after the introduction of negotiated commissions in May of 1975 which had the effect of lowering transactions costs and making short-term trading profitable (Karpoff and Walking, 1988).

[9] The deadweight loss is a result of the tax shields and risk allocation involved in transactions. Michaely and Vila (1996) argue that neither is Pareto optimal.

Specifically, they are able to examine the dividend induced trading behaviour of both taxable corporations and short-term securities dealers. Koski and Scruggs (1998) find that securities dealers trade more frequently around dividend days. Their results are consistent with the short-term trading hypothesis in that they find: (1) a positive relationship between dividend yields and dealer trading volume; and (2) a negative relationship between transaction costs and dealer trading volume. Koski and Scruggs (1998) also find that the volume of trades made by taxable corporations changes around dividend days, but determine that the magnitude of the change is not significant enough to support the tax clientele hypothesis.

Naranjo, Nimalendran and Ryngaert (2000) investigate the intertemporal behaviour of ex-dividend day stock returns for high-yield stocks and find that a change in negotiated commissions had a significant role in explaining ex-dividend day stock returns. In particular, they find that prior to the 1975 brokerage commission's amendment; high-yield stocks were found to have consistently positive ex-dividend day returns, while after amendment high-yield stocks were found to have consistently negative ex-dividend day returns (Naranjo, Nimalendran, and Ryngaert, 2000). Naranjo, Nimalendran and Ryngaert (2000) argue that the fall in transaction costs, due to the implementation of negotiated commissions, creates an opportunity for short-term traders to effectively earn dividend income. Naranjo, Nimalendran and Ryngaert (2000) conclude that short-term corporate traders are most responsible for influencing the returns of high yield stocks around their ex-dividend day.

Bali and Hite (1998) argue that neither the tax clientele hypothesis nor the short-term trading hypothesis, are able to accurately explain ex-dividend day stock prices. Bali and Hite (1998) instead introduce market microstructure arguments to explain ex-dividend day price movements. Specifically, Bali and Hite (1998) argue that stock prices and dividends cannot be equal because stock price movements are constrained to discrete tick multiples while dividend payments are

essentially continuous. They contend that the stock price drop will be strictly less than the dividend payment, but the difference will be within one tick of the dividend. For example suppose that on the ex-dividend day a stock price drops by one tick, where the dividend payout is 20 cents and the tick size is 12.5 cents. Then it may appear that a tax effect exists because the dividend payout seems to have a value of 0.625 cents. However, Bali and Hite (1998) argue that this perceived benefit is the result of the stock price being constrained in magnitude by the tick size. Bali and Hite (1998) empirically find that drop off ratios are consistently less than one and increasing with the size of the dividend.

Bali and Hati (1998) disregard the short-term trading hypothesis as being an accurate model because they determine that the difference between the stock drop and the dividend is simply too small to make an arbitrage profit. Specifically, Bali and Hati (1998) use a regression of price changes on dividends and the distance from the tick size below to show that there are discontinuities at exact tick multiples between the coefficient on the dividend and the fractional part of the dividend. When transaction costs are taken into consideration the discontinuity simply does not offer a valuable arbitrage opportunity. Bali and Hati (1998) do not rule out Elton and Gruber's (1970) tax clientele model because they concede that long-term investors do have tax preferences for capital gains over dividends. However Bali and Hati (1998) argue that Elton and Gruber's (1970) tax clientele is not the only model that is successfully able to explain the ex-dividend day pricing phenomenon.

Fench, Varson, and Moon (1999) admit that the existence of discrete tick sizes does seem to explain a major portion of ex-dividend day stock price behaviour. However they argue that microstructures are not entirely effective at explaining the whole ex-dividend day phenomenon because of the existence of a difference between the mean ex-dividend day drop for cash dividends and stock dividends which cannot be explained away by the model. Graham,

Michaely, and Roberts (2002) further challenge Bali and Hati's (1998) microstructure hypothesis. Specifically, Graham, Michaely, and Roberts (2002) examine ex-dividend day prices both before and after the decimalization of tick sizes and fail to find evidence in support of the microstructure hypothesis. They argue that decimalization should cause the drop in the stock price and the dividend amount to converge, however they find the opposite effect. Consequently, Graham, Michaely, and Roberts (2002) reject most of the assertions made by Bali and Hati (1998) and attribute their results (i.e. drop off ratios further from one after decimalization) to the tax clientele effect.

To further minimize the importance of the microstructure effect in explaining the behaviour of ex-dividend day stock prices, Elton, Gruber, and Blake (2003) examine a sample of close-end funds with tax-advantaged dividends. They find that contrary to the microstructure theory (i.e. the price fall is bounded by a lower bound of the dividend less one tick) that taxes cause the fund price to fall by more than the dividend amount. Furthermore, Elton, Gruber, and Blake (2003) find that the ex-dividend day behaviour changes in a manner, consistent with their original tax clientele model, over different tax regimes. Thus even though over 100 articles examining the ex-dividend day pricing phenomenon have been published since their original article, Elton, Gruber, and Blake (2003) argue that their model is still the most effective at explaining stock price changes around ex-dividend days.

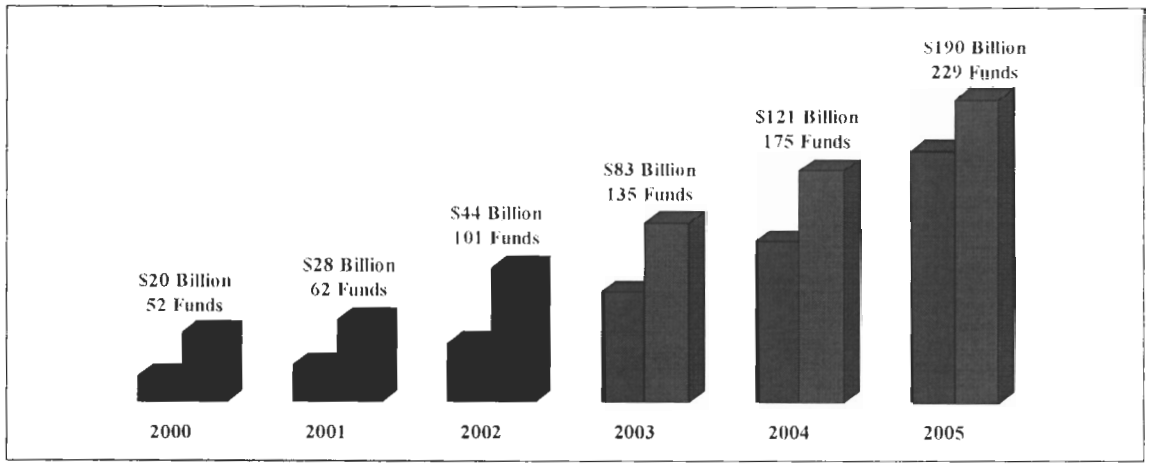
3 CANADIAN INCOME TRUST FUNDS

While ex-dividend day pricing of common stocks has received considerable attention, little attention has been given to the pricing of Canadian Income Trust Funds. Until recently, the relatively small size of the income trust sector made it impractical to examine this class of securities for empirical evidence about ex-dividend day pricing behaviour. Yet the recent growth in the size of the income trust sector now makes it a viable candidate for empirical study. Income trusts currently have a market capitalization of CDN$190 billion (2005 year-end), which is a dramatic increase from CDN$83 billion in 2003 and CDN$44 billion in 2002 (See Figure 1). REITs[10] and energy trusts[11] have been available for years; consequently the recent proliferation of income trusts is largely due to non-traditional trust companies using the income trust structure. Recent non-traditional income trust offerings include: (1) Connors Brothers Income Fund (a sardine cannery); (2) Keg Royalties Income Fund (a restaurant); (3) The Sun Gro Horticulture Income Fund (a peat moss distributor); (4) The General Donlee Income Fund (a manufacturer of precision-machined products); (5) Trimac (trucking and logistics); and (6) Swiss Water Decaffeinated Coffee Income Fund (a coffee producer). The most successful publicly offered income trust to date was the Yellow Pages Business Trust, which raised close to CDN$1 billion in the summer of 2003. Oil and Gas Trusts still make-up the largest part of the income trust sector at 45%, but (non-traditional) business trusts are increasing rapidly and now represent over 20% of the market (See figure 2).

[10] Real estate investment trusts (REITs) make investments in real estate (i.e. income producing properties and/or mortgage backed securities) and are designed to provide a similar investment structure for real estate and mutual funds provide for stocks (Wikipedia, 2005).

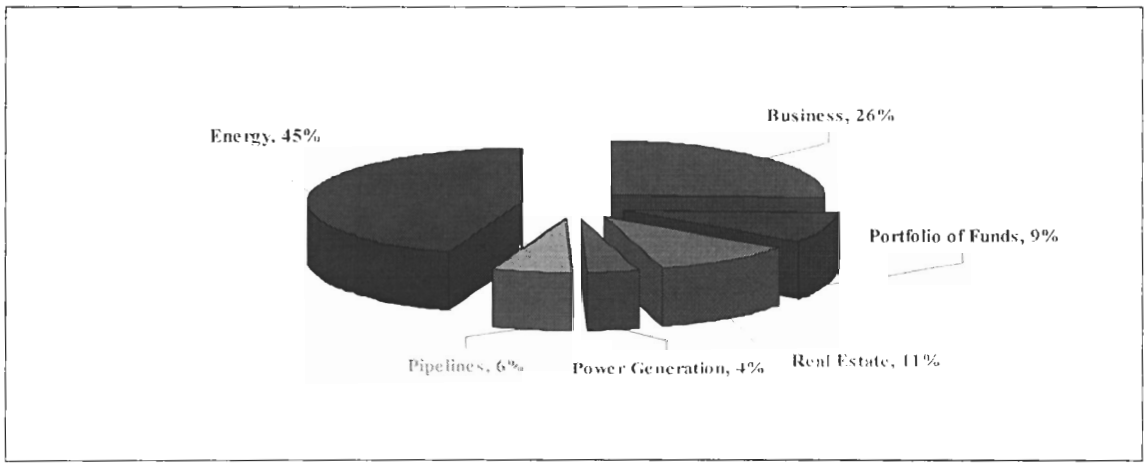
[11] Energy trusts or royalty trusts utilize natural resources such as oil and gas wells. Distribution payments to unitholders are dependant on production levels, commodity prices, royalty rates, costs and expenses and deductions (Wikipedia, 2005).

Figure 1 Canadian Income Trust Fund Sector Growth: Number of Funds and Total Market Capitalization, 2000 - 2005



Source: Goodmans. (2006). Focus on Income Fund Governance. Retrieved May 10, 2006, from http://www.goodmans.ca/pdfs/Goodmans%20IF%20Report.pdf

Figure 2 Market Value of Canadian Income Trust Funds by Industry Segment, December 2005



Source: Standard and Poor's. (2005). Industry Report Card: The Canadian Income Fund Market. Retrieved May 10, 2006, from http://www2.standardandpoors.com

The phenomenal growth of income trusts seems to be the result of three main factors. First, income trusts enable a public company (or a company seeking to go public) to achieve significant tax advantages. Second, as a result of the tech-bubble, investor confidence in equity securities is low, and income trusts provide an alternative to investors who are looking for dependable cash flows at relatively low risk. Finally, the exponential growth in the retirement

savings market has led to an increase in demand for a "yield" product (Hayward, 2002). Over the last three years the strong performance of income trust securities is largely a result of the attractiveness of income trust securities when compared to low interest rates and a poorly performing equity market. Furthermore, the inclusion of income trusts into the Toronto Stock Exchange Composite Index has indicated to some observers that income trusts are now legitimate securities further propelling investor demand (i.e. institutional investors are becoming key players).

3.1 Overview of Income Trust Structure

The main design element of an income trust is that it attempts to maximize cash distributions from a set of revenue-generating assets, with distributions being paid out to unitholders on a monthly or quarterly basis. An income trust arrangement typically involves a trust fund, which holds all shares and a substantial amount of interest-bearing debt in an active company, which has a relatively stable and predictable revenue stream. Income trust securities are issued to the public usually in the form of "units" which entitle unitholders to a share of the generated profits and represent a beneficial interest in the underlying operating company.

When compared to dividend payments under a traditional corporate structure, income trust distributions are designed to be larger because the majority of net cash flow is distributed to investors while dividend payments are made at the discretion of corporate management. Furthermore, under Canadian tax law[12], trusts can claim a deduction on all income distributed to unitholders, who in turn are liable to pay tax on that income according to their personal tax rate. The trust is able to avoid all corporate taxes leading to higher returns than would have been expected by shareholders for a similar corporation as dividends are paid on an after-corporate-

[12] Current Canadian tax law has a different treatment for: (1) corporations and trusts; (2) debt and equity claims; and (3) trust distributions and dividends (Hayward, 2003). An income trust is able to capitalize on the unintegrated portion of corporate-level income tax.

tax basis. Most observers describe a trust as a "flow through vehicle" because all profits from a trust's operating company flow directly to unitholders, who then pay the tax (National Post, 2005).

