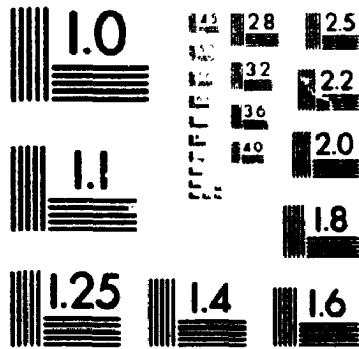


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**LONG TERM PERFORMANCE OF DUAL-CLASS FIRMS
CANADIAN EVIDENCE**

By

Madhuri Panangipalli, B.Com (1990), P.G.D.M. (1992)

**A Thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of the requirements for the degree of
Master of Management Studies**

School of Business

Carleton University

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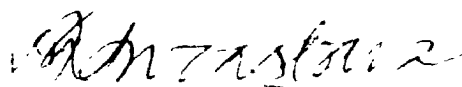


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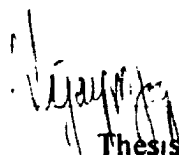
Long term Performance of Dual-class Firms: Canadian Evidence

submitted by MADHURI PANANGIPALLI, B Com , P G D M

in partial fulfilment of the requirements for
the degree of Master of Management Studies



Thesis Co-supervisor



Thesis Co-supervisor



Director, School of Business

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ABSTRACT

This study examines the long-term performance of Canadian dual-class firms. Performance of firms prior to the recapitalization is compared to their performance thereafter using cumulative benchmark-adjusted returns, Sharpe portfolio performance measure and wealth relatives. The important results of this study are - dual-class recapitalizations take place after a period of significant positive abnormal returns and that dual-class firms perform worse in the post-recapitalization period as compared to their performance during the pre-recapitalization period. No significant differences are found in the performances of the two classes of shares issued pursuant to the dual-class recapitalization and their systematic risks are found to be only marginally different. Also, systematic risk of the pre-recapitalization stock is found to be only marginally different from that of the post-recapitalization stocks on an average.

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1. INTRODUCTION

Dual-class firms have two classes of common stock with disparate voting rights. One class has superior voting rights associated with it (referred to as SV shares, hereafter), while the other has a restriction on voting rights (referred to as RV shares, hereafter). There are various types of RV shares for a dual-class corporation. Appendix I presents a list of the various types of RV shares.

This departure from the traditional one share-one vote structure is the focus of this research. More specifically, the objective here is to analyze the impact on the performance of Canadian firms that have opted for dual-class recapitalization. Documented research on this topic is lacking.

Published research, both theoretical and empirical, does exist on dual-class firms and has focussed mainly on the wealth and control implications as well as on the premiums commanded by SV shares over RV shares. However, no research exists on the long term stock market performance of these firms in the post-recapitalization period. It is important to see if a dual-class recapitalization has an adverse impact on long term firm performance because the existing evidence indicates that the stock market views the announcement of a dual-class recapitalization negatively.

The methodology used in this investigation is similar to that used by Ritter (1991). This involves computing cumulative benchmark-adjusted returns and wealth

relatives. In addition, the Sharpe portfolio performance measure is used to compare the long term performance of the various portfolios. A non-parametric test, the McNemar change test, is also used to examine any changes in performance patterns following dual-class recapitalization. Returns on dual-class stocks listed on the Toronto Stock Exchange (TSE) between 1978 and 1992 are used in the analysis.

Based upon a sample of 45 Canadian recapitalizations between 1978 and 1992 this study yields at least five important results. First, dual-class recapitalizations take place after a period of significant positive abnormal returns for more than a year prior to the recapitalization. Second, dual-class firms perform much better pre-recapitalization as compared to their post-recapitalization performance. Third, performance of dual-class firms declines during the one year period following the recapitalization, but recovers (only slightly) during the second and third years following the recapitalization. Fourth, it is also determined that the performances of RV and SV shares of a dual-class firm are, on an average, equal at any time and the fluctuations in performance over time are also similar for these types of shares. Fifth, the systematic risks of the CS- (common stock) and SV-portfolios are similar while that for the RV-portfolio is found to be slightly higher. The results are found to be consistent for all benchmarks and measures of performance used in the study.

The remainder of this study is organized as follows. Chapters 2 and 3 summarize theory and empirical evidence respectively, pertaining to dual-class recapitalizations. The hypothesis considered in the study is presented in Chapter 4. Chapter 5 describes the

sample and data used in the study. Research methodology is presented in Chapter 6. The empirical results and conclusions are presented in Chapters 7 and 8 respectively. A final chapter is devoted to the potential benefits and limitations of this work.

2. THEORY

In a seminal paper in the area of agency theory, Jensen and Meckling (1976) address several issues that govern principal-agent relationships in the context of a modern day corporation. An essential feature of the modern day corporation is the delegation of authority (Barnea, Haugen, and Senbet, 1985). Securityholders (principals) delegate authority to managers (agents) who are expected to act in the best interests of the shareholders. Since managers try to maximize their own personal welfare as opposed to that of shareholders, their actions may not necessarily be in the best interests of the shareholders. Agency costs are, therefore, incurred to monitor managerial activities which ensure shareholder welfare, leading to a reduction in firm value.

One of the major contentions of agency theory is that a substantive managerial stake in a firm aligns shareholder/manager interests which leads to increase in firm value. Therefore, consolidation of control by management should lead to increase in firm value. This view, however, contrasts with the existence of a large number of firms with diffused ownership, if concentrated ownership, in fact, increases firm value. Research also shows that alternative monitoring mechanisms exist which align principal/agent interests in a corporation with diffused ownership

One implication from Jensen and Meckling (1976) is that an increased management ownership in a firm will lead to maximization of firm value by aligning the interests of managers with those of external shareholders. Therefore, any action which

consolidates control by insiders/managers should lead to an increase in firm value resulting in better long term performance. Since dual-class recapitalization implies consolidation of control, it should lead to an increase in firm value and better long term corporate performance.

Alternative viewpoints exist which challenge this contention. Some researchers argue that increased managerial ownership will lead to entrenchment of management. This will imply a lower firm value since higher agency costs must be incurred to align the interests of owner/managers with external equity holders.

