TAX AND INVESTOR'S DECISION OF REALIZING CAPITAL GAINS

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Abstract

This paper investigates whether individual's decision of realizing capital gains can be explained by taxation incentives. Based on the realization tax rule for capital gains and losses, taxes are incurred when investors actually sell their capital properties and thus realize capital gains or losses, not when capital gains or losses are accrued. Constantinides (1983, 1984) argued that the realization tax rule provided a tax-timing option to investors to realize losses whenever they are incurred but deferred gains. However, transactions costs prevent investors from exploiting this tax-timing option fully. Using the annual statistics database provided by Canada Revenue Agency (CRA) for the years of 2007 and 2008, this study directly tests whether an individual's relevant tax status such as marginal tax rate, income level, capital loss incurred, and lifetime capital exemption can affect his or her decision of realizing capital gains.

Keywords Capital gains, individual tax, marginal tax rate, capital loss, exemption

1. Introduction

In this paper, an empirical work is designed to test whether individual's decision of realizing capital gains can be explained by taxation incentives. That is, I will test whether investors sell their capital properties to minimize taxes. Based on the realization tax rule for capital gains and losses, taxes are incurred when investors actually sell their properties and thus realize capital gains or losses, not when capital gains or losses are accrued. Constantinides (1983,

1984) argued that the realization tax rule provided a tax-timing option to investors to realize losses whenever they are incurred but deferred gains. However, tax rule and transactions costs prevent investors from exploiting this tax-timing option fully. This study seeks to directly test whether investors' relevant tax status such as marginal tax rate, income level, capital loss, and exemption can affect investors' decision of realizing capital gains by using the annual statistics sample data, provided by Canada Revenue Agency (CRA) for the time periods of 2007-2008 taxation years. The direct test of the relationship between personal tax status and capital gains realization will benefit both the tax practitioners and tax policy makers.

Generally speaking, in Canada, ordinary income is taxed annually based on the accrual method; capital gains are taxed based on the realization method, i.e., capital gains on a capital property are taxed only when they are realized by selling the property. Capital losses incurred in the current year can be carried back for three years and forward indefinitely. Due to time value of money, investors should utilize these loss carryovers as soon as possible. Unlike the U.S. tax rules for capital gains/losses, in Canada, capital gains/losses are not distinguished into short term or long term capital gains/losses. Realization rule on capital gains provide the investors a strategy to defer taxes by realizing losses whenever they are incurred while deferring realizing gains. This tax-planning strategy reduces the effective tax rate for capital gains and implicated into the firm market valuation through its effect on the investors' investment behaviour. This study seeks to empirically test if this tax-planning strategy is related to the investors' personal tax status.

Canadian federal government introduced a \$500,000 cumulative Lifetime Capital Gains Exemption for all individual taxpayers in Canada in the May 1985 budget. The exemption was

applied to the gains from all capital property of individuals that were realized after 1984. The exemption was phased in over six years: the exemption had a cumulative limit of \$20,000 of capital gains in 1985, rising to \$50,000 of capital gains in 1986, \$100,000 in 1987, \$200,000 in 1988, \$300,000 in 1989 and \$500,000 in 1990 and subsequent taxation years. This study seeks to empirically test if this lifetime capital gains exemption is related to individual's capital gains realization behaviour.

The balance of the paper is organized as follows. Section 2 reviews existing literature related to individual's tax and capital gains realization. Section 3 develops the hypotheses, designs the empirical model, and presents the test results. Finally summary and conclusion are provided in section 4.

2. Literature Review

Constantinides (1983) argued that under realization tax rules for capital gains of selling the firm's shares, owning the firm's shares conferred the shareholder a timing option which enabled him to realize capital losses immediately while deferring capital gains, thereby reducing the present value of the stream of tax payments on capital gains net of capital losses. The price of the tax-timing option, which was defined as "the wasted fraction of a dollar invested in stock, if the investor fails to take advantage of this tax-timing option and realize capital losses whenever they occur", consisted of a substantial fraction of the bundle of benefits associated with stock ownership.

Seyhun and Skinner (1994), in their empirical work, used the U.S. IRS Tax Panel of time-series data from 1981-1988. They found that investors used the simple tax-planning

strategy of realizing losses and holding gains, but not the sophisticated strategies.