Essentially, the income trust arrangement is able to capitalize on the unintegrated portion of corporate-level income tax. This unintegrated portion can be described as the difference between corporate taxes and dividend tax credits received by shareholders. Under the current Canadian Tax Law equity securities are taxable at the investor and corporate level, while debt securities are taxable at the investor level, but not at the corporate level. In an attempt to create neutrality between debt and equity financing the tax system issues dividend tax credits to investors, to offset the amount of tax paid at the corporate level, prior to the distribution of profits to shareholders (Aggarwal and Mintz, 2004). However, dividend tax credits are based on the small business corporate tax rate[13], therefore not enough dividend tax credits are issued to investors of companies which face the highest corporate tax rate (i.e. tax neutrality/tax integration fails). Companies that face a tax rate higher than the small business corporate tax rate will find it profit-maximizing to raise capital from debt rather than equity (i.e. Modigliani-Miller fails) since interest is deductible at the corporate level.

The ability to eliminate the unintegrated corporate-level income tax is considered one of the main tax advantages of the income trust structure and the basis for the recent growth in the sector. Income trusts generally have different designs, which are dependent on the type of assets held by the operating company and the tax position of the operating company (King, 2003). Although the particular characteristics of an income trust may vary, a similar design

[13] A dividend tax credit is based on the small business corporate income tax rate (about 20 percent), thus creating tax neutrality only for small privately owned fully taxed Canadian operations. The small business tax rate applies to the first $300,000 of active business income earned by Canadian-controlled private operation (Aggarwal and Mintz, 2004).

element of all income trusts is that they are successfully able to eliminate or substantially minimize the unintegrated portion of the corporate income tax. The details surrounding the general construction of an income trust are discussed in the next section.

3.1.1 Business Trust Structure

Companies ideally suited for the income trust structure should be able to minimize the risk of non-payment interest and therefore have the following characteristics: a low ratio of fixed to variable costs; a mature company; little competition; little or no technological change; limited capital expenditure; strong consumer loyalty; low sensitivity to business cycles; and a stable revenue stream (Halpern, 2004). Recent developments in the capital market have seen a variety of businesses, with very different risk profiles, undertake the income trust structure[14]. What is of particular concern is that there have been an increasing number of companies that are not well-suited for the income trust structure that are becoming income trusts. These inappropriate trust companies are using the structure as an "exit-strategy", and to obtain an immediate inflow of funds while the demand for the security is high. The risk of having companies who do not suit the structure well is that they pollute the trust market. This has caused some observers to conclude that the income trust market is nothing but a "junk" bond market (National Post, 2005). Putting these concerns aside for now, there are essentially two ways in which an operating company can use an income trust as a financing vehicle.

The first instance where an income trust may be employed is when a private stand-alone company (either private or publicly listed) decides to go public by raising funds through an income trust vehicle instead of through a traditional initial public offering (IPO). In this case, a prospectus that provides the particular details of how the company's business operates (i.e. financial results, growth strategy, risk factors, organizational structure) must be filed. The

[14] Businesses that have converted to the income trust structure include: telephone directories, logistic companies, mattress companies, yarn companies, food companies, restaurant, and manufacturing.

second case in which an income trust may be developed is when a public company (publicly listed) decides to convert its shares into income trust units. In this case a prospectus is not required, but the company will be required to provide a detailed plan of how the company will be reorganized and how it will go about replacing shares with units.

After the initial decision to employ an income trust structure is made, the company must be restructured into two distinct entities. The first entity being an income trust[15] (for tax purposes, a mutual income trust)[16] which is responsible for raising equity and using the proceeds to either buy an operating company or to invest in an operating company. The second entity being the operating company, which receives funds from the income trust, and uses them to carry out day-to-day operations, investment decisions, and financing decisions (Jog and Wang, 2004).

The income trust fund raises equity by issuing units to investors during the IPO stage. Investors basically become both shareholders and lenders to the underlying operating company (Halpern, 2004). Under most cases the trust owns more debt than equity, thus many observers consider units to be high-risk debt or "junk" bonds because investors own both the underlying company's internal debt and equity. The company's internal debt is deductible and so the interest rate and debt level are set to minimize the amount of corporate taxes paid.

[15] Under section 132 of the Income Tax Act the income trust must fulfill the following five purposes: (1)bundling debt, royalties, and equity by securitization into a single unit; (2) issuing the units; (3) paying out the income generated by the operating firm to unitholders on a monthly or quarterly basis; (4) exercising shareholder and creditor rights in the operating entity; and (5) owning the operating assets which were formerly owned by the firm (Aggarwal and Mintz, 2004).

[16] For taxation considerations an income trust is considered to be a mutual income trust. Thus the income trust must have the following four criteria: (1) it must have Canadian-resident trustees; (2) it must limit its activities to passive investing; (3) it must act in accordance with specified conditions (its units must be qualified for distribution and it must have a minimum of 150 holders, holding 100 units, each having a value of at least $500); and (4) it must not be established or maintained primarily for non-residents (Aggarwal and Mintz, 2004)

The underlying company can also be leveraged through the use of third-party debt, which has first claim on the assets of the underlying operating company. Third-party debt makes unitholders residual claimants to the overall cash flow of the operating company (i.e. increases unitholders' risk). Thus, in the event that an operating company goes bankrupt unitholders will be the last to receive any payment from the sale of the company's assets. Furthermore, distributions to unitholders may vary (positively or negatively) as a result of fluctuations in the underlying company's cash flow.

The final consideration that a company needs to account for when it becomes an income trust is how to restructure its management. At the operations level management can be either external or internal. When the income trust sector was just beginning to experience growth, most trusts were managed through external contracts. This seemed to weaken the stability of the trust because managers were rewarded on their ability to make acquisitions with little consideration given to the quality of the acquisition (National Post, 2005). Currently, more underlying companies are managed internally with managers owning substantial interest in the trust. This is a positive development because the ownership of units by management provides a positive signal to future investors that management interests will be aligned with investor interests and also signals to future investors that management has confidence that the company will be successful at meeting or exceeding distribution and growth targets.

A trustee or board of trustees must also be created to ensure that the interests of the unitholders are being met by the underlying company[17]. The majority of trustees should not be unitholders as it could compromise the role of the trustee (i.e. a conflict of interest arises). For example, trustees may allow the company to engage in risky investment decisions in order to see high

[17] There is no direct trust law that requires management of the operating company and the board of trustees to be independent.

returns when they hold units, however the majority of unitholders may be fixed income investors who do not want to hold a high-level of risk in their portfolios. Thus it is imperative that the majority of trustees are able to be independent of the underlying operation to make certain that the needs of unitholders are being recognized.

3.1.2 A Comparison of the Business Income Trust Structure to the Traditional Corporate Structure

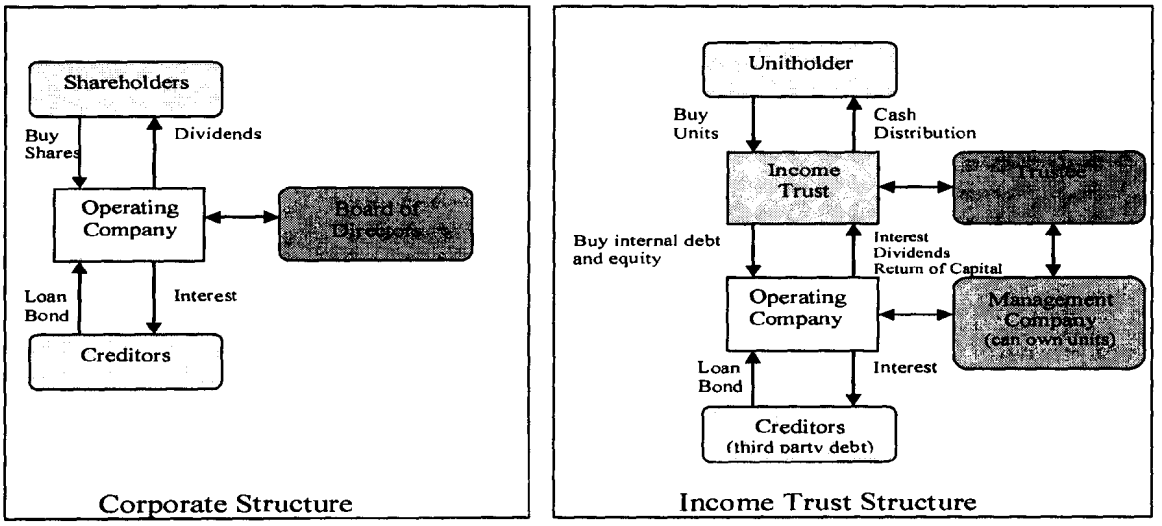
Figures 3 illustrates how an income trust differs from the more traditional corporate structure. The most significant difference is that the income trust structure involves more entities than under the corporate structure. Both forms have similar entities (boards) whose role is to align shareholder and company objectives; this being the role of the board of directors under the corporate structure and board of trustees under the income trust structure. The main structural difference is the creation of the income trust, which is mainly a legal entity necessary to obtain tax advantages.

The underlying difference between the corporate and income trust structure is that under the corporate structure shares represent equity, while under the income trust structure units represent both debt and equity in the company (King, 2003). Shares entitle shareholders to receive dividends on an after-tax basis and also give shareholders voting rights. Units entitle unitholders to receive distribution payments from pre-tax income, but few units provide unitholders with voting privileges. Consequently, many businesses may be enticed to go public via the income trust structure because of the immediate cash infusion and the ability to retain company control.

A company that wants to make a public offering could attempt to offer a fixed-income-like security to the public with the understanding that dividends will be paid out to the best of the

company's ability. However, because of recent corporate scandals and the inconsistency seen in dividend payouts, investors may be cautious about undertaking such investments. In the absence of management making a firm commitment to issuing consistent dividend payments and employing the most tax-effective way of distributing corporate earnings, a company may struggle to successfully become public (i.e. there will be minimal investor interest). Income trusts seem to be the best alternative for a company seeking go public because it enables the company to make an equity offering that resembles a fixed-income offering. The company can commit itself to make regular distributions to investors and avoid the negative tax consequences of issuing dividends (Hayward, 2002).

Figure 3 Structural differences between Income Trusts and the Traditional Corporate Structure



Sources: King, M. (2003). Income Trusts-Understanding the Issues. Bank of Canada, Working Paper 2003-2005

3.2 Income Trust Taxation

Businesses in Canada have been drawn to the income trust structure largely due to the tax benefits involved, especially compared to the traditional corporate structure. Under the latter

structure, taxes on the income are paid at both the entity level and at the shareholder level upon income distribution. Establishing an income trust structure, however, gives businesses the ability to avoid paying tax on income at the entity level, and allows it to "flow through" the income to the unitholder level (Finance Canada, 2005). This section will explain how income from income trusts is treated by Canadian tax laws and how this relates back to the tax clientele hypothesis.

3.2.1 Taxation

The operating entity of an income trust pays the trust either in the form of interest, royalty or lease payments, which are tax-deductible for the operating entity. The income trusts are able to deduct income distributions paid to unitholders, and an income trust that distributes all of its income out to unitholders would therefore not pay any income tax. Any income that is not distributed by a mutual fund income trust is taxed at a federal rate of 29% (Finance Canada, 2006).

Income trusts are also legally entitled to distribute income to unitholders in excess of their income, which provides them with another tax benefit. These distributions could be reimbursements of capital or cash flows that are associated with non-cash deductions already claimed by the trust. They are not typically taxable at the unitholder level upon distribution and have differing tax implications. On regular distributions, taxes are paid by unitholders after they receive the income in the form of trust distributions, dividends or capital gains (Finance Canada, 2006).

On receipt of the distribution from the income trust, a unitholder resident in Canada must include the dividend in his/her income plus a gross-up of 25% on the dividend received. The outcome is taxed at the marginal federal income tax rate, after which a federal dividend tax

credit of $13^{1/3}$ % of the grossed-up amount can be claimed (Finance Canada, 2006). Finally, a provincial tax and provincial dividend credit is added to the federal tax and federal dividend credit. In Canada, the average top marginal personal dividend tax rate net of the dividend credit and adjusting for the dividend gross-up is approximately 32% (Finance Canada, 2006). Dividends in comparison to capital gains are more highly taxed as the average top marginal capital gains tax rate in Canada is approximately 23% (Finance Canada, 2006).

For non-resident unitholders, there is typically a 25% withholding tax on income distributions under the Income Tax Act (ITA), but this can be reduced to 15% under the bilateral Canada-U.S. tax treaty. Certain tax-exempt investors will be able to avoid paying tax altogether on income received from the trust (Finance Canada, 2006). Tax-exempt investors consist primarily of personal RRSPs, but also include investments made by pension funds (Finance Canada, 2006).

Under the tax clientele hypotheses the drop off ratio should reflect the difference between dividend taxes and capital gain taxes faced by long term investors. Because the average top marginal dividend tax rate is 9% higher than the average top marginal capital gains tax rate the theory suggests that the ex-date price drop should be less than the dividend amount. In particular the drop of ratio should be equal to the ratio between one minus the dividend tax rate and one minus the capital gains tax rate. Consequently in Canada, given that the average top marginal tax rate for dividends is 32% and the average top marginal capital gains tax rate is 23% the drop off ratio should be around 0.88. If long-investors are relatively indifferent to dividend days when compared to other trading days, under the tax clientele hypothesis the drop off ratio should be close to one. For high dividend yield securities the stock price drop should be smaller than the dividend amount because stock holders in higher tax brackets should prefer to hold

stocks with low dividend yields (high capital gains) to avoid the high dividend tax rate they face.