Grossman and Hart's (1988) theoretical model agrees with this contention. They examine the optimality of the one share-one vote rule in the context of a corporate control contest. They believe that the one share-one vote rule which restricts consolidation of control by insiders/managers, is in the interest of security holders. The issue of optimality of the one share-one vote rule is addressed from two points of view (a) owners/shareholders, and (b) agents/managers. The benefits accruing to the former are called security benefits and those accruing to the latter are called private benefits. One of the most important implications of Grossman and Hart's (1988) model is that the one share-one vote rule favours security benefits of shareholders over the private benefits of the management. The rule is also shown to ensure that the efficient management team, that is, the team which will maximize security benefits, always wins a control contest. Therefore, the one share-one vote rule protects the interests of the shareholders and the

welfare of the corporation¹

In a study very similar to the above, Harris and Raviv (1988) contend that the one share-one vote rule ensures social optimality, that is, maximization of firm value. They derive conditions under which a simple majority voting rule and the one share-one vote rule constitute a socially optimal corporate governance rule. Their model proves that the simple majority voting rule along with the one share-one-vote is an optimal corporate governance scheme under all conditions, that is, the better management team wins always. They also investigate the welfare consequences of having classes of common stock with disparate voting rights, and prove that they are not socially optimal

As dual-class recapitalizations have implications for ownership structure, it follows that they have an influence not only on the result of a control contest, but also on the premium offered, for the two classes of shares, during such a contest. Dual-class shares are considered the most effective anti-takeover tool ever invented (Ruback, 1988) Harris and Raviv (1988) assert that issuance of two extreme securities, one with claims on votes and the other with claims on cash flows only, confers shareholders with maximum flexibility in deciding the outcome of a control contest. Though such a capital structure will maximize the rewards/premiums to shareholders during the control contest, and would be preferred by them, it does not assure social optimality or maximization of firm value in the long-term. Grossman and Hart (1988) agree with Harris and Raviv (1988) that the one share-one vote rule maximizes security benefits of the shareholders by ensuring that

¹ Welfare here refers to the efficient management team winning/retaining control of the corporation.

the efficient management team wins a control contest. Any losses in premium during the control contest will be compensated by the maximization of future income streams by the efficient management team. It follows that dual-class recapitalizations do not guarantee the maximization of shareholder wealth in the long-term, nor do they ensure that the efficient management team gains/retains control of the corporation.

Another issue relating to dual-class recapitalizations is the relative differences in the value of the RV and SV shares. This issue is addressed by Stulz (1988) and Ruback (1988), whose theoretical models expound that RV shares of a dual-class firm sell at a discount to the firm's SV shares. Clearly, that would be the case if control is valued. Stulz's (1988) model also has the following implications for dual-class recapitalizations. One, in the presence of shares with differential voting rights, management will hold shares with superior voting rights. Two, the announcement of a dual-class recapitalization will lead to a decrease in firm value if it results in management gaining control of the firm.

While the research discussed above claims that dual-class recapitalizations adversely impact control contests, Ruback (1988) puts forth a model which demonstrates why dual-class recapitalizations are not in the interest of the shareholders. He explains that the probability of a control contest evaporates with insiders/managers gaining complete veto power following the recapitalization. His model traces the reasons behind shareholders accepting a non-beneficial dual-class exchange offer and the impact on share prices of such an action. He is of the opinion that outside shareholders acting individually are coerced into accepting the exchange offer, one they would have rejected

while acting collectively. Insiders/managers entice outside shareholders with increased dividends and equal takeover rights for RV shares. But the increased dividends are financed by reduced investments and no change in share value would result. While insiders/managers reject all hostile takeover bids, with their collective veto power, and the probability of receiving any takeover premiums evaporates following the dual-class recapitalization. This, Ruback (1988) asserts, leads to the reduction of RV share prices as RV shareholders are not compensated for relinquishing their voting control. Ruback's (1988) argument can be extended to say that dual-class recapitalizations adversely affect firm value in the long term due to the entrenchment of management.

All the theoretical models discussed above suggest that dual-class recapitalizations are not in the best interest of shareholders with the exception of Jensen and Meckling (1976). Though Jensen and Meckling's (1976) agency theory favours consolidation of control by insider/managers through a dual-class recapitalization, other researchers (Grossman and Hart (1988), Harris and Raviv (1988), and Stulz (1988)) consider it to have an adverse effect both on the efficient functioning of the corporation and the wealth of the shareholders. If dual-class recapitalization leads to better alignment of principal-agent's interests, we should see a positive impact on firm value upon its announcement. On the other hand, if it leads to entrenchment, the announcement of a dual-class recapitalization should lead to a decrease in firm value. This is the short-term impact or announcement effect of a dual-class recapitalization. Theory is, however, not very explicit in discussing the long term impact of such recapitalizations.

3. EMPIRICAL EVIDENCE

Theoretical developments presented in Chapter 2 indicate that dual-class recapitalization may not be in the interest of shareholders. It would follow that the announcement of a dual-class recapitalization may cause an adverse impact on firm value. If such a recapitalization entrenches an inefficient management, it should also lead to poor long term performance.

This chapter will review empirical evidence on the various aspects of dual-class recapitalizations. The empirical studies can be summarized under the following three broad categories: (a) wealth effects upon announcement of dual-class recapitalizations, (b) discount on RV shares and (c) control implications of dual-class recapitalizations.²

3.1 Wealth Effects upon Announcement of Dual-class Recapitalizations

Empirical evidence in this area has validated the theoretical prediction that the announcement of dual-class recapitalization should lead to a decrease in firm value. The three studies which address the issue are discussed below. Empirical evidence on wealth effects upon announcement is summarized in Table II.

The three studies reviewed here are Jog and Riding (1986), Jarrell and Poulsen

² Most of these studies cannot be uniquely classified under a specific category since they address a variety of issues concerning RV shares or dual-class recapitalizations spanning across the three categories.

(1988), and Partch (1987) Jog and Riding (1986) is a Canadian Study whereas the other two are based upon recapitalizations in the United States

Jog and Riding (1986) studied the wealth effects of issuing RV shares using Canadian data. They analyzed returns around the announcement by firms of a dual-class recapitalization and the subsequent listing of RV shares on the TSE. There was a substantial decline (14.6 percent) in the cumulative prediction errors (CPE) during the 60 days subsequent to the recapitalization. This decline was statistically significant and was mainly caused by a decline in the CPE for RV shares. In fact the value for SV shares increased around the recapitalization date (CPE's for -1 to +1). The CPE's for RV and SV shares for the event window [-1 to +1] were -1.25 percent using the MARA model and -0.95 percent using the single factor model. They conclude that dual-class recapitalizations lead to a decline in the combined value of post-recapitalization stock mainly caused by a decline in the value of RV shares.

Jarrell and Poulsen (1988) and Partch (1987) are the two corresponding studies in the United States. Jarrell and Poulsen used a sample of 94 firms which included Partch's sample of 42 recapitalising firms. Their study included the time period around the NYSE moratorium on delisting firms with dual-class shares. It tested the proposition that dual-class recapitalizations, which effectively change voting power of non-insider shareholders without some offsetting benefit, lead to negative wealth effects. The abnormal returns for the two-day event window, 0 to +1, were found to be -0.82 percent and statistically significantly different from zero. The sample was classified as pre- and

post- NYSE moratorium. The average abnormal returns for the pre-moratorium sample in the event window were negative (-1.07 percent) and insignificantly different from zero. The results for the event window for the post-moratorium sample were negative (-0.72 percent) and insignificantly different from zero as well. The reasons for the above results were further investigated by looking at the characteristics of the firms in the two subsamples. It was found that firms recapitalizing after the moratorium had lower insider holdings. Therefore, consolidation of voting power through a dual-class recapitalization for such firms would be a defense against hostile takeovers. They also found that very high and very low insider holdings gave insignificant abnormal returns. The study however did not consider changes in the parameters of the market model such as, possible changes in the risk of shares following dual-class recapitalizations. This might affect the results considering the fact that the average abnormal returns were small as well as economically insignificant.