Another empirical work undertaken by Burman and Randolph (1994) separated permanent and transitory tax effects and provided evidence consistent with Constantinides (1983). Cook and O'Hare (1992) regressed the investors' stock holding period on their tax positions including marginal tax rate, income level, age, appreciate rates and found the relationship between holding period and tax position. Auten et al. (1989) argued that the marginal tax rate was endogenously determined. They used instrument variables to specify the marginal tax rate. Badrinath and Lewellen (1991) found a seasonal pattern of trading stocks, i.e., investors realized losses heavily near the end of calendar years and realized gains heavily at the beginning of the years. Feldstein and Yitzhaki (1978) classified investors' sale of common stocks into switch sale (purchase of stocks in the same year) and net sale (no purchase of stocks in the same year). All the above researches are using the database from the U.S. Zeng(2009) examined tax and capital gains realizations using Canadian data, but it focused on corporate investors. This study examines tax and capital gains realization for Canadian individual investors, using the CRA's annual statistics sample data for the years of 2007 and 2008.

3. Empirical Work

(1). Predictions to be tested and the regression model

This paper examines whether an individual's decision of realizing capital gains can be explained by the tax incentives, i.e., the personal tax status. If an investor seeks to minimize tax, he will not realize capital gains when his marginal tax rate is high.

If an investor has capital loss realized in the year, he will realize capital gains

OC12043 immediately in order to utilize the losses as soon as possible.

If the lifetime capital gains exemption is available to an investor in the year, the investor is more likely to realize capital gains.

Overall, the empirical model is specified as follows.

$$CG_{it} = \alpha_0 + \alpha_1 LOSS_{it} + \alpha_2 EXE_{it} + \alpha_3 MTR_{it} + \varepsilon_{it}$$

where

CG: realized capital gains

MTR: marginal tax rate

LOSS: realized capital losses

EXE: lifetime capital gains exemptions

CG is measured as capital gains realized in the year, deflated by income. *LOSS* is measured as log of capital losses realized in the year. *EXE* is measured as log of exemptions claimed in the year. *MTR* is the statutory tax rate on one more dollar of capital gains realized. I predict that $\alpha_1 > 0$, $\alpha_2 > 0$, and $\alpha_3 < 0$.

(2) Testing results

The annual statistics sample data from CRA for the years 2007-2009 will be collected. Table one reports the descriptive statistics for major variables including *CG*, *LOSS*, *EXE*, and *MTR*. It presents the mean, median, standard deviation, minimum and maximum value.

Table 1. Variable descriptive statistics

			Std.		
	Mean	Median	DEV.	Min	Max
CG	4.452161	1.49424	9.998437	0.001796	113.3691
LOSS	4.320188	4.421958	1.051401	0	6.472042
EXE	3.836219	4.137781	1.241564	0	5.844076
MTR	0.22	0.26	0.089193	0	0.29

Table two presents the correlation matrix for both independent and dependent variables. It shows that *CG* is positively associated with *LOSS* and *EXE*, but is negatively associated with *MTR*, which is consistent with my predictions.

Table 2. Correlation matrix

	CG	LOSS	EXE	MTR
CG	1			
LOSS	0.370154	1		
EXE	0.212029	0.436045	1	
MTR	-0.2359	-0.02725	0.521916	1

The regression results are presented in Table three. Consistent with my predictions, it shows that both coefficients on *LOSS* and *EXE* are positive and significant. The coefficient on *MTR* is

negative and significant.

Table 3. Regression results

Parameter	Est value	St dev	T student	Prob(> t)
Intercept	-4.67011	3.246594	-1.43847*	0.152078
LOSS	2.062936	0.734235	2.809641** 3.607062**	0.005521
EXE	2.628325	0.728661	*	0.000403
MTR	-44.8765	9.131325	-4.91456***	2.03E-06
R2	0.243935			
R2(adj)	0.231048			
F	18.9281			

*** significant at 0.01 level, ** significant at 0.05 level, and * significant at 0.1 level

4. Summary and Conclusion

This paper investigates whether individual's decision of realizing capital gains can be explained by taxation incentives. Using the annual statistics sample data provided by Canada Revenue Agency (CRA) for the years of 2007 and 2008, this study shows that an individual's

relevant tax status such as marginal tax rate, income level, capital loss incurred, and lifetime

capital exemption can affect his or her decision of realizing capital gains. It suggests that

individual investors do use tax planning strategies when they realize capital gains, and thus save

tax payments.

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