4 DATA AND METHODOLOGY

4.1 Data

As the basis for conducting empirical tests on the behaviour of income trusts around distribution days, data on Canadian income trust fund distribution payments, distribution dates, returns, and daily trading volumes were collected from Yahoo Finance Canada. The sample period extended from January 1, 2000 to May 19, 2006. Income trust funds were included in the sample of 89 funds if they had sufficient data (See Appendix 1 Table 1 to Table 5). Companies that had been income trust funds for less than one year were automatically excluded from the sample due to do insufficient data. Funds that had two or more distribution payments within four days or less of each other were excluded from the sample to avoid confounding effects (Bauer, Beveridge and Sivakumar, 2002). To ensure data quality all ex-dates from Yahoo Finance Canada were crossed checked with the CFMRC TSX[18] preferred equities database. If ex-dates were not consistent across both data sources the corresponding fund was excluded from the sample. To further improve the quality of the data, observations with returns or volumes missing within a [-5, +5] day window of the ex-distribution day were eliminated from the sample. Furthermore, the sample of distribution payment events was restricted to those funds with an annual cash dividend payment of $0.50 or more, to reduce sample noise and the influence of outliers. The final sample had an average annual cash distribution payment of $1.20 and there were 2446 distribution events.

The primary concern of this paper was to examine the magnitude and direction of price and volume changes for income trust funds around distribution payment days. Thus the data was

[18] University of Toronto CHASS database

sorted by income trust sector type and distribution type, to ensure consistent results. The energy sector consisted of 25 income trust funds and 669 monthly distribution events. The average annual dividend of this group was the highest at $2.59 and the average annual yield was 11.18%. The power and pipelines sector consisted of 14 income trust funds and 426 monthly distribution events. The average annual distribution payment was $0.98 and the average annual yield was 8.21%. The REITs sector consisted of 9 income trust funds and 311 monthly distribution events. The average annual distribution payment was $1.34 and the average annual yield was 6.79%. Finally, the business trust sector was separated into two groups, one group of 6 income trust funds making quarterly distribution payments and another group of 32 making monthly distribution payments. In all there was 1003 distribution payments, with an average annualized quarterly distribution payment of $2.39 and annualized monthly distribution payment of $1.31.

To analyze the effect that fluctuations in trading volume had on the ex-distribution behaviour of income trusts and to investigate the ex-distribution price behaviour of income trust funds (Al-Aabed, 2004), the return data for each income trust fund was refined to an 11-day event window around the distribution date. Specifically, daily trading volumes, daily opening prices, and daily closing prices for five days before and five days after the distribution day (the final sample also included the distribution day) were retained for each distribution event in the sample. In addition to these 11-day event windows eleven other event windows of varying lengths were investigated to try and capture the activity of short-term traders.

4.2 Statistical Tests

4.2.1 Testing the Short-Term Trading Hypothesis

The short-term trading hypothesis argues that short-term traders (i.e. securities dealers who face equal effective tax rates on dividends and capital gains) may profit from positive (or negative) ex-distribution day returns by executing various short-term dividend capture strategies. Following the work of Al-Aabed (2004) and Koski and Scruggs (1998) statistical tests focused on analyzing abnormal trading volumes were based on the data sorted into the various event windows. Event windows varied in length to try and capture the different trading strategies of short-term traders.

The normal trading period was defined as all trading days not included in the longest (i.e. eleven day) event window (Koski and Scruggs, 1998). The mean daily trading volume ($\overline{V}_{normal(i)}$) and standard deviation ($\sigma_{normal(i)}$) were computed for the normal trading period of each income trust fund (i = 1 to 89). For each event day within the each event window an abnormal trading volume $AV_{t,i}$ was computed. Abnormal trading volumes for a given income trust fund were defined as (Al-Aabed, 2004):

$$AV_{t,i} = V_{t,i} - \overline{V}_{normal(i)}. \quad (1)$$

Where t denotes the event day within the 11-day event window (i.e. t_{-5}, t_{-4},...,t_0,...,t_{+4}, t_{+5}) and i distinguishes the income trust fund. Two further statistics, percentage abnormal volume ($\%AV_{t,i}$) and standardized abnormal volume ($SAV_{t,i}$), were computed to supplement the weak descriptive power of the abnormal volume statistic. Percentage abnormal volume was defined as (Koski and Scruggs, 1998):

$$\%AV_{t,i} = \frac{AV_{t,i}}{\overline{V}_{normal(i)}}. \quad (2)$$

Similarly, standardized abnormal volume was defined as (Koski and Scruggs, 1998):

$$SAV_{t,i} = \frac{AV_{t,i}}{\sigma_{normal(i)}}. \quad (3)$$

To determine the importance that abnormal trading volumes had on the ex-distribution day behaviour of income trust funds, both the mean percentage abnormal volume ($\%\overline{AV}_{t,i}$) and the mean standardized abnormal volume ($\overline{SAV}_{t,i}$) were calculated for each event day within the twelve different event windows. These two statistics were defined by the following two equations where n represents the number of ex-dividend days (Al-Aabed, 2004):

$$\%\overline{AV}_{t,i} = \frac{1}{n}\sum_{i=1}^{n}\%AV_{t,i} \quad (4)$$

and

$$\overline{SAV}_{t,i} = \frac{1}{n}\sum_{1=1}^{n}SAV_{t,i}. \quad (5)$$

To determine the statistical significance of both the mean percentage abnormal volume and the mean standardized abnormal volume, a t-statistic[19] was derived for each income trust sector.

Under the null hypothesis trading activity was assumed to not be statistically different from the trading volume exhibited during the normal market period (i.e. $H_o : \overline{SAV}_{t,i} = 0$). Consequently, a true null hypothesis implies that short-term trading considerations (i.e. price fluctuations around the distribution date) were not influential to an investor's decision-making. In contrast,

[19] Following the work of Koski & Scruggs (1998) the t-statistic was derived according to: $t_{test} = \frac{\overline{SAV}_{t,i}}{\sigma(\overline{SAV}_{t,i}/\sqrt{n})}$ were n represents the number of income trusts.

one can infer that a true null hypothesis supports the tax clientele hypothesis, which assumes that investors make tax-motivated, long-term investment decisions.

Because of the heteroskedasticity associated with unadjusted trading volume, the turnover (i.e. number of units traded) of trust units was also analyzed. Specifically, the turnover measure used in testing for abnormal ex-date and cum-day volume was the adjusted volume times the market price divided by the market value. The turnover measure was calculated for ex-dates, cum-days, and for other trading days. Using averages across funds and sectors, tests for abnormal trading activity were conducted by taking the percentage differences of the cum-day and ex-date turnover from the turnover on all other trading days. This percentage difference was then evaluated using a t-statistic to determine if it was statistically different from zero (Blazenko, Poitras, and Chung, 2004).

4.2.2 Testing the Tax clientele Hypothesis

Following the work of Al-Aabed (2004) and Elton, Gruber and Blake (2003) statistical tests focused on analyzing the effects of price fluctuations around the distribution day were based on the data sorted into the twelve different event windows. Under the assumptions of no transaction costs, risk neutral investors and no short-term trading, ex-distribution day income trust pricing can theoretically be accounted for by analyzing the marginal tax rate of a representative long-term investor. Given that distribution payments are taxed differently than capital gains, the equilibrium income trust price should only drop by the distribution amount (net of taxes) on the ex-distribution day. That is in equilibrium a representative long-term investor should be indifferent between selling an income trust share at the cum-date price P_c or at the ex-date price P_x.

The price drop-off ratio (DOR) statistic and the incremental ex-date return statistics were used to investigate the tax clientele hypothesis. The DOR is expected to equal the relative tax differential between dividends and capital gains while the incremental ex-date return depends on both the dividend yield and the difference in tax rates (Elton and Gruber, 1970):

$$DOR_{t,i} = \frac{P_{c(t)} - P_{x(t)}}{D_{i(t)}} = \frac{1-t_d}{1-t_g} \rightarrow R = \frac{P_{c(t)} + D_{i(t)} - P_{b(t)}}{P_{c(t)}} = \frac{t_d - t_g}{1-t_g}\frac{D_{i(t)}}{P_{c(t)}} \quad (6)$$

where $P_{c(t)}$ represents the price of a share before the distribution date (i.e. cum-dividend price), $P_{x(t)}$ represents the price of the income trust the day of the distribution (i.e. ex-dividend price), $D_{i(t)}$ represents the distribution payment amount, t_d represents a marginal long-term investor's effective tax rate on dividend income, t_g represents a marginal long-term investor's effective tax rate on capital gains, and where R represents the incremental ex-distribution return that is earned by selling on the ex-distribution day rather than on the prior day.

For each income trust, an average DOR was computed by taking an equally weighted average of the DOR's for each distribution day. Then an average DOR was computed for each income trust sector. The incremental ex-distribution day return statistic was computed in a similar manner. The t-statistic was used to determine the statistical significance of both the DOR and R parameters, where the degrees of freedom were determined by the number of funds in the sub-sample. That is each income trust fund was treated as a random variable and statistical tests were conducted on the averages across all income trust funds (Blazenko, Poitras, and Chung, 2004). Since distribution payments are fully taxable and higher than capital gains taxes (i.e. $t_d > t_g$), the tax clientele hypothesis requires:

$$DOR_{t,i} = \frac{P_{c(t)} - P_{x(t)}}{D_{i(t)}} = \frac{1-t_d}{1-t_g} < 1. \quad (9)$$

and

$$R = \frac{P_{c(t)} + D_{i(t)} - P_{b(t)}}{P_{c(t)}} = \frac{t_d - t_g}{1 - t_g} \frac{D_{i(t)}}{P_{c(t)}} > 0 \qquad (10)$$

The implication of low distribution payments and income trust volatility unrelated to the distribution payment may produce significant statistical problems such as heteroskedasticity, for the computed DOR statistics. However these factors may be more detrimental if stock returns were used. Unlike stocks, which have varying market prices and dividend payments through time, income trusts tend to be more stable in market value and tend to make consistent distribution payments that are much higher on an annualized basis. The R statistic avoids the statistical problems associated with the DOR statistics however use of the DOR statistic provides much more intuitive results.

5 EMPIRICAL RESULTS

Of primary relevance for this paper is the observation that the average drop-off ratio was significantly less than one. In fact numerous drop-off ratios for the longer trading windows were negative suggesting that for these longer windows the prices of the trust units were unaffected by the dividend payment and were generally just affected by normal market movements. The more relevant results seem to be captured by the trading windows in and around the ex-date, particularly one day before and five days after, one day before and three days after, one day before and one day after, and one day before and on the ex-date. Table 7 presents the aggregate income trust results, this sample may provide the best insight into the tax clientele and short-term trading hypothesis as approximately 2446 distribution days were analyzed. The drop-off ratio both one day before and one day after and one day before and on the ex-date were less than one at 0.5292 and 0.4659 respectively. These results tend to provide evidence in favour of the tax clientele hypothesis, since dividends are taxed more heavily than capital gains. The results are confirmed by the significantly positive ex-date returns for both windows. The incremental ex-date return characterizes the return earned by selling on the ex-date rather than on the cum-date, and since income tax rates on dividend income exceeds capital gains income, the ex-date return according to the tax clientele hypothesis must be positive in order to compensate long-term investors for the tax penalty (Blazenko, Poitras, and Chung, 2004).

The measures of abnormal volume which were to serve as a proxy for dividend capture trading, fail to provide any conclusive evidence that short-term trading was occurring. There does seem

to be some abnormal activity occurring both five days before the ex-date, but similar results for ex-date trading were neither of the predicted sign nor of significance. Thus the results from the aggregate sample seem to be comforting to the tax clientele hypothesis since the regular distribution payments of income trusts make them prime candidates for the hypothesis to be applied. Since dividends are paid out on a monthly basis they may simply be too small for short-term arbitrageurs to recuperate any profit after transaction costs are taken into consideration. Furthermore it should be noted that pension funds are restricted from holding more than five percent of the units of any business income trust fund (funds that compose the majority of the aggregate sample), because of the potential for unlimited liability in the case of default (Finance Canada, 2006). Thus given the substantial ownership of income trust units by retail investors as opposed to institutional investors it is unlikely that substantial short-term trading is occurring.

Tables 8 through 18 provide a comprehensive breakdown of the computed results for the different income trust sectors. Tables 8 and 9 provide the results for the business trusts (monthly) sector. The DOR ([+1, 0]) was significantly less than one at 0.15746 lending support to the market microstructure hypothesis since the drop off ratio was too low to reflect the difference between dividend taxes and capital gain taxes faced by long term investors, as predicted by the tax clientele hypothesis. In further support of the market microstructure hypothesis was the fact that drop-off ratio for each individual business income trust (monthly) was strictly less than one and on average higher for higher dividend payouts. The measure for abnormal volume failed to show any evidence of short-term trading. Table 10 and 11 further lend support to the market microstructure hypothesis as the average DOR ([-1, 0]) was extremely low at 0.02376. In this case the average REIT dividend payment may have simply been too small for any short-term traders to make an arbitrage profit.