Partch (1987) studied two issues pertaining to RV shares, the comparison of managerial ownership of voting control before and after the creation of the RV stock, and the wealth effects of creating RV shares. For her sample of 44 recapitalizing firms, she did not find any evidence of changes in shareholder wealth as a result of the creation of RV stock. The weak negative cumulative abnormal returns found were attributed to the upward bias in market-model parameters, estimated in a period of abnormally high returns. She concludes that dual-class recapitalizations do not have an adverse impact on shareholder wealth.

3.2 Premium on SV Shares in Relation to RV Shares

Empirical analysis has also been conducted to corroborate the theoretical contention that RV shares would trade at a discount over SV shares and that voting rights have economic value. This evidence along with plausible reasons for the discount is presented below. It is seen that RV shares trade at significant discounts in relation to SV shares in stock markets across the globe. The studies discussed here are summarized in Table III.

Smith and Amoako-Adu (1991) is one of the most comprehensive studies on the Canadian market for RV shares listed on the TSE over 1981-89. They examined, among other things, price premiums for SV shares and the regulatory implications of their results. They found that the average premium of SV shares over RV shares was 11.87 percent. They determined that voting power and the likelihood of a takeover were the significant variables in explaining the premium and were positively correlated to the premium. Maintaining control was cited as the most common managerial reason for issuing RV shares. Based upon their results, the authors recommended a better disclosure of all features of RV shares, standardization of coattail provisions, and the direct backing of these provisions by Ontario Securities Commission through legislation.³

In another paper, Smith and Amoako-Adu (1993) compared premiums before and after 1986 to assess the impact of the controversy over the attempted takeover of

³ Presence of coattail provisions was found to reduce the discount on RV shares.

Canadian Tire by its franchisee dealers on SV share premiums in Canada. They found positive shifts in the premium on SV shares to the tune of 5 to 10 percent after 1986. The price premiums jumped from 6.22 percent in 1986 to 33.38 percent in 1990. Absence of coattail protection increased the premium on SV shares. The sample included 90 firms listed on the TSE between 1981 and 1991. Daily closing stock returns were used for premium computations.

Jog and Riding (1986) examined 33 firms with dual-class shares listed on the Toronto Stock Exchange and found that SV shares traded at a premium of 7 percent over RV shares during the 60 days following the dual-class recapitalization. This premium was found to be stable over the period of the study. Based on the results, the authors concluded that the premium exists for two reasons: (i) shareholders do not prefer giving up voting privileges, and (ii) insiders use the proceeds of sales of their RV shares to purchase SV shares and consolidate their position in the firm.

A similar study for the U.S. markets was done by Lease, McConnell and Mikkelson (1983) using monthly return data from the Wall Street Journal. They examined the time-series of the ratio of closing price of SV stock to that of RV stock. The mean price premium of SV stock over RV stock was 5.44 percent. For firms with voting preferred stock, the SV common stock traded at an average price discount of 1.25 percent. The reported price premium must, however, be interpreted with caution. The number of companies included in the sample for each month fluctuated from as low as one firm to as high as eleven firms and the premiums found in some cases were due to

outliers

Several other researchers have examined this issue using data from stock exchanges around the world. Levy (1982) studied the voting rights premium and the voting inequality index of corporations on the Israeli stock market. He also looked at the relationship between the voting rights premium and the market value of Israeli corporations. The sample included 25 percent of all the firms listed on the Tel Aviv Stock Exchange as of 1981. These firms had two classes of common stock identical in all respects except voting rights. Hence, any premium found in these cases was purely due to the fact that the two classes of shares had differential voting rights. Monthly returns were used for the calculation of the relative voting right premium of the SV stocks. Levy tested two hypotheses (i) the voting right premium is non-negative, and (ii) the voting right premium is positively associated with the degree of discrimination in the voting power per share. The relative voting rights premium for all firms included in the sample was found to be 45.5 percent. The small size of the sample (25 firms) makes results of this study suspect.

Horner (1988) investigated the presence of price premium for shares with SV rights on the Swiss stock exchange. The sample included 45 firms listed on the Zurich Stock Exchange or the Over-the-Counter exchange. Weekly stock price data was used for the analysis. The hypothesis that prices of securities with identical future payoffs but differential voting rights are the same was rejected. Based on their results, they concluded that voting rights have a positive value and that they influence the relative

prices of the various classes of outstanding stock a firm

Meggison (1989) analyzed price data, voting control and the liquidity of SV and RV shares to gain a better understanding of the premium commanded by SV shares listed on the London Stock Exchange. This study used a large sample (152 firms) and also the log of the price ratio of SV and RV shares for statistical analysis to ensure normality of the distribution. Hence, the results are statistically more robust. A price premium of 13.3 percent was found. Premium for firms with voting preferred stock was found to be considerably higher than that for the overall sample. Further, RV shares were found to be more liquid than SV shares, and the variables related to insider control were found to be significantly positively correlated in the regression analysis with price premium as the dependant variable.

Herman and Santoni (1988) examined the issue of premiums on SV shares in the context of Swiss companies. Corporations in Switzerland have three types of shares - Bearer, Registered and Non-voting. Registered shares have higher voting power and are similar to the superior voting shares in North America in this respect⁴. By announcing that it would register the shares bought by foreign nationals, Nestle paved the way for analyzing the effect of voting rights and ownership structure on shareholder wealth⁵.

⁴ For further discussion on the characteristics of these shares, see Herman and Santoni (1988, p 6)

⁵ Swiss corporations had the option of registering or not registering the "Registered" shares of their companies traded on the stock exchange. The buyers of "Registered" shares were not allowed to vote unless they were registered by the company as holders of the shares. This gave the corporations considerable leverage in deciding who could vote during shareholder meetings. It was not customary for corporations to register the "Registered" shares purchased by foreign nationals, until Nestle broke the custom, making the takeover of a Swiss corporation by foreign nationals possible.

They found a 15 percent increase in Registered share prices following the changes

In summary, all studies find a premium associated with SV shares. Researchers have also hypothesized with regards to the reasons for price premiums. They come up with three such reasons (a) investors place a premium on corporate control, hence voting rights, (b) investors place a premium on the probability of a change of control and the expected payoffs to SV shareholders thereof, and (c) investors place a premium on future distribution of cash flows. It can be seen that the two latter reasons follow from the first, i.e., corporate control has economic value. Also, it can be inferred that the control implications of SV shares give rise to the premium on such shares. All the above hypotheses are in tune with the theoretical propositions discussed in Chapter 2.

3.2.1 Differences in the Market Model Parameters between RV and SV Shares

Canadian researchers have investigated to see if the premium on SV shares can be explained by the difference in risk as proxied by the market model parameters of RV and SV shares. Based upon their research the two studies discussed below come to different conclusions. The evidence presented is summarized in Table IV.

Jog and Riding (1989) investigated reasons for the existence of negative prediction errors on the day of listing of RV shares. They explored the possible existence of differences in the parameters of the single factor model between RV and SV shares. The

data used is the same as Jog and Riding (1986). Using the moving regression approach of Brown, Durbin and Evans (1975), they found that the beta estimates of RV shares were significantly higher than those of SV shares. However, this does not explain the negative prediction errors found on the day of listing because theoretically, a higher risk should lead to a higher return.

Amoako-Adu, Smith and Schnabel (1990) using a sample of 66 firms listed on the TSE between January 1983 and December 1987 compute both the unadjusted ordinary least square (OLS) betas and Dimson adjusted betas. On an average, no difference was found between the systematic risks of RV and SV shares. The average OLS unadjusted individual beta for SV shares was 0.819 and that for RV shares was 0.857, while the average Dimson adjusted individual beta for SV shares was 1.041 and that for RV shares was 1.037. Based on these results, they concluded that there is no difference in the risk of RV and SV shares.

3.3 Control Implications Following Dual-class Recapitalizations

Researchers have investigated changes in managerial voting control following a dual-class recapitalization. This provides insight into the importance of control to managers and also tests the theoretical contention that managers, in the presence of shares with disparate voting rights, would hold shares with SV rights. The evidence on the control aspect of dual-class recapitalizations is summarized in Table V.

The two studies on the control implications of dual-class recapitalizations in the United States have been done by DeAngelo and DeAngelo (1985) and Partch (1987). DeAngelo and DeAngelo (1985) examined the importance of managerial ownership of voting control in the corporate ownership structure. They studied managerial voting control after the issue of RV shares as compared to the managerial cash flow rights. For a sample of 45 firms in 1980, the median voting right controlled by the management was 56.9 percent as compared to their 24 percent interest in the cash flows. This proved their hypothesis that managerial control of voting rights is much greater than their right to cash flows which implies that corporate control has economic value. Partch (1987) using a sample of 43 firms found that insider control of voting rights increased from 48.6 percent prior to the creation of RV shares to 58.6 percent following the dual-class recapitalization. This indicates consolidation of voting control by insiders/managers following the issuance of RV shares.

The two studies summarized below present evidence from other stock markets. Horner (1988) looked into the allocation of voting rights in dual-class firms on the Zurich Stock Exchange. Majority shareholders were found to hold shares with SV rights.

Bergstrom and Rydqvist (1990) examined the concentration of voting rights in the presence of dual-class shares while studying the determinants of corporate ownership. Their sample included all firms listed on the Stockholm Stock Exchange and the Over-the-Counter Exchange as of January 1 1968, 1972, 1977, 1981 and 1986. The largest control block held more than 50 percent of both the votes and equity. This tendency

decreased as the firm became very large. This result contrasts with that of DeAngelo and DeAngelo (1985) who found that, in the United States, insiders held a greater proportion of voting rights as compared to their ownership of equity. Bergstrom and Rydqvist (1990) conclude that the possible combination of votes and equity permitted by the security-voting structure is more important in determining the concentration of voting rights than the presence of dual-class shares itself.

Also, Jog and Riding (1989) found that the liquidity of RV shares was considerably higher as compared to that of the SV shares. Though they expected the consolidation of insider position to have caused this, a latter study on insider trading (Jog and Riding, 1990) provided no support for this argument. This result contradicts the theoretical contention that the premium on SV shares is due to consolidation of control by insiders, and also one of the conclusions of Jarrell and Poulsen (1988).

In summary, the theoretical proposition that the announcement of a dual-class recapitalization would lead to a decrease in firm value has not been unambiguously validated. Evidence from several stock markets across the globe shows that RV shares of dual-class firms trade at significant discount as compared to SV shares of the same firms. This discount has been ascribed to the control implications arising from the issuance of RV shares. The two studies which investigate if changes in market model parameters had an influence on the discount on RV shares did not agree on the issue. Also, it has been found that managerial voting control increases following a dual-class recapitalization as theorized. This lends support to one of the previous conclusions that

the discount on RV shares is mainly due to the control implications of such shares. Hence, all theoretical propositions are empirically supported except for the one which proposes that firm value decreases on the announcement of a dual-class recapitalization.

Several theoretical propositions remain to be tested. For example, whether the probability of a takeover decreases following a dual-class recapitalization has not been tested. Similarly, the long term shareholder wealth impact due to the recapitalization remains to be seen. If recapitalization leads to entrenchment of an inefficient management, we would expect a negative long term performance. Smith and Amoako-Adu's (1991) paper provides another important direction in this research. Their survey of managers of firms that have announced a dual-class recapitalization found flexibility of raising additional equity as one of the major reasons cited for undertaking a dual-class recapitalization. If managers of a company would want to raise additional equity financing, it follows that they might be anticipating growth and profitable investment opportunities in the future, thereby sending a positive information signal to the market. So, it needs to be seen if firms undertaking dual-class recapitalization do experience higher growth as compared to firms that do not and if Canadian firms raise additional equity financing following the recapitalization. The former will also answer the question of how the firms undergoing dual-class recapitalization perform following the recapitalization. This research focusses on how firms undertaking a dual-class recapitalization perform in the long term.

4. STATEMENT OF THE PROBLEM

This study will focus on how firms, undertaking a dual-class recapitalization, perform in the long term after the recapitalization as compared to their performance prior to the recapitalization. This is one of the questions with regard to recapitalizations which is yet to be addressed in the literature

This study will also bring forth how investors, who invest in a dual-class firm before the recapitalization, fare following the recapitalization. As common stock is split into RV and SV shares following a dual-class recapitalization, the performance of the firm is reflected in the joint as well as individual performances of the two classes of shares. The performance of each individual-class of shares will provide information on the impact of voting rights on share prices and also show us if the contention that SV shares perform better than RV shares in the short-term holds true in the long term. The joint performance of the two classes of shares will be indicative of the performance of the firm following the dual-class recapitalization.

The hypothesis that will be addressed in this study is

H₀: Dual-class recapitalizing firms perform better in the long term following the recapitalization as compared to their performance before the recapitalization.

4.1 Performance of Dual-class Firms

The performance of firms will be measured as the stock market performance of the two classes of shares issued by dual-class firms. The stock market performance will be measured over a 36-month window, both preceding and following the dual-class recapitalization in order to arrive at the long term performance of the shares. The 36-month period before the listing of RV shares of dual-class firms on the stock market will be used for measuring the 'prior' performance, while the 36-month period following the listing of RV shares will be used for measuring the 'after market' performance.

5. SAMPLE AND DATA

5.1 Sample Sources

Sample firms were drawn from a total of 213 firms that listed RV shares on the TSE between 1928 and 1993. It is noted here that shares with disparate voting rights listed on the TSE are required to be designated as Restricted Voting, Subordinate Voting or Non-Voting as per the OSC classification (refer to Appendix I). Information such as industry classification of the firm, issued capital as of December 31, 1993 and year of first listing was obtained from the TSE Review. Additional information on the convertibility of SV shares, types of dividend and liquidation preferences and the presence of coattail provisions was gathered from Financial Post Yellow Cards, Survey of Industrials and Survey of Mines and Energy Resources.

5.2 Sample Selection Criteria

The following criteria were applied to the recapitalizing firms identified as above.

1. The firms must have undertaken a dual-class recapitalization between January 1978 and December 1992.
2. The firms must have undertaken a dual-class recapitalization through a stock split.
3. Monthly stock returns data must be available for the firms from the TSE/Western database.