The dividends paid out by the business income trusts (quarterly) and energy trusts were higher in comparison to the other income trust sectors making it increasingly likely that dividend capture trading would be occurring (Table 12, 13, 14, 15). This is supported by the fact that the DOR ratios for the business trusts (quarterly) and energy trusts were close to one both one day before and one day after and one day before and on the ex-date (0.87240, 0.60823, 1.23563, 0.99788). The DOR results for the business trusts (quarterly) seem to support the tax clientele hypothesis as the average DOR for the marginal long-term investor was expected to be around 0.88. The DOR ratios for energy trusts on the other hand lend support to the short-term trading hypothesis which predicts that arbitrageurs are actively engaged in trading units in around the ex-date causing any difference in the drop-off ratio to be arbitraged away returning the ratio to its market equilibrium of one. If fact the results for dividend capture trading were also supported by the abnormal volume statistics which were positive and significant for energy trusts in and around the ex-date.

Unlike the results for the other income trusts the results for the power and pipelines sector (Table 16 and 17) were difficult to interpret as dividend payouts were quite low but the DOR (0.52614) was higher in comparison to both the business trusts (monthly) sector and to the REITs. The higher DOR and significantly positive incremental return statistics are most comforting to the tax clientele hypothesis as the low monthly dividends seem to have been too low for dividend capture trading.

Table 18 and Table 19 further analyze the affects of the distribution size by breaking the aggregate sample into two groups, one high distribution group and one low distribution group. The results from this analyze tend to support both the tax clientele hypothesis and the market microstructure hypothesis. DOR results for the high distribution funds for one day before and one day after, and one day before and on the ex-date were 0.8723 and 0.7225 respectively.

These results tend to support the tax clientele hypothesis as it was expected that the different tax treatments would lead to a drop-off ratio of 0.88. However, similar DOR results for the low distribution funds were significantly less than one at 0.1783 and 0.2035 respectively, which supports the market microstructure hypothesis. Abnormal volume statistics provided some support for the short-term trading hypothesis as SAV both before and after the ex-date were positive for high distribution funds, but the results were not statistically different from low distribution funds. The arbitrage potential around the ex-dividend day of low distribution stocks may have simply not be large enough to incent a significant number of investors to engage in short-term transactions on a regular basis. Thus no hypothesis can be disregarded as a relevant explanation of the ex-date behaviour of Canadian income trust funds.

6 CONCLUSION

This paper examines a sample of 89 Canadian Income Trust Funds to test the relevance of two possible explanations of ex-dividend day pricing: the tax clientele hypothesis, which highlights the marginal tax rates of long-term investors; and the short-term hypothesis, which relies on dividend capture activities of securities dealers and other short-term traders. Canadian Income Trust Funds are well suited for studying these two hypotheses due to the tax treatment of the income distributions and to the size and regularity of the dividend payments. The empirical results for the aggregate sample and the high distribution sub-sample provide evidence in favour of the tax clientele hypothesis, while the empirical results for funds making low distributions tend to support the market microstructure hypothesis. Furthermore the highly marketable and high distribution energy funds seemed to further show evidence in favour of the short term trading hypothesis. As such, it can be concluded that the tax clientele hypothesis, the short-term trading hypothesis, and the market microstructure hypothesis all play a role in explaining the ex-distribution price behaviour of Canadian Income Trust Funds.

APPENDIX 1

Table 1 - Descriptive Statistics of Energy Trusts (Monthly Distribution Payments), January 2000 – May 2006 *

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Advantage Energy	AVN	$1,330,907,711	$3.000	14.54%	$0.480000	33
ARC Energy Trust	AET	$5,465,044,650	$2.400	8.50%	$0.168281	64
Baytex Energy Trust	BTE	$1,450,432,334	$2.160	8.98%	$0.155938	32
Bonavista Energy Trust	BNP	$3,152,858,489	$3.960	11.08%	$0.532500	32
Crescent Point Energy Trust	CPG	$1,282,111,731	$2.400	10.90%	$0.299667	30
Daylight Energy Trust	DAY	$767,465,938	$1.680	14.42%	$0.142353	17
Enerplus Resources Fund	ERF	$7,154,066,738	$5.040	8.15%	$0.734706	34
Enterra Energy Trust	ENT	$678,365,948	$1.944	13.98%	$0.263571	28
Esprit Energy Trust	EEE	$801,800,397	$1.800	14.77%	$0.190556	18
Fairborne Energy Trust	FEL	$666,044,723	$1.560	10.91%	$0.122500	8
Focus Energy Trust	FET	$870,537,024	$2.280	9.87%	$0.282917	24
Freehold Royalty Trust	FRU	$956,115,830	$2.360	11.46%	$0.287419	31
Harvest Energy Trust	HTE	$3,431,314,602	$4.560	13.41%	$0.438929	28
Ketch Resources	KER	$610,410,323	$1.560	14.29%	$0.153636	11
NAL Oil & Gas Trust	NAE	$1,462,582,454	$2.280	11.41%	$0.327879	33
Nav Energy Trust	NVG	$314,093,366	$1.200	14.25%	$0.226538	26
Paramount Energy Trust	PMT	$1,663,630,947	$2.880	14.96%	$0.394516	31

Table 1 - Descriptive Statistics of Energy Trusts (Monthly Distribution Payments), January 2000 – May 2006 *

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Penn West Energy Trust	PWT	$6,982,196,803	$4.080	9.37%	$0.206875	16
Peyto Energy Trust	PEY	$2,717,783,941	$1.680	7.02%	$0.162813	32
PrimeWest Energy Trust	PWI	$2,656,363,734	$4.320	13.09%	$0.607813	32
Provident Energy Trust	PVE	$2,508,001,602	$1.440	10.29%	$0.276471	34
Sequoia Oil & Gas Trust	SQE	$592,742,405	$1.920	10.79%	$0.160000	10
Shiningbank Energy Income Fund	SHN	$1,674,559,100	$3.000	13.30%	$0.473636	33
Vermilion Energy Trust	VET	$2,055,833,675	$2.040	6.22%	$0.338788	33
Zargon Energy Trust	ZAR	$493,817,520	$2.160	6.63%	$0.157188	32

* Market capitalization was for the end-of-sample value. The data source used was Yahoo Finance Canada; funds with less then one year of data were excluded from the sample.

Table 2 - Descriptive Statistics of REITs (Monthly Distribution Payments)

January 2000 – May 2006*

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Boardwalk Real Estate	BEI	$1,111,076,221.86	$1.260	4.87%	$0.480000	27
Calloway Real Estate	CWT	$1,590,596,880.00	$1.450	5.95%	$0.168281	29
Canadian Apartment Properties Real Estate	CAR	$919,907,657.88	$1.080	6.42%	$0.155938	33
Cominar Real Estate	CUF	$681,747,579.76	$1.234	6.25%	$0.532500	36
Dundee Real Estate	D	$649,570,033.80	$2.196	7.78%	$0.299667	31
InnVest Real Estate	INN	$773,094,922.85	$1.125	9.37%	$0.142353	31
IPC US Real Estate	IUR	$515,744,464.60	$0.884	8.75%	$0.734706	30
Northern Property Real Estate	NPR	$298,171,481.99	$1.313	6.19%	$0.263571	31
Riocan Real Estate	REI	$298,171,481.99	$1.290	6.08%	$0.190556	34
Summit Real Estate	SMU	$1,914,583,042.95	$1.570	6.28%	$0.122500	29

* Market capitalization was for the end-of-sample value. The data source used was Yahoo Finance Canada; funds with less then one year of data were excluded from the sample.

Table 3 - Descriptive Statistics of Power and Pipelines (Monthly Distribution Payments)

January 2000 – May 2006*

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Algonquin Power Income Fund	APF	$810,589,700.05	$0.919	9.05%	$0.152581	31
Boralex Power Income Fund	BPT	$495,582,021.88	$0.900	8.34%	$0.152258	31
Clean Power Income Fund	CLE	$248,466,225.59	$0.700	12.13%	$0.150333	30
Enbridge Income Fund	ENF	$264,643,750.00	$0.919	6.94%	$0.148333	30
Fort Chicago Energy Partners L.P.	FCE	$1,632,704,734.60	$0.930	8.12%	$0.138621	29
Gaz Metro Limited Partnership	GZM	$2,366,593,779.46	$1.240	7.25%	$0.340000	10
Great Lakes Hydro Income Fund	GLH	$627,880,101.20	$1.240	6.85%	$0.203793	29
Innergex Power Income Fund	IEF	$344,284,144.65	$0.965	7.57%	$0.150000	28
Inter Pipeline Fund	IPL	$2,025,386,262.31	$0.780	7.88%	$0.064444	27
Keyera Facilities Income Fund	KEY	$1,433,962,911.75	$1.428	7.05%	$0.110000	31
Macquarie Power & Infrastructure	MPT	$288,089,217.75	$1.000	9.71%	$0.152258	32
Northland Power	NPI	$899,835,889.51	$1.050	7.45%	$0.171667	36
Pembina Pipeline Income Fund	PIF	$2,302,945,090.35	$1.140	6.94%	$0.172258	31
Taylor NGL Limited Partnership	TAY	$465,060,239.40	$0.720	7.35%	$0.084286	21
TransAlta Power L.P.	TPW	$655,809,700.00	$0.795	9.19%	$0.138000	30

* Market capitalization was for the end-of-sample value. The data source used was Yahoo Finance Canada; funds with less then one year of data were excluded from the sample.

Table 4 - Descriptive Statistics of Business Trusts (Quarterly Distribution Payments)

January 2000 – May 2006*

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Fording Canadian Coal Trust	FDG	$6,504,350,555.00	$5.600	14.33%	$0.806000	10
Halterm Income Fund	HAL	$79,517,572.50	$1.290	13.16%	$0.134167	12
North West Company Fund	NWF	$634,558,100.00	$2.160	5.42%	$0.456667	12
Public Storage Canadian Properties	PUB	$114,508,962.50	$1.800	8.91%	$0.450000	7
TimberWest Forest Corp.	TWF	$1,093,501,041.22	$1.078	7.71%	$0.270000	11
Westshore Terminals Income Fund	WTE	$791,787,498.75	$1.160	10.56%	$0.230000	10

* Market capitalization was for the end-of-sample value. The data source used was Yahoo Finance Canada; funds with less then one year of data were excluded from the sample.

Table 5 - Descriptive Statistics of Business Trusts (Monthly Distribution Payments)

January 2000 – May 2006*

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
AltaGas Income Trust	ALA	$1,577,284,082.40	$1.980	6.73%	$0.248519	27
Avenir Diversified Income Trust	AVF	$574,571,209.44	$1.440	7.33%	$0.120370	27
Badger Income Fund	BAD	$190,077,114.00	$1.260	7.29%	$0.132800	25
Bell Nordiq Income Fund	BNQ	$576,305,286.62	$1.140	6.44%	$0.165806	31
BFI Canada Income Fund	BFC	$1,590,740,802.84	$1.698	6.15%	$0.228065	31
Big Rock Brewery Income Trust	BR	$91,443,207.60	$1.320	7.65%	$0.166364	33
Cathedral Energy Services Income Trust	CET	$352,197,588.60	$0.720	5.93%	$0.047667	30
Chemtrade Logistics Income Fund	CHE	$432,639,702.80	$1.680	17.59%	$0.260968	31
Connors Bros. Income Fund	CBF	$497,197,224.72	$1.350	12.42%	$0.220645	31
Consumers' Waterheater Income Fund	CWI	$595,428,657.98	$1.180	8.43%	$0.184194	31
Contrans Income Fund	CSS	$274,550,694.00	$1.250	10.32%	$0.201613	31
DirectCash Income Fund	DCI	$89,065,614.00	$1.260	8.22%	$0.221290	31
Entertainment One Income Fund	EOF	$99,230,753.75	$0.900	5.94%	$0.095000	8
Great Lakes Carbon Income Fund	GLC	$267,017,890.80	$1.275	12.50%	$0.218387	31
Home Equity Income Trust	HEQ	$189,277,998.00	$1.062	8.30%	$0.172258	31

Table 5 - Descriptive Statistics of Business Trusts (Monthly Distribution Payments)

January 2000 – May 2006*

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution	Average Annual Yield	Average Sample Distribution	# of Distribution Observations
Medisys Health Group Income Fund	MHG	$84,162,818.00	$0.945	5.77%	$0.076250	15
Movie Distribution Income Fund	FLM	$191,383,364.70	$1.150	12.43%	$0.172667	30
Mullen Group Income Fund	MTL	$1,317,126,624.00	$1.80	5.28%	$0.116667	12
Newalta Income Fund	NAL	$1,069,355,115.20	$2.220	7.08%	$0.327879	33
Noranda Income Fund	NIF	$498,750,000.00	$1.020	8.46%	$0.157692	26
Oceanex Income Fund	OAX	$129,130,000.00	$1.124	7.97%	$0.187941	34
Parkland Income Fund	PKI	$221,032,490.90	$2.160	8.82%	$0.297273	33
Peak Energy Services Trust	PES	$322,357,329.22	$1.080	8.27%	$0.124167	24
Phoenix Technology Income Fund	PHX	$226,124,933.58	$0.780	8.01%	$0.070909	21
Sleep Country Canada Income Fund	Z	$380,112,903.42	$1.350	5.16%	$0.208065	31
Sun Gro Horticulture Income Fund	GRO	$144,911,340.00	$0.900	13.72%	$0.165161	31
Superior Plus Income Fund	SPF	$1,775,800,890.00	$1.560	13.02%	$0.387879	33
Swiss Water Decaffeinated Coffee Income Fund	SWS	$64,749,440.00	$0.850	8.48%	$0.212121	33
TransForce Income Fund	TIF	$1,400,925,393.61	$1.620	8.76%	$0.197419	31
Tree Island Wire Income Fund	TIL	$199,019,072.00	$1.500	18.47%	$0.228710	30
Trinidad Energy Services	TDG	$1,445,513,777.48	$1.380	7.62%	$0.119032	31

Table 5 - Descriptive Statistics of Business Trusts (Monthly Distribution Payments)

January 2000 – May 2006*

Income Trust Name	Trading Symbol	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Wellco Energy Services Trust	WLL	$182,631,168.75	$1.080	8.71%	$0.155152	33
Yellow Pages Income Fund	YLO	$7,913,977,086.40	$1.030	6.42%	$0.078710	31

* Market capitalization was for the end-of-sample value. The data source used was Yahoo Finance Canada; funds with less then one year of data were excluded from the sample.