Ninety two couples were identified between 1928 and 1993.⁶ Seventy two couples were listed on the TSE between January 1978 and December 1992. The distribution of singles and couples in the total population and in the period included in the study is presented in Table VI. Of the 72 'couples' listed between 1978 and 1992, 49 undertook dual-class recapitalization through a stock split while monthly stock returns data was available for 45 of these firms which formed the final sample. This list of 45 couples is presented in Table VII.

5.3 Stock Returns Data

The present study will use monthly returns from the TSE/Western database. Price and returns data for all firms listed on the TSE is available from 1975. As returns data for 36-months preceding the event date is required for hypothesis testing, firms listed on the TSE undertaking dual-class recapitalizations from 1978 through 1992 are used for conducting further analysis in the study.

5.4 Descriptive Statistics

The various statistics with regards to firms with RV shares listed on the TSE are presented below. Table VIII gives the annual distribution of couples listed on the TSE between 1978 and 1992 as well as those firms that make the final sample. It shows that

⁶ 'Couples' are firms with both classes of stock listed on the TSE and have issued RV shares as a dual-class recapitalization. While 'singles' are firms which do not have SV shares listed on the TSE and have issued RV shares as an initial public offering.

79.2 percent of the couples listed during the period included in the present study are listed on the TSE after 1980, of which 22.2 percent are listed between 1987 and 1992. Also, 80.0 percent of the final sample of 45 firms are listed on the TSE after 1980 while a majority of them are listed between 1981 and 1983. Table IX gives the distribution of the various types of shares amongst the couples listed during the period of study as per the OSC classification. It is interesting to find that almost none of the couples listed between 1978 and 1992 had shares with restricted voting rights. 75.6 percent of the couples and 62.5 percent of the final sample had shares with no voting rights. Between 36.1 and 24.4 percent of the couples had shares with subordinated voting rights. As mentioned in the Appendix I, these shares are allowed to vote in shareholder meetings, however, another class of shares carries more votes per share.

Table X gives the number of firms that are with or without coattail provisions. In this table, firms classified under 'not available' are those for which information is not available in the sources mentioned earlier. However, these are all expected to fall into the 'yes' category as the presence of coattail provision was made mandatory by the TSE for all firms listed after 1987. It is seen that between 73.3 and 66.7 percent of the firms have coattail provisions protecting the interests of RV shareholders.

Table XI gives the distribution of the couples based on industry sectors. It is seen that between 22.2 and 25.0 percent of the firms fall into the industrial products sector. Consumer products, conglomerates, and communications and media have between 22.2 and 19.4, 17.8 and 16.7, 5.5 and 4.4 percent of the couples respectively.

6. METHODOLOGY

Long term performance of dual-class firms is evaluated using Ritter (1991) methodology and the Sharpe portfolio performance measure. The Ritter methodology computes cumulative benchmark-adjusted returns and wealth relatives. This chapter discusses these measures in detail. Statistical tests used to test the hypothesis as in Chapter 5 are also discussed here. Another issue of interest is the deviation of long term performance of each individual firm from the benchmark. McNemar change test is used to evaluate such deviations across firms and is also discussed here.

6.1 Long term Performance of Dual-class Firms

This study evaluates pre- and post-recapitalization performance of dual-class firms. Monthly stock returns over a 36 month period are used in computing the various measures of long term performance. The month in which RV shares of firms get listed on the TSE is considered to be month '0'. The pre-recapitalization performance is calculated over months -36 to -1 and is called the CS-portfolio. Post-recapitalization performance is calculated over months +1 to +36. Returns for month 0 are excluded to avoid volatility of stocks around the event date. This will also exclude the possibility of an announcement effect influencing long term performance results.

The issue of measuring post-recapitalization long term performance in a firm going through dual-class recapitalization is an interesting one. Should it be the long term

performance of RV shares or SV shares? Also, one has to consider how the long term performance of stocks in the pre-recapitalization period may be compared to that in the post-recapitalization period, since the post-recapitalization period will feature two distinct stocks with distinct risk-return tradeoffs.

To address this, the evaluation of the post-recapitalization performance will be fashioned around three potential investor strategies. (Please refer to Table XVI for a summary of the investor strategies and the measures of performance used.) One possible strategy is the synthetic stock strategy or the 'SS-strategy' where the investor, who owned the common stock of a firm before the dual-class recapitalization, continues to hold RV and SV shares following the recapitalization using the same split factor so as to hold his/her investment constant.

The long term performance of SS-portfolio over months +1 to +36 in the post-recapitalization period may then be compared directly with the long term performance of the firm's common stock in the pre-capitalization period over months -36 to -1. This will show if the dual-class recapitalization has an impact upon long term stock performance. Consistent with the literature, we expect post-recapitalization long term performance of a firm to be inferior to its pre-recapitalization long term performance.

Another possible strategy (label it as SV-strategy) for an investor who owns common stock of the firm prior to recapitalization will be to continue to hold his share of SV stock, and sell off his share of RV stock and purchase more SV stock with the

proceeds to maintain his investment in the firm. In other words, the investor now holds a SV share portfolio keeping the investment in the firm constant at its pre-recapitalization level. If control has value, the long term performance of SV-strategy may be superior to that of the SS-strategy

Similarly, the investor may continue to hold his share of RV stock instead, and sell off his share of SV stock to purchase more RV stock with the proceeds so as to maintain his investment in the firm. In other words, the investor now holds a RV share portfolio keeping the investment in the firm constant at its pre-recapitalization level. Label it as RV-strategy. Again, a comparison of the relative long term performance of the RV, SV, and the SS strategies will reveal the source of long term abnormal performance, if found. It is possible that one type of stock may over/under perform at the expense of the other. This will have implications for portfolio managers who may want to tilt their holdings towards the stock strategy which is expected to yield superior returns.

6.2 Benchmarks used in Abnormal Return Calculation

Two benchmarks are employed in the calculation of abnormal returns, viz., TSE 300 Composite Index and Value-Weighted index. Abnormal returns computed using these benchmarks will show how the sample firms performed as compared to the market. The returns on market proxies will be used in the cumulative benchmark adjusted return, Sharpe measure and wealth relative computations. The use of the two benchmarks will also test sensitivity of the results with respect to the benchmark employed.

6.3 Measures of Performance

Ritter (1991) methodology will be used for evaluating long term performance of firms undertaking a dual-class recapitalization. This methodology is considered appropriate for the present study because of similarities in the design and objectives of the two studies. Ritter (1991) set out to test if the short-run underpricing of initial public offerings continues into the long term, which is the 3-year period following the initial public offering. The present study aims to examine the long-run performance, which includes the 3-year period following the dual-class recapitalization, of firms undertaking dual-class recapitalizations

Ritter (1991) methodology involves computation of two measures cumulative benchmark-adjusted returns and wealth relatives for the common stock portfolio and the three portfolios resulting from the dual-class recapitalization

Sharpe portfolio performance measure will be computed to test the differential performance of investor portfolios and benchmarks. Jobson and Korkie (1981) test will be used for measuring the significance of the Sharpe portfolio performance measure. The use of different measures for evaluating the long term performance of dual-class firms will increase the robustness of the results and will also bring forth the sensitivity of the results to the various measures

Cumulative Benchmark-Adjusted Returns

The benchmark-adjusted return for stock j in month t , a_{jt} , is given by,

$$a_{jt} = r_{jt} - r_{mt}$$

where r_{jt} is the raw return for stock j in month t and r_{mt} represents the benchmark used, which may be either the TSE 300 Composite Index or the Value-Weighted Index. Thus, there will be a pair of benchmark-adjusted returns for each firm in the sample before the dual-class recapitalization. However, after dual-class recapitalization there will be one benchmark-adjusted return for each benchmark - investor strategy combination. Since there are two benchmarks and three investor strategies the benchmark-adjusted returns can be represented by a 2×3 matrix of a_{jt} 's

The average-benchmark adjusted returns for n stocks in month t is computed as follows.

$$AR_t = \frac{1}{n} \sum_{j=1}^n a_{jt}$$

This will result in a set of average benchmark adjusted returns corresponding to the one discussed above for similar reasons.

t-statistics are calculated for the average benchmark-adjusted returns series and are used in hypothesis testing. The t-statistic for the AR_t series is given by

$$AR_t * \frac{\sqrt{n_t}}{sd_t}$$

where n_t is the number of observations in month t , and sd_t is the cross-sectional standard deviation of the benchmark adjusted returns for month t

The cumulative average benchmark-adjusted returns from event month q to event month s is the summation of the average benchmark-adjusted returns,

$$CAR_{q, s} = \sum_{t=q}^s AR_t .$$

$q=-36$ and $s=-1$ for measuring performance of the common stock portfolio before the dual-class recapitalization While $q=+1$ and $s=+36$ or the month of delisting for measuring performance after the recapitalization

Further statistical analysis is also done on the cumulative benchmark adjusted returns for hypothesis testing. The t-statistic for CAR in month t is given by

$$CAR_{1, t} * \frac{\sqrt{n_t}}{csd_t} ,$$

where n_t is the number of firms trading in month t , and csd_t is computed as

$$csd_t = \sqrt{[t * var + 2 * (t-1) * cov]}$$

where t is the corresponding month, var is the 36-month average cross-sectional variance of the AR_t series and cov is the first-order autocovariance of the AR_t series

The estimation of CAR's will involve monthly rebalancing to take care of delisting of firms. When a firm is delisted from the database in month s , the AR_t for month $s+1$ is an equally weighted average of the remaining firms. The proceeds of a delisted firm are equally distributed among the surviving firms in each subsequent month.

Wealth Relatives

As an alternative to CAR for measuring long term performance, 3-year holding period returns are also computed in the following manner

$$R_j = \prod_{t=q}^s (1 + r_{jt}) - 1$$

where r_{jt} is the raw return for firm j in month t . This measures the total return on a buy and hold strategy where the stock is purchased at the beginning of month q and held until the earlier of either the end of month s , or its delisting. The average total return for a portfolio could then be computed as an arithmetic average of total returns on stocks comprising the portfolio. To correctly interpret the average total portfolio return, wealth relative is computed as a performance measure. Assume that P1 is the portfolio whose long term performance is being compared to that of P2. Note that P2 can also be a market proxy. Wealth relative is defined as follows:

$$WR = \frac{1 + \text{average 3-year total return on Portfolio P1}}{1 + \text{average 3-year total return on Portfolio P2}}$$

A wealth relative of greater than 1.00 can be interpreted as portfolio P1

outperforming portfolio P2. No test is available to test the differences in WR's across different portfolios. The scope of these performance comparisons is specified as per the following table.

Portfolio P1			Portfolio P2		
Portfolio	q	s	Portfolio	q	s
CS	-36	-1	TSE 300/VW	-36	-1
SS	+1	+36	TSE 300/VW	+1	+36
SV	+1	+36	TSE 300/VW	+1	+36
RV	+1	+36	TSE 300/VW	+1	+36
SS	+1	+36	CS	-36	-1
SV	+1	+36	SS	+1	+36
RV	+1	+36	SS	+1	+36
SV	+1	+36	RV	+1	+36

Sharpe Measure

In addition to the above performance measures, Sharpe portfolio performance measure is also used. The use of the measure is appropriate in the present context because it tests the differential performance between the various sample portfolios and the benchmarks used. The Sharpe performance measure is computed as follows,

$$\Phi_i = \frac{\mu_i}{\sigma_i},$$

where μ_i is the mean abnormal return on portfolio i and σ_i is the population standard deviation of the abnormal return of portfolio i . The mean abnormal return on portfolio i ,

$$\mu_i = \sum_{t=1}^{t=36} \frac{\sum_{j=1}^{j=n} [r_{jt} - r_{ft}]}{n}$$

where r_{jt} is the return on stock j (common stock, RV stock, SV stock or synthetic stock) of a sample firm in month t and r_{ft} is the return on the risk-free asset in month t .

The Sharpe measure cannot, however, be used for relative comparisons across portfolios on a statistical basis. Jobson and Korkie (1981) have devised a statistical methodology to test the significance of the Sharpe portfolio performance measure across two different portfolios, i and p . This is computed using the transformed difference of the Sharpe measures for portfolios i and p (Sh_{ip}) given by.

$$Sh_{ip} = \sigma_i \mu_p - \sigma_p \mu_i,$$

where, μ_i and μ_p are the population mean excess rates of return for portfolios i and p , respectively, while σ_i and σ_p are the population standard deviations of excess rates of return for portfolios i and p , respectively. The variance of Sh_{ip} , θ_{ip} , is given by,

$$\theta_{ip} = \frac{1}{T} [2\sigma_i^2 \sigma_p^2 - 2\sigma_i \sigma_p \sigma_{ip} + \frac{1}{2} \mu_i^2 \sigma_p^2 + \frac{1}{2} \mu_p^2 \sigma_i^2 - \frac{\mu_i \mu_p}{2\sigma_i \sigma_p} (\sigma_{ip}^2 + \sigma_i^2 \sigma_p^2)]$$

where σ_{ip} is population covariance of excess returns for portfolios i and p , and T is

number of observations. Jobson and Korkie (1981) show that when the population parameters are replaced by sample estimates the resulting $\hat{S}h_{ip}$ (estimate) is asymptotically normal with mean Sh_{ip} and variance θ_{ip} . The statistical significance of the null hypothesis is tested using Z-statistic as follows,

$$Z_{ip} = \frac{\hat{S}h_{ip}}{\sqrt{(\theta_{ip})}},$$

where $\hat{S}h_{ip}$ is the sample estimate of the transformed difference of the Sharpe performance measures for portfolios i and p and θ_{ip} is the sample estimate of the variance of $\hat{S}h_{ip}$. These comparisons will also be conducted as per the table in the "Wealth Relatives" section.