Table 6 - Descriptive Statistics of all Income Trust Data

January 2000 – May 2006*

Income Sector	Average Mkt. Cap. ($)	Average Annual Distribution Payment	Average Annual Yield	Average Sample Distribution Payment	# of Distribution Observations
Energy	$2,176,452,285.358	$2.548	11.182%	$0.296062	702
REITs	875,266,376.768	$1.340	6.79%	$0.207617	311
Power and Pipelines	$990,788,917.900	$0.982	8.121%	$0.155255	426
Business (Mth.)	$756,487,623.479	$1.305	8.900%	$0.181	941
AGGREGATE	**$1,241,914,332.811**	**$1.642**	**9.256%**	**$0.216**	**2,380**

* Market capitalization was for the end-of-sample value. The data source used was Yahoo Finance Canada; funds with less then one year of data were excluded from the sample.

APPENDIX 2

Table 7 - Aggregate Income Trust Fund Results, January 2000 - May 2006*

N = 89	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	-0.5699	-0.6879	-0.4179	-0.4550	-0.2954	-0.3771	-0.0927	-0.1592	0.3473	0.2018	0.5292	0.4659
(t value for =1)	*(-0.0885)*	*(-0.0996)*	*(-0.0896)*	*(-0.1063)*	*(-0.0753)*	*(-0.0843)*	*(-0.0704)*	*(-0.0962)*	*(-0.0371)*	*(-0.0512)*	*(-0.3040)*	*(-0.0495)*
Average R	0.0198	0.0204	0.0196	0.0213	0.0161	0.0160	0.0153	0.0168	0.0092	0.0100	0.0086	0.0105
(t value for =0)	*(0.1726)*	*(0.1998)*	*(0.2205)*	*(0.2475)*	*(0.1709)*	*(0.1604)*	*(0.1645)*	*(0.2350)*	*(0.1059)*	*(0.1197)*	*(0.1331)*	*(0.1998)*
Ex-Date Turnover	0.0025	0.0028	0.0025	0.0023	0.0025	0.0028	0.0025	0.0023	0.0025	0.0028	0.0025	0.0023
Cum-Date Turnover	0.0031	0.0031	0.0031	0.0031	0.0028	0.0028	0.0028	0.0028	0.0028	0.0027	0.0027	0.0027
% Ex-Date Abnormal Volume	0.1018	0.0838	0.0944	0.0398	0.1018	0.0838	0.0893	0.0398	0.1018	0.0838	0.0944	0.0398
% Cum-Date Abnormal Volume	0.03566	0.3566	0.3566	0.3566	0.1980	0.1980	0.1980	0.1980	0.1996	0.1770	0.18930	0.1826
SAV Ex-Date	0.08382	0.0635	0.0633	0.0324	0.08382	0.0633	0.0594	0.0324	0.08382	0.0633	0.0659	0.0292
(t value for =0)	*(0.0291)*	*(0.0192)*	*(0.0235)*	*(0.0087)*	*(0.0291)*	*(0.0235)*	*(0.0216)*	*(0.0087)*	*(0.0291)*	*(0.0235)*	*(0.0245)*	*(0.0078)*
SAV Cum-Date	0.2439	0.2439	0.2439	0.2439	0.1395	0.1395	0.1395	0.1395	0.1237	0.1237	0.1237	0.1237
(t value for =0)	*(0.0702)*	*(0.0702)*	*(0.0702)*	*(0.0702)*	*(0.0347)*	*(0.0347)*	*(0.0347)*	*(0.0347)*	*(0.0378)*	*(0.0378)*	*(0.0378)*	*(0.0378)*

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 8 - Business Trust (Monthly) Results, January 2000 - May 2006*

N = 33	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	-0.5778	-0.8992	-0.7805	-0.62249	-0.44336	-0.62060	-0.47917	-0.38323	0.17371	-0.0477	0.07067	0.15746
(t value for =1)	*(-4.7461)*	*(-4.684)*	*(-5.168)*	*(-6.925)*	*(-5.3422)*	*(-4.3247)*	*(-4.5655)*	*(-7.3313)*	*(-3.4422)*	*(-3.1615)*	*(-3.4736)*	*(-6.7877)*
Average R	0.0211	0.0208	0.0209	0.02102	0.01823	0.01601	0.01568	0.01635	0.011535	0.01024	0.0103	0.0111
(t value for =0)	*(7.9547)*	*(10.4193)*	*(14.2171)*	*(13.0526)*	*(9.16393)*	*(7.22473)*	*(8.25075)*	*(10.8396)*	*(6.15479)*	*(5.91203)*	*(10.2510)*	*(15.2456)*
Ex-Date Turnover	0.0022	0.0022	0.0020	0.00098	0.00228	0.00212	0.0020	0.00196	0.00228	0.00221	0.0020	0.00196
Cum-Date Turnover	0.0032	0.0032	0.0032	0.0032	0.00248	0.00248	0.00248	0.00248	0.00241	0.00241	0.00241	0.00241
% Change in Ex-Date Abnormal Volume	0.0576%	-0.028%	0.0387%	-0.065%	0.0733%	-0.016%	0.0244%	-0.065%	0.0733%	-0.0459%	0.0648%	-0.0768%
% Change in Cum-Date Abnormal Volume	0.3912%	0.3912%	0.3912%	0.3604%	0.1030%	0.0984%	0.0984%	0.1408%	0.1928%	0.1578%	0.1578%	0.1578%
SAV Ex-Date	0.0376	-0.0196	0.02865	-0.02785	0.03904	-0.00990	0.01710	-0.02785	0.03904	-0.0220	0.03819	-0.02785
(t value for =0)	*(0.8646)*	*(-0.411)*	(0.6567)	*(-0.4717)*	*(0.88164)*	*(-0.2202)*	*(0.36390)*	*(-0.4717)*	*(0.88164)*	*(-0.5097)*	*(0.85456)*	*(-0.4717)*
SAV Cum-Date	0.2187	0.2187	0.2187	0.2071	0.06025	0.05654	0.05654	0.07451	0.12040	0.09217	0.09217	0.09217
(t value for =0)	*(4.0512)*	*(4.0512)*	(4.0512)	*(3.7809)*	*(1.24778)*	*(1.20267)*	*(1.20267)*	*(1.49617)*	*(1.98818)*	*(1.50377)*	*(1.50377)*	*(1.50377)*

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 9 - Business Trusts (Monthly) for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R(close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
ALA	-0.2485	27	0.28888	-1.87583	0.01005	3.31539	0.37928	2.77425	0.78357	3.17349
AVF	0.1204	27	0.13295	-3.93510	0.00723	1.36060	-0.12636	-1.23695	-0.00790	-0.06834
BAD	0.1328	25	0.48829	1.24780	0.00650	2.56014	0.18818	5.14838	0.17702	4.01682
BNO	0.1658	31	0.66803	-1.09510	0.00661	2.76947	-0.17558	-1.56355	0.46794	1.53022
BFC	0.2281	31	0.64714	-0.92797	0.00568	2.33369	-0.27844	-1.47241	-0.21881	-1.59352
BR	0.1664	33	0.14336	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CET	0.0477	30	-0.80929	-2.29998	0.01686	3.35698	0.48135	1.20310	0.43852	2.19945
CHE	0.2610	31	0.53078	2.32871	0.01381	4.52318	0.17600	1.21762	0.06171	0.23626
CBF	0.2206	31	1.57174	0.80346	0.00031	0.05130	0.18895	0.74085	0.12530	1.23771
CWI	0.1842	31	0.42912	-3.07908	0.00818	4.45303	-0.25071	-2.33596	0.01345	0.08330
CSS	0.2016	31	0.44724	-3.18898	0.01071	4.37557	-0.31381	-4.03146	-0.21183	-1.85122
DCI	0.2213	31	0.41220	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EOF	0.0950	8	0.65909	-2.60870	0.00571	2.13972	-0.37885	-3.39921	-0.41016	-3.41670
GLC	0.2184	31	0.10346	-9.70264	0.01925	7.19158	-0.24898	-5.16954	-0.13740	-1.44527
HEQ	0.1723	31	0.20292	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MHG	0.0763	16	-0.55357	-1.47399	0.00816	1.36045	-0.02803	-0.23454	-0.02423	-0.20307
FLM	0.1727	30	0.16261	-4.50779	0.01383	5.93560	-0.09595	-0.90127	-0.17226	-1.39931
MTL	0.1167	12	-7.13730	-1.92007	0.01321	3.03154	0.02034	0.26103	0.20201	0.99413
NAL	0.3279	33	0.54254	-3.12379	0.01695	5.52424	1.50090	4.20094	1.18667	5.53860
NIF	0.1577	26	0.35641	-2.02920	0.00834	2.99418	-0.21890	-5.06702	-0.21383	-3.85848
OAX	0.1879	34	0.06513	-3.14560	0.00794	4.62507	0.09380	0.72456	0.10956	1.12833
PKI	0.2973	33	-0.15294	-2.96502	0.01468	4.34924	-0.02364	-0.26072	0.60609	2.48683
PES	0.1242	24	0.16924	-1.61613	0.01265	3.64001	-0.08171	-1.90263	0.01997	0.25161
PHX	0.0709	22	0.72197	-0.53416	0.00355	0.86076	-0.08160	-2.89197	-0.02740	-0.66607
Z	0.2081	31	0.05090	-1.55814	0.01469	3.85112	-0.16606	-1.01882	-0.16227	-2.08782
GRO	0.1652	31	0.05978	-4.66733	0.01871	6.45959	-0.22503	-8.25927	-0.00685	-0.05501
SPF	0.3879	33	0.53362	2.97077	0.00807	3.13333	0.42635	1.03729	0.75671	1.41037
SWS	0.2121	33	0.07281	-4.39049	0.01384	6.52125	-0.17765	-2.73441	-0.11252	-1.48157

Table 9 - Business Trusts (Monthly) for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
TIF	0.1974	31	0.41034	-2.76281	**0.01137**	**4.79673**	**0.05771**	**0.42558**	0.17927	0.73935
TIL	0.2287	31	0.51621	-2.29544	**0.01336**	**4.02379**	**-0.13998**	**-1.84153**	0.48227	0.74346
TDG	0.1190	31	0.27792	-1.79383	**0.01112**	**2.66095**	**-0.33725**	**-3.25032**	-0.05732	-0.38338
WLL	0.1552	33	**0.56927**	**-2.49466**	**0.00883**	**2.48834**	0.01456	0.18816	0.00935	0.09974
YLO	0.0787	31	**1.05376**	**-4.23055**	-0.00029	-0.21826	**-0.11371**	**-6.26516**	**-0.06729**	**-2.31249**

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 10 - REITs Results, January 2000 - May 2006*

N = 10	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	-0.7749	-0.9322	-0.6164	-0.61730	-0.65634	-0.81371	-0.48760	-0.49876	-0.13576	-0.29118	0.02469	0.02376
(t value for =1)	*(-6.7403)*	*(-8.9149)*	*(-8.8050)*	*(-8.4801)*	*(-9.00291)*	*(-12.937)*	*(-10.942)*	*(-11.010)*	*(-7.493)*	*(-11.975)*	*(-17.424)*	*(0.54507)*
Average R	0.0206	0.0216	0.0187	0.01881	0.01853	0.01957	0.01658	0.01672	0.013595	0.01458	0.01160	0.0117
(t value for =0)	*(17.9892)*	*(22.4400)*	*(20.8785)*	*(18.68857)*	*(15.04707)*	*(17.65858)*	*(14.21592)*	*(13.7690)*	*(12.0243)*	*(14.6648)*	*(14.1569)*	*(13.3736)*
Ex-Date Turnover	0.0033	0.00375	0.0039	0.00345	0.0033	0.00375	0.0039	0.00345	0.0033	0.00375	0.0039	0.00345
Cum-Date Turnover	0.0037	0.0037	0.0037	0.0037	0.00369	0.00369	0.00369	0.00369	0.00419	0.00419	0.00420	0.00419
% Ex-Date Abnormal Volume	0.0206%	0.2467%	0.1984%	0.1186%	0.0206%	0.2467%	0.1984%	0.1186%	0.0214%	0.2467%	0.1984%	0.1187%
% Cum-Date Abnormal Volume	0.3541%	0.3541%	0.3541%	0.3541%	0.1567%	0.1567%	0.1567%	0.1567%	0.1798%	0.1798%	0.1798%	0.1798%
SAV Ex-Date	0.0484	0.1779	0.1905	0.09393	0.0484	0.17787	0.1905	0.09393	0.0484	0.17787	0.19046	0.09393
(t value for =0)	*(0.4614)*	*(1.9566)*	*(1.4523)*	*(1.41064)*	*(1.45712)*	*(1.45712)*	*(1.4523)*	*(1.45712)*	*(1.45712)*	*(1.55408)*	*(1.55408)*	*(1.55408)*
SAV Cum-Date	0.2560	0.2560	0.2560	0.2560	0.13405	0.13405	0.13405	0.13405	0.18754	0.18754	0.18754	0.18754
(t value for =0)	*(2.6339)*	*(2.6339)*	*(2.6339)*	*(2.6339)*	*(0.46140)*	*(1.95661)*	*(1.4445)*	*(1.41064)*	*(0.46925)*	*(1.95661)*	*(1.45230)*	*(1.41064)*

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 11 - REIT Results for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
BEI	0.1474	27	**-0.3371**	**-2.9978**	**0.0073**	**3.1619**	0.1978	1.1986	0.1816	0.9937
CWT	0.2052	29	**-0.1291**	**-3.7135**	**0.0107**	**4.8858**	-0.2327	-1.6245	0.0441	0.2182
CAR	0.1815	33	**0.1846**	**-3.8187**	**0.0099**	**5.4573**	**0.5195**	**2.4058**	0.5811	1.7483
CUF	0.2056	36	**0.1625**	**-3.0686**	**0.0095**	**2.8285**	0.0416	0.4200	0.1664	0.9342
D	0.3590	31	**0.4911**	**-2.9658**	**0.0092**	**4.3103**	-0.0606	-0.4838	**-0.2045**	**-3.9168**
INN	0.2155	31	**0.1175**	**-5.4408**	**0.0154**	**5.0590**	-0.0540	-0.6333	**-0.1435**	**-2.3616**
IUR	0.1203	30	**0.6015**	**-1.4488**	**0.0083**	**3.0609**	0.1845	1.0186	0.0282	0.3303
NPR	0.1690	31	**0.1711**	**-2.4895**	**0.0105**	**3.8802**	0.1321	0.6763	0.2794	0.6672
REI	0.2047	34	**0.0950**	**-3.2660**	**0.0097**	**5.4392**	0.0734	0.4191	**0.5752**	**2.1146**
SMU	0.2679	29	**0.0393**	**-2.9795**	**0.0125**	**5.2320**	0.1376	1.0106	0.3677	1.5343

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 12 - Business Trust (Quarterly) Results, January 2000 - May 2006*

N = 6	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	0.5353	0.5574	0.5726	0.30844	0.72801	0.75008	0.76532	0.50116	0.83509	0.85716	0.87240	0.60823
(t value for =1)	*(-1.3803)*	*(-1.3040)*	*(-0.7825)*	*(-1.8236)*	*(-1.5167)*	*(-1.3704)*	*(-0.6606)*	*(-2.4405)*	*(-0.6536)*	*(-0.5050)*	*(-0.3443)*	*(-1.5454)*
Average R	0.0082	0.0086	0.0107	0.01437	0.00732	0.00773	0.00968	0.01338	0.005374	0.00579	0.0075	0.0112
(t value for =0)	*(2.0012)*	*(1.9777)*	*(1.7079)*	*(4.0923)*	*(3.4702)*	*(2.9440)*	*(2.58405)*	*(6.8566)*	*(2.12597)*	*(1.663)*	*(2.0653)*	*(4.857)*
Ex-Date Turnover	0.0020	0.0017	0.0020	0.0020	0.00204	0.0017	0.0020	0.0020	0.0020	0.0017	0.0020	0.0020
Cum-Date Turnover	0.0020	0.0020	0.0020	0.0020	0.00168	0.00168	0.00168	0.00168	0.00122	0.00122	0.00122	0.00122
% Ex-Date Abnormal Volume	-0.085%	0.1316%	0.06978%	0.2516%	-0.085%	0.1316%	0.06978%	0.2516%	-0.085%	0.1316%	0.06978%	0.2516%
% Cum-Date Abnormal Volume	0.0824%	0.0824%	0.0824%	0.0824%	-0.067%	-0.067%	-0.067%	-0.289%	-0.289%	-0.289%	-0.289%	-0.289%
SAV Ex-Date	-0.0473	0.1283	0.0659	0.1548	-0.0473	0.1283	0.0659	0.1548	-0.0473	0.1283	0.0659	0.1548
(t value for =0)	*(-0.4737)*	*(0.8844)*	*(0.7251)*	*(0.5252)*	*(-0.4737)*	*(0.8844)*	*(0.72509)*	*(0.5252)*	*(-0.4737)*	*(0.8844)*	*(0.72509)*	*(0.5252)*
SAV Cum-Date	0.0984	0.0984	0.0984	0.0984	-0.03572	-0.03572	-0.03572	-0.03572	-0.1942	-0.1942	-0.1942	-0.1942
(t value for =0)	*(0.3947)*	*(0.3947)*	*(0.3947)*	*(0.3947)*	*(-0.3609)*	*(-0.3609)*	*(-0.3609)*	*(-0.3609)*	*(-3.5823)*	*(-3.5823)*	*(-3.5823)*	*(-3.5823)*

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 13 - Business Trusts (Quarterly) for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
FDG	0.8060	10	2.659100	0.9100	-0.004	-0.455	-0.033	-0.138	**-0.3668**	**-2.0023**
HAL	0.1342	12	0.834314	-0.2926	0.008	1.126	**-0.161**	**-3.412**	**-0.1755**	**-2.7336**
NWF	0.4567	12	**-0.027065**	**-3.9850**	**0.016**	**4.481**	1.536	1.179	-0.0288	-0.1744
PUB	0.4500	7	**0.088889**	**-2.5542**	**0.017**	**2.502**	**-0.565**	**-6.441**	**-0.2986**	**-3.6334**
TWF	0.2700	11	**0.417508**	**-2.8221**	**0.012**	**3.200**	-0.002	-0.012	-0.1013	-0.7150
WTE	0.2300	10	0.635143	-1.5630	0.009	1.994	0.319	0.803	-0.0787	-0.2565

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 14 - Energy Trust Results, January 2000 - May 2006*

N = 26	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	-0.8632	-0.6879	-0.0886	-0.32631	-0.33290	-0.14858	0.45166	0.21297	0.40770	0.44299	1.23565	0.99788
(t value for =1)	*(-3.5842)*	*(-4.6727)*	*(-2.8634)*	*(-3.1638)*	*(-2.4085)*	*(-3.08192)*	*(-1.54809)*	*(-2.0948)*	*(-0.9828)*	*(-1.3779)*	*(0.67346)*	(-0.0061)
Average R	0.0229	0.0238	0.0217	0.02575	0.01613	0.01696	0.01480	0.01882	0.007346	0.00970	0.0058	0.0098
(t value for =0)	*(10.3307)*	*(10.0672)*	*(9.8987)*	*(12.6621)*	*(7.51085)*	*(7.70725)*	*(7.67387)*	*(11.1929)*	*(3.84170)*	*(5.18996)*	*(3.57757)*	(6.92101)
Ex-Date Turnover	0.00312	0.00312	0.0028	0.00280	0.00312	0.00310	0.00283	0.00280	0.00312	0.00310	0.00283	0.00280
Cum-Date Turnover	0.0036	0.0036	0.0036	0.0036	0.00346	0.00346	0.00346	0.00346	0.0033	0.0033	0.0033	0.0033
% Ex-Date Abnormal Volume	0.2298%	0.2007%	0.1728%	0.1800%	0.2298%	0.2007%	0.1728%	0.1800%	0.2298%	0.2007%	0.1728%	0.1800%
% Cum-Date Abnormal Volume	0.4541%	0.4541%	0.4541%	0.4541%	0.4068%	0.4068%	0.4068%	0.4068%	0.3293%	0.3293%	0.3293%	0.3293%
SAV Ex-Date	0.16354	0.12886	0.11473	0.12886	0.16354	0.12278	0.11473	0.12886	0.16354	0.12278	0.11473	0.12886
(t value for =0)	*(2.37138)*	*(1.31476)*	*(2.11828)*	*(1.31476)*	*(2.37138)*	*(1.35598)*	*(2.11828)*	*(1.31476)*	*(2.37138)*	*(1.35598)*	*(2.11828)*	(1.31476)
SAV Cum-Date	0.3336	0.3336	0.3336	0.3336	0.27587	0.27587	0.27587	0.27587	0.21239	0.21239	0.21239	0.21239
(t value for =0)	*(3.5819)*	*(3.5842)*	*(3.5842)*	*(3.5842)*	*(3.22318)*	*(3.22318)*	*(3.22318)*	*(3.22318)*	*(2.82086)*	*(2.82086)*	*(2.82086)*	(2.82086)

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 15 - Energy Trust Results for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
AVN	0.4800	33	0.6969187	-1.890	0.0127	3.9432	0.0573	1.0883	**0.3655**	**3.2069**
AET	0.1683	64	0.7649933	-1.695	0.0042	1.9786	0.1062	0.9806	0.0698	0.7829
BTE	0.1559	32	0.8751736	-0.604	0.0017	0.7955	-0.0679	-0.7629	**0.2697**	**2.1175**
BNP	0.5325	32	0.5600097	-1.755	**0.0131**	**3.8801**	**0.3517**	**2.9194**	**0.5608**	**4.9366**
CPG	**0.2997**	**30**	**0.4144055**	**-4.399**	**0.0106**	**5.1111**	**-0.3723**	**-6.5018**	**-0.3402**	**-5.2188**
DAY	0.1424	17	0.6872082	-1.616	0.0042	1.7614	**0.2621**	**2.9975**	**0.4043**	**3.5147**
ERF	0.7347	34	0.9564592	-0.162	**0.0076**	**2.3925**	0.2405	1.2894	**0.4212**	**2.1755**
ENT	0.2636	28	1.1454064	0.498	0.0019	0.5787	-0.1657	-1.4929	-0.1416	-1.1504
EEE	0.1906	18	0.7616402	-1.492	0.0054	1.8865	**-0.2310**	**-3.4542**	**-0.2950**	**-5.7857**
FEL	0.1225	9	1.040404	0.050	0.0005	0.0735	**-0.3912**	**-6.0527**	-0.1526	-0.6554
FET	0.2829	24	0.2824257	-1.559	**0.0097**	**2.4220**	-0.2040	-1.6821	-0.1396	-1.2370
FRU	0.2874	31	0.334946	-3.407	**0.0123**	**4.9178**	-0.0114	-0.0861	-0.0499	-0.7927
HTE	0.4389	28	1.0940834	0.300	**0.0183**	**4.2573**	0.0397	0.2039	-0.0507	-0.2358
KER	0.1536	11	0.5571096	-0.663	**0.0055**	**15.3674**	**1.2971**	**6.3116**	**0.5581**	**3.1479**
NAE	0.3279	33	**0.5425386**	**-3.076**	**0.0170**	**5.5242**	**1.5009**	**4.2009**	**1.1867**	**5.5386**
NVG	0.2265	26	0.9929487	-0.041	**0.0081**	**2.4906**	0.0904	0.9887	**0.6783**	**3.3147**
PMT	0.3945	31	**0.6050000**	**-3.361**	**0.0165**	**4.6047**	**-0.3829**	**-4.0964**	0.1447	0.6466
PWT	0.2069	16	0.1829126	-0.376	0.0038	1.0037	0.2145	1.2893	**0.5002**	**2.5401**
PEY	0.1628	32	8.5912254	1.159	-0.0179	-1.1695	**-0.1563**	**-3.1918**	-0.1086	-1.7335
PWI	0.6078	32	0.8064081	-0.624	**0.0116**	**2.9297**	**-0.2892**	**-3.7262**	0.1530	0.9644
PVE	0.2765	34	1.1735864	0.622	**0.0113**	**2.5830**	**1.1986**	**3.7436**	**0.7342**	**5.0106**
SQE	0.1600	10	1.11875	0.267	-0.0008	-0.2185	0.0723	1.0737	0.7523	1.9187
SHN	0.4736	33	0.7754555	-1.380	**0.0101**	**3.5150**	0.1039	0.7296	0.0110	0.0962
VET	0.3388	33	**0.387344**	**-2.253**	0.0123	0.0147	-0.0900	0.2952	-0.0286	0.3448
ZAR	0.1572	32	**0.5210862**	**-2.800**	**0.0094**	**2.5915**	-0.0235	-0.3357	-0.0403	-0.4859