Non-Parametric Statistical Analysis

Non-parametric statistical analysis is also conducted on the data to bring forth any changes in the patterns of performance following dual-class recapitalization. The McNemar change test is considered to be particularly appropriate for "before and after" designs in which each firm is used as its own control and in which the measurements are made on either a nominal or ordinal scale (Siegel and Castellan, 1992)

The first step in this test would be to construct a four fold table as follows

Pre-Dual-Class Recapitalization	Post-Dual-Class Recapitalization	
	Positive average benchmark-adjusted returns	Negative average benchmark-adjusted returns
Negative average benchmark-adjusted returns	A	B
Positive average benchmark-adjusted returns	C	D

The entries in the above table give the number of firms with the associated outcomes. A denotes the number of firms which underperformed with respect to the benchmark prior to the dual-class recapitalization and outperformed the benchmark following the dual-class recapitalization. Similarly, D is the number of firms which outperformed the benchmark prior to the dual-class recapitalization and underperformed as compared to the benchmark following the dual-class recapitalization. B is the number of firms which underperformed as compared to the benchmark both before and after the recapitalization, while C is the number of firms which outperformed the benchmark before and after. A and D are of interest to us because these firms have experienced a change in their pattern of performance following the dual-class recapitalization.

The null hypothesis to be tested would be that changes in either direction, that is, from outperforming the benchmark prior to the recapitalization to underperforming following the recapitalization and vice versa, are equally likely. This means that if $(A + D)$ firms show a change in performance following dual-class recapitalization, $(A + D)/2$ firms are expected to show an improvement in their comparative performance and $(A + D)/2$ firms are expected to show a decrease in their comparative performance. In other words,

when H_0 is true, the number of firms in each of the two cells is $(A+D)/2$.

The expression used to test the null hypothesis is

$$\chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$$

where O_i = the observed number of cases in the i th category

E_i = the expected number of cases in the i th category when H_0 is true

k = number of categories

Since we are interested in cells in which changes may occur in the McNemar change test, the above expression can be rewritten as

$$\chi^2 = \frac{(A - D)^2}{A + D} \quad \text{with } df = 1$$

Though the sampling distribution of χ^2 calculated from the above expression is asymptotically distributed as chi-square with $df = 1$, the approximation is poor when all expected frequencies are small. Following this,

$$\chi^2 = \frac{(|A - D| - 1)^2}{A + D} \quad \text{with } df = 1$$

is used for the computations. If the observed value of χ^2 is greater than or equal to the critical value given in a chi-square table for a particular significance level and $df = 1$, we may reject the hypothesis that the two types of changes are equally likely

7. EMPIRICAL RESULTS

Cumulative benchmark-adjusted returns, average benchmark-adjusted returns and their respective t-statistics for various investor portfolios are reported in Table XIII and XIV. These results reject the null hypothesis that dual-class recapitalizing firms perform better in the long term following recapitalization as compared to their performance before the recapitalization. The CS-portfolio performs better than the SS-portfolio of dual-class firms. Tables XIII to XVII and Figures I to III together show this consistent result across benchmarks used. It is also clear that the performance of the three post-recapitalization portfolios is not statistically different.

Table XV presents the value of \$1 investment in the various portfolios at different points of time. It is seen that a dollar invested in a recapitalizing firm 36 months prior to the recapitalization by an investor following the SS-strategy is worth \$3.52, 36 months following the recapitalization. Similarly, a dollar invested in the RV-strategy is worth \$3.46 while that invested in a SV-strategy is worth \$3.53. A dollar invested in the CS-portfolio is worth \$2.43 one month prior to the recapitalization while a dollar invested in the SS-, RV- and SV-portfolios one month following the recapitalization is worth \$1.44, \$1.42 and \$1.45 respectively 36 months after the recapitalization. Therefore, performance of the CS-portfolio is superior to the performance of the post-recapitalization portfolios. Figure I, which plots the change in the value of \$1 investment in a portfolio consisting of the 45 sample firms during the period of study, shows that the value of the investment increases before recapitalization, is stable during the twelve month period following the

recapitalization and increases again after that. Value of a dollar investment in the various investor portfolios computed net of market are also presented in Table XV. These results also confirm that the CS-portfolio performs better than the SS-, RV-, or SS-portfolios. Further, post-recapitalization portfolios are found to have similar performances.

From Tables XIII and XIV and Figures II and III the following is observed. The CAR's calculated for the CS-portfolio of sample firms show significant gains during the twelve months prior to the recapitalization. The increasing trend is broken at the time of recapitalization where CAR's start decreasing during the twelve month period following the recapitalization. About 23 percent of the gains made during the twelve month period preceding the recapitalization are lost during the twelve month period following the recapitalization. The decreasing trend in CAR's holds across all three post-recapitalization investor portfolios.

CAR's for the post-recapitalization investor portfolios improve again for all the post-recapitalization portfolios during the second year following the recapitalization. CAR's for the SS-portfolio increase from 53.88 to 63.77, while those for the SV and RV portfolio experience increases from 53.44 to 62.62 and from 53.33 and 65.86 respectively. The SV-portfolio continues to gain during the third year from 62.62 to 63.85, while the RV-portfolio shows a decline from 65.86 to 62.55 and the SS-portfolio also registers a decline from 63.77 to 61.86. It is observed that CAR values at $t=+36$ for the various post-recapitalization investor portfolios are not very different from the CAR value at $t=-1$ for the CS-portfolio. This result clearly indicates that the pre-recapitalization performance

of dual-class firms is much better than their post-recapitalization performance. It is also observed that there are very minor differences in the performances of RV-, SV-, and SS-portfolios. The null hypothesis that the difference between the means of the various portfolios is zero cannot be rejected at significance levels (as given by the t-statistic) of 0.10, 0.05 and 0.02 for the SS- and SV-, SS- and RV-, and SV-and RV portfolio combinations respectively.

The CAR's calculated against the two market proxies, TSE 300 Composite Index and Value-Weighted Index give similar results and have the same implications for the hypothesis tested. The trends for the various portfolios discussed above hold true for the two benchmarks, though the results show little sensitivity to benchmarks used.

Betas for the pre- and post-recapitalization investor portfolios are presented in Table XVI. This computation is done to identify any differences in risk characteristics of the stocks. It is found that the betas for CS- and SV-portfolios are similar while that for the RV-portfolio is higher than the other two investor portfolios.

Wealth relatives presented in Table XVII also support the observation that dual-class firms perform better prior to the recapitalization as compared to their performance following the recapitalization. As can be seen from this table, the CS-portfolio outperforms all the benchmarks as well as the SS-portfolio.⁷ It is found that each of the three post-recapitalization investor portfolios outperforms the TSE 300 Composite Index

⁷ Unfortunately no test to test the statistical significance of wealth relatives has been identified.

and the Value-weighted Index while the SV-portfolio outperforms both the RV- and SS-portfolios.

The Sharpe measures for the portfolios and the corresponding Z-statistics are presented in Table XVIII. The null hypothesis is that the transformed difference of the Sharpe measures for the pair of portfolios under consideration is zero. From Table XVIII, the null hypothesis cannot be rejected for the CS TSE 300 and the CS VW portfolio pairs. The results of the Sharpe analysis are consistent with the foregoing analysis in that the performance of the CS-portfolio and the post-recapitalization portfolios is not similar, and that the SS-strategy underperforms CS-portfolio performance in the pre-recapitalization period. Also, no significant differences in the performance of the post-recapitalization investor portfolios has been found.