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 16 - Power and Pipelines Results – January 2000 - May 2006*

N = 15	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	-0.3435	-0.6092	-0.4220	-0.50620	-0.15534	-0.42106	-0.21772	-0.31803	0.68883	0.37932	0.58732	0.52614
(t value for =1)	*(-7.5446)*	*(-7.6661)*	*(-8.4318)*	*(-10.636)*	*(-5.5989)*	*(-5.52744)*	*(-3.5159)*	*(-8.9646)*	*(-2.2498)*	*(-3.1529)*	*(-2.0710)*	*(-2.7524)*
Average R	0.0159	0.0177	0.0167	0.01843	0.01332	0.01516	0.01635	0.01581	0.006330	0.00842	0.0079	0.0089
(t value for =0)	*(11.5535)*	*(10.0757)*	*(11.3276)*	*(13.39092)*	*(8.21015)*	*(7.88485)*	*(5.94647)*	*(11.58195)*	*(4.71189)*	*(5.34236)*	*(4.95139)*	*(6.15527)*
Ex-Date Turnover	0.00173	0.00165	0.00173	0.00146	0.00173	0.00165	0.00164	0.00146	0.00173	0.00165	0.00164	0.00146
Cum-Date Turnover	0.0019	0.0019	0.0019	0.0019	0.00182	0.00182	0.00182	0.00182	0.00182	0.00182	0.00182	0.00182
% Ex-Date Abnormal Volume	0.0816%	0.0645%	0.0490%	-0.101%	0.0816%	0.0645%	0.03013%	-0.1005%	0.08162%	0.0645%	0.0193%	-0.101%
% Cum-Date Abnormal Volume	0.1492%	0.1492%	0.1492%	0.1492%	0.1438%	0.1438%	0.1438%	0.1438%	0.1468%	0.1468%	0.1468%	0.1468%
SAV Ex-Date	0.1063	0.0660	0.0023	-0.0920	0.10630	0.0660	0.0023	-0.0920	0.10630	0.0660	0.0023	-0.0920
(t value for =0)	*(0.9347)*	*(0.7336)*	*(0.5057)*	*(-1.94088)*	*(0.93466)*	*(0.73357)*	*(0.5057)*	*(-1.94088)*	*(0.93466)*	*(0.73357)*	*(0.5057)*	*(-1.9408)*
SAV Cum-Date	0.1278	0.1278	0.1278	0.1278	0.13058	0.13058	0.13058	0.13058	0.11174	0.11174	0.11174	0.11174
(t value for =0)	*(2.6894)*	*(2.6894)*	*(2.6894)*	*(2.6894)*	*(0.65752)*	*(0.65752)*	*(0.65752)*	*(0.65752)*	*(1.51919)*	*(1.51919)*	*(1.51919)*	*(1.51919)*

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 17 - Power and Pipeline Results for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
APF	0.1526	31	**0.51718**	**-2.739**	**0.008**	**3.820**	**-0.282**	**-2.651**	-0.104	-0.563
BPT	0.1523	31	**0.03152**	**-4.624**	**0.012**	**6.794**	-0.158	-1.180	-0.152	-0.738
CLE	0.1503	30	**0.35341**	**-3.754**	**0.016**	**2.981**	**-0.176**	**-2.041**	**-0.230**	**-3.603**
ENF	0.1483	30	0.32210	-1.864	**0.012**	**3.504**	**-0.331**	**-4.207**	0.000	0.001
FCE	0.1386	29	**0.33827**	**-3.008**	**0.014**	**5.356**	**-0.214**	**-2.832**	-0.066	-0.613
GZM	0.3400	10	0.99412	-0.046	0.000	-0.011	0.031	0.280	0.298	1.279
GLH	0.2038	29	**-0.32566**	**-2.877**	**0.006**	**2.054**	0.014	0.098	0.530	0.961
IEF	0.1500	28	**-0.33282**	**-7.101**	**0.016**	**6.699**	**-0.164**	**-5.630**	-0.112	-1.690
IPL	0.0644	27	2.05967	0.932	-0.006	-0.830	-0.139	-1.004	-0.131	-0.614
KEY	0.1100	31	3.24171	0.864	-0.006	-0.497	-0.055	-0.259	-0.015	-0.109
MPT	0.1523	32	0.61861	-0.719	0.011	1.784	**-0.141**	**-2.686**	0.174	1.011
NPI	0.1717	36	**-0.22722**	**-3.374**	**0.013**	**4.852**	0.251	1.248	0.770	1.442
PIF	0.1723	31	0.84395	-0.768	**0.005**	**2.656**	**-0.284**	**-2.031**	-0.271	-1.784
TAY	0.0843	21	0.84129	-0.454	0.003	1.080	0.003	0.018	0.409	1.913
TPW	0.1380	30	**0.54580**	**-2.576**	**0.009**	**4.246**	**0.264**	**2.411**	0.557	3.599
APF	0.1526	31	**0.51718**	**-2.739**	**0.008**	**3.820**	**-0.282**	**-2.651**	-0.104	-0.563
BPT	0.1523	31	**0.03152**	**-4.624**	**0.012**	**6.794**	-0.158	-1.180	-0.152	-0.738
CLE	0.1503	30	**0.35341**	**-3.754**	**0.016**	**2.981**	**-0.176**	**-2.041**	**-0.230**	**-3.603**
ENF	0.1483	30	0.32210	-1.864	**0.012**	**3.504**	**-0.331**	**-4.207**	0.000	0.001
FCE	0.1386	29	**0.33827**	**-3.008**	**0.014**	**5.356**	**-0.214**	**-2.832**	-0.066	-0.613
GZM	0.3400	10	0.99412	-0.046	0.000	-0.011	0.031	0.280	0.298	1.279
GLH	0.2038	29	**-0.32566**	**-2.877**	**0.006**	**2.054**	0.014	0.098	0.530	0.961
IEF	0.1500	28	**-0.33282**	**-7.101**	**0.016**	**6.699**	**-0.164**	**-5.630**	-0.112	-1.690
IPL	0.0644	27	2.05967	0.932	-0.006	-0.830	-0.139	-1.004	-0.131	-0.614
KEY	0.1100	31	3.24171	0.864	-0.006	-0.497	-0.055	-0.259	-0.015	-0.109

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 18 - High Distribution Income Trust Funds, January 2000 - May 2006*

N = 45	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	[-1, 0]
Average DOR	-0.6861	-0.6745	-0.2650	-0.4152	-0.2954	-0.3033	0.1159	-0.0446	0.4504	0.3490	0.8723	0.7225
(t value for =1)	*(-5.549)*	*(-7.629)*	*(-5.5932)*	*(-5.810)*	*(-4.003)*	*(-5.695)*	*(-3.735)*	*(-4.683)*	*(-1.581)*	*(-2.708)*	*(-0.582)*	*(-1.304)*
Average R	0.0202	0.0215	0.0198	0.0224	0.0153	0.0166	0.0155	0.0175	0.0076	0.0097	0.0072	0.0096
(t value for =0)	*(13.972)*	*(14.073)*	*(14.346)*	*(16.1930)*	*(11.207)*	*(11.883)*	*(10.901)*	*(15.958)*	*(6.0572)*	*(7.886)*	*(6.5010)*	*(9.8617)*
Ex-Date Turnover	0.0025	0.0022	0.0023	0.0022	0.0025	0.0025	0.0023	0.0022	0.0025	0.0025	0.0022	0.0022
Cum-Date Turnover	0.0029	0.0029	0.0029	0.0029	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027
% Ex-Date Abnormal Volume	0.1682	0.0815	0.1345	0.0815	0.1693	0.1744	0.1352	0.0815	0.1695	0.1744	0.1315	0.0815
% Cum-Date Abnormal Volume	0.3612	0.3612	0.3612	0.3612	0.3103	0.3613	0.3458	0.3103	0.2622	0.2622	0.2622	0.2622
SAV Ex-Date	0.1375	0.0497	0.0770	0.0497	0.1375	0.1146	0.0778	0.0497	0.1375	0.1146	0.0751	0.0497
(t value for =0)	*(2.6367)*	*(0.8222)*	*(1.7012)*	*(0.8222)*	*(2.633)*	*(1.8797)*	*(1.7309)*	*(0.8222)*	*(2.6367)*	*(1.8797)*	*(1.6806)*	*(0.8222)*
SAV Cum-Date	0.2658	0.2658	0.2658	0.2658	0.2194	0.2194	0.2194	0.2194	0.1375	0.1757	0.1757	0.1757
(t value for =0)	*(4.5404)*	*(4.5424)*	*(4.5424)*	*(4.5424)*	*(2.7655)*	*(2.7655)*	*(2.7655)*	*(2.7655)*	*(2.6367)*	*(3.3507)*	*(3.3507)*	*(3.3507)*

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 19 - Low Distribution Income Trust Funds, January 2000 - May 2006*

N = 44	[-5, +5]	[-5, +3]	[-5, +1]	[-5, 0]	[-3, +5]	[-3, +3]	[-3, +1]	[-3, 0]	[-1, +5]	[-1, +3]	[-1, +1]	*[-1, 0]*
Average DOR	-0.4512	-0.7015	-0.5742	-0.4956	-0.2953	-0.4527	-0.3060	-0.2763	0.2418	0.0512	0.1783	0.2035
(t value for =1)	*(-5.730)*	*(-5.5149)*	*(-5.8309)*	*(-8.0988)*	*(-6.2297)*	*(-5.1146)*	*(-5.2259)*	*(-8.5594)*	*(-4.1571)*	*(-3.798)*	*(-4.007)*	(-8.024)
Average R	0.0193	0.0194	0.0194	0.0201	0.0168	0.0154	0.0151	0.0162	0.0109	0.0102	0.0101	0.0114
(t value for =0)	*(9.154)*	*(11.477)*	*(13.578)*	*(15.356)*	*(10.599)*	*(8.8832)*	*(9.9521)*	*(13.944)*	*(7.5202)*	*(7.3305)*	*(11.408)*	(18.215)
Ex-Date Turnover	0.0026	0.0024	0.0028	0.0024	0.0026	0.0025	0.0028	0.0024	0.0026	0.0025	0.0028	0.0024
Cum-Date Turnover	0.0034	0.0034	0.0034	0.0034	0.0029	0.0028	0.0028	0.0024	0.0029	0.0028	0.0028	0.0028
% Ex-Date Abnormal Volume	0.0339	0.0045	0.0534	-0.0027	0.0456	0.0136	0.0424	-0.0027	0.0456	-0.0089	0.0729	-0.0119
% Cum-Date Abnormal Volume	0.3518	0.3518	0.3518	0.3287	0.0830	0.0796	0.0796	0.1114	0.1013	0.1013	0.1013	0.1013
SAV Ex-Date	0.0297	0.0113	0.0494	0.0147	0.0307	0.0186	0.0494	0.0147	0.0307	0.0095	0.0494	0.0147
(t value for =0)	*(0.8248)*	*(0.2795)*	*(1.2415)*	*(0.2551)*	*(0.8426)*	*(0.4810)*	*(1.2415)*	*(0.2551)*	*(0.8426)*	*(0.2507)*	*(1.2415)*	*(0.2551)*
SAV Cum-Date	0.2217	0.2217	0.2217	0.2217	0.0551	0.0551	0.0551	0.0551	0.0704	0.0704	0.0704	0.0704
(t value for =0)	*(4.365)*	*(4.365)*	*(4.365)*	*(4.365)*	*(1.4540)*	*(1.4540)*	*(1.4540)*	*(1.4540)*	*(1.4199)*	*(1.4199)*	*(1.4199)*	(1.4199)

* N indicates the number of funds in the sample. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 20 - High Distribution Income Trusts for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
FDG	0.8060	10	2.6591	0.9100	-0.0041	-0.455	-0.033	-0.138	**-0.3668**	**-2.0023**
ERF	0.7347	34	0.9565	-0.162	**0.0076**	**2.392**	0.2405	1.2894	0.4212	2.1755
PWI	0.6078	32	0.8064	-0.624	**0.0116**	**2.930**	**-0.2892**	**-3.7262**	0.1530	0.9644
BNP	0.5325	32	0.5600	-1.755	**0.0131**	**3.880**	**0.3517**	**2.9194**	**0.5608**	**4.9366**
AVN	0.4800	33	0.6969	-1.890	**0.0127**	**3.943**	0.0573	1.0883	**0.3655**	**3.2069**
SHN	0.4736	33	0.7755	-1.380	**0.0101**	**3.515**	0.1039	0.7296	0.0110	0.0962
NWF	0.4567	12	**-0.0271**	**-3.9850**	**0.0156**	**4.481**	1.536	1.179	-0.0288	-0.1744
PUB	0.4500	7	**0.0889**	**-2.5542**	**0.0169**	**2.502**	**-0.565**	**-6.441**	**-0.2986**	**-3.6334**
HTE	0.4389	28	1.0941	0.300	**0.0183**	**4.257**	0.0397	0.2039	-0.0507	-0.2358
PMT	0.3945	31	0.6050	-3.361	**0.0165**	**4.605**	**-0.3829**	**-4.0964**	0.1447	0.6466
SPF	0.3879	33	**0.5336**	**-2.07077**	**0.0081**	**3.122**	0.42635	1.03729	0.75671	1.41037
D	0.3590	31	**0.4911**	**-2.9658**	**0.0092**	**4.310**	-0.0606	-0.4838	**-0.2045**	**-3.9168**
GZM	0.3400	10	0.9941	-0.046	0.0000	-0.011	0.031	0.280	0.298	1.279
VET	0.3388	33	0.3873	-2.253	0.0123	0.015	-0.0900	0.2952	-0.0286	0.3448
NAE	0.3279	33	0.5425	-3.076	**0.0170**	**5.524**	**1.5009**	**4.2009**	**1.1867**	**5.5386**
NAL	0.3279	33	**0.5425**	**-3.12379**	**0.0170**	**5.524**	**1.50090**	**4.20094**	**1.18667**	**5.53860**
CPG	0.2997	30	**0.4144**	**-4.399**	**0.0106**	**5.111**	**-0.3723**	**-6.5018**	**-0.3402**	**-5.2188**
PKI	0.2973	33	**-0.1529**	**-2.96502**	**0.0147**	**4.349**	-0.02364	-0.26072	**0.60609**	**2.48683**
FRU	0.2874	31	0.3349	-3.407	**0.0123**	**4.918**	-0.0114	-0.0861	-0.0499	-0.7927
FET	0.2829	24	0.2824	-1.559	**0.0097**	**2.422**	-0.2040	-1.6821	-0.1396	-1.2370
PVE	0.2765	34	1.1736	0.622	**0.0113**	**2.583**	**1.1986**	**3.7436**	**0.7342**	**5.0106**
TWF	0.2700	11	**0.4175**	**-2.8221**	**0.0116**	**3.200**	-0.002	-0.012	-0.1013	-0.7150
SMU	0.2679	29	**0.0393**	**-2.9795**	**0.0125**	**5.232**	0.1376	1.0106	0.3677	1.5343
ENT	0.2636	28	1.1454	0.498	0.0019	0.579	-0.1657	-1.4929	-0.1416	-1.1504
CHE	0.2610	31	**0.5308**	**-2.32871**	**0.0138**	**4.523**	-0.17690	-1.31763	-0.06171	-0.33636
ALA	0.2485	27	0.2889	-1.87583	**0.0100**	**3.315**	**0.37928**	**2.77425**	**0.78357**	**3.17349**

Table 20 - High Distribution Income Trusts for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
WTE	0.2300	10	**0.6351**	**-1.5630**	**0.0087**	**1.994**	**0.319**	**0.803**	-0.0787	-0.2565
TIL	0.2287	31	**0.5162**	**-2.29544**	**0.0134**	**4.024**	**-0.13998**	**-1.84153**	0.48227	0.74346
BFC	0.2281	31	**0.6471**	**-0.92797**	**0.0057**	**2.334**	**-0.27844**	**-1.47241**	-0.21881	-1.59352
NVG	0.2265	26	**0.9929**	**-0.041**	**0.0081**	**2.491**	**0.0904**	**0.9887**	0.6783	3.3147
DCI	0.2213	31	**0.4122**	**-2.62770**	**0.0147**	**4.576**	**-0.13679**	**-2.57878**	-0.12951	-1.91729
CBF	0.2206	31	1.5717	0.89346	-0.0003	-0.051	0.18895	0.74085	-0.12539	-1.23771
GLC	0.2184	31	**0.1035**	**-9.70264**	**0.0193**	**7.192**	**-0.24898**	**-5.16954**	-0.13740	-1.44527
INN	0.2155	31	**0.1175**	**-5.4408**	**0.0154**	**5.059**	-0.0540	-0.6333	**-0.1435**	**-2.3616**
SWS	0.2121	33	**0.0728**	**-4.39049**	**0.0138**	**6.521**	**-0.17765**	**-2.73441**	-0.11252	-1.48157
Z	0.2081	31	0.0509	-1.55814	**0.0147**	**3.851**	-0.16606	-1.01882	**-0.16227**	**-2.08782**
PWT	0.2069	16	0.1829	-0.376	0.0038	1.004	0.2145	1.2893	**0.5002**	**2.5401**
CUF	0.2056	36	**0.1625**	**-3.0686**	**0.0095**	**2.829**	0.0416	0.4200	0.1664	0.9342
CWT	0.2052	29	**-0.1291**	**-3.7135**	**0.0107**	**4.886**	-0.2327	-1.6245	0.0441	0.2182
REI	0.2047	34	**0.0950**	**-3.2660**	**0.0097**	**5.439**	0.0734	0.4191	**0.5752**	**2.1146**
GLH	0.2038	29	**-0.3257**	**-2.877**	**0.0062**	**2.054**	0.014	0.098	0.530	0.961
CSS	0.2016	31	**0.4472**	**-3.18898**	**0.0107**	**4.376**	**-0.31381**	**-4.03146**	-0.21183	-1.85122
AVERAGE	0.32495	27.71429	0.51747	-2.22376	0.01081	3.46058	0.10284	-0.41980	0.17665	0.36962

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

Table 21 - Low Distribution Funds for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
TIF	0.1974	31	0.4103	0.4103	**0.01137**	**4.797**	0.0577	0.4256	0.17927	0.73935
EEE	0.1906	18	0.7616	0.7616	0.00544	1.886	**-0.2310**	**-3.4542**	**-0.29501**	**-5.78568**
OAX	0.1879	34	0.0651	0.0651	**0.00794**	**4.625**	0.0938	0.7246	0.10956	1.12833
CWI	0.1842	31	0.4291	0.4291	**0.00818**	**4.453**	**-0.2507**	**-2.3360**	0.01345	0.08330
CAR	0.1815	33	0.1846	0.1846	**0.00991**	**5.457**	**0.5195**	**2.4058**	0.58112	1.74835
FLM	0.1727	30	0.1626	0.1626	**0.01383**	**5.936**	-0.0960	-0.9013	-0.17226	-1.39931
PIF	0.1723	31	0.8439	0.8439	**0.00544**	**2.656**	-0.2836	-2.0313	-0.27126	-1.78432
HEQ	0.1723	31	0.2029	0.2029	**0.01006**	**3.781**	0.0944	0.4009	-0.14229	-1.62273
NPI	0.1717	36	-0.2272	-0.2272	**0.01326**	**4.852**	0.2514	1.2477	0.77047	1.44248
NPR	0.1690	31	0.1711	0.1711	**0.01053**	**3.880**	0.1321	0.6763	0.27936	0.66720
AET	0.1683	64	0.7650	0.7650	0.00422	1.979	0.1062	0.9806	0.06984	0.78286
BR	0.1664	33	0.1434	0.1434	**0.00802**	**2.767**	-0.0308	-0.3853	0.25308	1.16601
BNQ	0.1658	31	0.6680	0.6680	**0.00661**	**2.769**	-0.1756	-1.5635	0.46794	1.53022
GRO	0.1652	31	0.0598	0.0598	**0.01871**	**6.460**	**-0.2250**	**-8.2593**	-0.00685	-0.05501
PEY	0.1628	32	8.5912	8.5912	-0.01788	-1.170	**-0.1563**	**-3.1918**	-0.10856	-1.73346
SQE	0.1600	10	1.1188	1.1188	-0.00083	-0.218	0.0723	1.0737	0.75228	1.91872
NIF	0.1577	26	0.3564	0.3564	**0.00834**	**2.994**	**-0.2189**	**-5.0670**	**-0.21383**	**-3.85848**
ZAR	0.1572	32	0.5211	0.5211	**0.00938**	**2.591**	-0.0235	-0.3357	-0.04029	-0.48586
BTE	0.1559	32	0.8752	0.8752	0.00173	0.795	-0.0679	-0.7629	0.26973	2.11755
WLL	0.1552	33	0.5693	0.5693	**0.00883**	**2.488**	0.0146	0.1882	0.00935	0.09974
KER	0.1536	11	0.5571	0.5571	**0.00552**	**15.367**	**1.2971**	**6.3116**	**0.55815**	**3.14786**
APF	0.1526	31	0.5172	0.5172	**0.00844**	**3.820**	**-0.2815**	**-2.6510**	-0.10398	-0.56312
BPT	0.1523	31	0.0315	0.0315	**0.01173**	**6.794**	-0.1576	-1.1800	-0.15182	-0.73820
MPT	0.1523	32	0.6186	0.6186	0.01118	1.784	**-0.1409**	**-2.6857**	0.17412	1.01114
CLE	0.1503	30	0.3534	0.3534	**0.01606**	**2.981**	**-0.1764**	**-2.0407**	**-0.23003**	**-3.60298**
IEF	0.1500	28	-0.3328	-0.3328	**0.01604**	**6.699**	**-0.1640**	**-5.6298**	-0.11167	-1.68985
ENF	0.1483	30	0.3221	0.3221	**0.01185**	**3.504**	**-0.3309**	**-4.2070**	0.00043	0.00122
BEI	0.1474	27	-0.3371	-0.3371	**0.00733**	**3.162**	0.1978	1.1986	0.18163	0.99375
DAY	0.1424	17	0.6872	0.6872	0.00418	1.761	**0.2621**	**2.9975**	**0.40427**	**3.51471**
FCE	0.1386	29	0.3383	0.3383	**0.01389**	**5.356**	**-0.2139**	**-2.8320**	-0.06558	-0.61347

Table 21 - Low Distribution Funds for One Day before and the Ex-Date [-1, 0], January 2000 - May 2006*

Income Fund	Average Dividend	N	DOR (close)	T-Statistic	R (close)	T-Statistic	SAV Ex-Date	T-Statistic	SAV Cum-Date	T-Statistic
TPW	0.1380	30	0.5458	0.5458	**0.00882**	**4.246**	**0.2641**	**2.4113**	**0.55696**	**3.59921**
HAL	0.1342	12	0.8343	0.8343	0.00836	1.126	**-0.1614**	**-3.4122**	**-0.17548**	**-2.73357**
BAD	0.1328	25	0.4883	0.4883	**0.00659**	**2.569**	**-0.1882**	**-5.1483**	**-0.17792**	**-4.01682**
PES	0.1242	24	0.1692	0.1692	**0.01265**	**3.640**	-0.0817	-1.9026	0.01997	0.25161
FEL	0.1225	9	1.0404	1.0404	0.00048	0.073	**-0.3912**	**-6.0527**	-0.15264	-0.65540
AVF	0.1204	27	0.1330	0.1330	0.00723	1.361	-0.1264	-1.2370	-0.00790	-0.06834
IUR	0.1203	30	0.6015	0.6015	**0.00831**	**3.061**	0.1845	1.0186	0.02816	0.33031
TDG	0.1190	31	0.2779	0.2779	**0.01112**	**2.661**	**-0.3372**	**-3.2503**	-0.05732	-0.38338
MTL	0.1167	12	**-7.1373**	**-7.1373**	**0.01321**	**3.032**	0.0203	0.2610	0.20201	0.99413
KEY	0.1100	31	**3.2417**	**3.2417**	-0.00615	-0.497	-0.0554	-0.2586	-0.01483	-0.10863
EOF	0.0950	8	0.6591	0.6591	**0.00571**	**2.140**	**-0.3789**	**-3.3992**	**-0.41016**	**-3.41670**
TAY	0.0843	21	0.8413	0.8413	0.00269	1.080	0.0026	0.0181	0.40929	1.91267
YLO	0.0787	31	1.0538	1.0538	-0.00029	-0.218	**-0.1137**	**-6.2652**	**-0.06729**	**-2.31249**
MHG	0.0763	16	-0.5536	-0.5536	0.00816	1.360	-0.0280	-0.2345	-0.02423	-0.20307
PHX	0.0709	22	0.7220	0.7220	0.00355	0.861	**-0.0816**	**-2.8920**	-0.02740	-0.66607
IPL	0.0644	27	2.0597	2.0597	-0.00553	-0.830	-0.1392	-1.0043	-0.13091	-0.61391
CET	0.0477	30	-0.8093	-0.8093	**0.01686**	**3.357**	0.4813	1.2031	**0.43852**	**2.19945**
AVERAGE	0.1416	27.28	0.5020	0.5020	0.0075	3.0644	-0.0267	-1.2985	0.0759	-0.1645

* N indicates the number of ex-dates in the fund sample; the t-statistics are computed with N in the denominator. In terms of the DOR, the tax clientele hypothesis requires that DOR < 1 and the incremental ex-date return, R, be significantly positive. In terms of the short-term trading hypothesis SAV ex-date and SAV cum-day should be significantly positive and different from zero.

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