The results of McNemar change test are presented in Tables XIX and XX. χ^2 values for the various portfolios are significant at 0.025 significance level with $df=1$. Hence, the null hypothesis that a decrease in the performance of firms following the dual-class recapitalization is equally likely as an increase in the performance of firms following the recapitalization cannot be accepted. It can be seen from Table XIX that there are more firms which had positive AR_t 's prior to the dual-class recapitalization and changed to negative AR_t 's following the recapitalization, than firms that experienced a change in the opposite direction. 18 to 21 firms changed from positive to negative AR_t , while only 6 firms changed from negative to positive AR_t 's. There does not appear to be a significant difference between the changes in performance of the various portfolios

following the recapitalization and there is a definite trend towards a decrease in firm performances across portfolios. So, once again the results reject the hypothesis that recapitalizing firms perform better in the long term following the recapitalization as compared to their performance prior the recapitalization.

The analysis done in this study gives consistent and distinct results irrespective of the measure of performance and the benchmark used. Important outcomes of the study are: One, announcements of dual-class recapitalizations come after a period of significant positive abnormal returns. Two, the increasing trend in the performance of CS-portfolio, as given by cumulative benchmark-adjusted returns, is curtailed at the time of the recapitalization. Three, recapitalizing firms perform worse after the recapitalization as compared to their performance during the pre-recapitalization period. Four, the differential performance of the post-recapitalization portfolios, viz., SS, RV and SV, does not statistically significantly differ from zero. Five, the results are consistent across benchmarks, measures and post-recapitalization portfolios.

These results lend support to the theoretical propositions of Grossman and Hart (1988), Harris and Raviv (1988), Stulz (1988) and Ruback (1988) who claim that dual-class recapitalizations are not in the interest of the shareholders. The decline in performance of firms during the twelve months following the dual-class recapitalization favours their propositions. The study fails to support Jensen and Meckling's (1976) agency theory which favours consolidation of control by insiders/managers, through a dual-class recapitalization, as it would lead to the alignment of shareholder manager

interests. However, the results do not support Stulz (1988) and Ruback (1988) hypothesis that RV shares of dual-class firms experience inferior performance as compared to the firms SV shares. Therefore, control does not seem to have economic value as RV- and SV-shares of dual-class firms have similar performances.

Further, the negative announcement effect found in empirical studies of Jog and Riding (1986), Jarrell and Poulsen (1988) and Partch (1987) does seem to continue into the twelve months following the recapitalization. Firms in the sample experience small gains in cumulative benchmark-adjusted returns during the second year following the recapitalization. So, dual-class recapitalizations have an adverse impact on long-term firm value.

8. CONCLUSIONS

When traditional firms with one share-one vote equity structure reclassify their common stock into dual-class shares with unequal voting privileges, they can trigger off a variety of possible consequences. This study set out to examine one such issue, viz., the effect of recapitalization on the long term performance of a firm for a sample of 45 recapitalizing Canadian firms, over the years 1978 and 1992.

Long term performance was measured by cumulative benchmark-adjusted returns, wealth relatives and the Sharpe portfolio performance measure, each of which was computed for the 36-month period, both before and after the recapitalization event. In addition, a non-parametric test, the McNemar change test, was used to observe any significant deviations in performance patterns after dual-class recapitalization.

It has been found that dual-class recapitalizations adversely affects firm performances. Firms performed better during the pre-recapitalization period than in the post-recapitalization period. This study also finds that the recapitalization occurs after a period of significant abnormal returns for more than a year prior to the recapitalization, much like the run up observed prior to the announcement of seasoned public offerings of common stock (see for example, Asquith and Mullins (1986)). In the one year subsequent to the recapitalization, significantly negative cumulative abnormal returns of the order of -10.00 percent are observed. Much of this is recovered in years 2 and 3 as significantly positive abnormal returns occur. However, for the overall period of 36 months post-

recapitalization, the SS portfolio experiences a slight decline in CAR's of 1.47%, compared to +0.80% for the SV portfolio and -0.81% for the RV portfolio. The differential performance across portfolios is statistically insignificantly different from zero. Also, the systematic risks of the CS-, RV- and SV-portfolios are only marginally different. These results are found to be consistent across the benchmarks as well as the measures of performances used in this study.

The important conclusion that shares with disparate voting rights have similar performances raises the question of whether this result can be attributed to the presence of coattail provisions to compensate for the absence or restriction of voting rights. Further investigation is needed to arrive at a meaningful answer and this is a subject of future research.

The issue of a possible consolidation of firm control following dual-class recapitalization is not addressed in the present study. This is of importance because research shows that most consequences of dual-class recapitalizations, including implications for firm value, are due to the consolidation of firm control by insiders. This study does not investigate if dual-class recapitalizations lead to increased managerial control of the firm but it assumes it to hold true for the sample of 45 firms. Such an assumption is not unreasonable because consolidation of corporate control following recapitalization has been confirmed in several studies.

9. BENEFITS AND LIMITATIONS

9.1 Benefits

It is hoped that this study will be of significant benefit to a wide variety of audiences. It enables more informed decision making by a portfolio manager in adjusting the portfolio mix taking into account the long term prospects for dual-class firms. The decline in the growth of the cumulative benchmark-adjusted returns during the year after recapitalization indicates that it is not wise to sell shares in the firm during the time. Similarity in the performances of RV and SV shares suggests that portfolio managers and investors alike can afford to be indifferent to the combination of these share types, provided that the control over the firm is not a shareholder objective.

To the financial analyst, this study offers a framework for a comparative analysis of the performance of common stock firms and dual-class firms. Policy makers, concerned with regulatory issues related to dual-class recapitalization, are other possible beneficiaries. Coherent theory connecting long term firm performance and dual-class recapitalization is yet to be developed. The present analysis aims to provide useful empirical results for academicians engaged in linking theory to practical observations especially the observed impact of dual-class recapitalization on long term firm value.

9.2 Limitations

This study sought to evaluate performance of dual-class firms following the recapitalization as compared to their performance before the recapitalization and also against a set of benchmarks. Several researchers conclude, as a result of their empirical investigations, that the changes in control of the corporation led to several of the identified implications for shareholder wealth. The current study does not investigate if dual-class recapitalizations led to increased managerial control of the firm but rather assumes it to hold true for the sample of 45 firms. Such an assumption is reasonable not only because one of the managerial reasons for dual-class recapitalizations is consolidation of control but also because it has been validated in several studies

Finally, the generalizability of the results obtained could be questioned. One possible ground for questioning the generalizability is that only TSE-listed firms comprised the study-sample. However, generalizations to other Canadian situations are not unreasonable as the TSE is the biggest stock exchange in Canada

9.3 Issues for Further Research

It is seen that dual-class recapitalizations adversely impact firm performance and that dual-class firms perform worse in the post-recapitalization period as compared to their performance prior to the recapitalization. Future research on the long-term performance of dual-class firms needs to analyze if decrease in the probability of a takeover following

the recapitalization leads to this fall in performance. Further research is also required to confirm if the presence of coattail provisions results in similar performances of the RV- and SV-portfolios. No research has studied the accounting performance of dual-class firms following the recapitalization. Such an endeavour would present an additional perspective on the impact of dual-class recapitalizations on the overall firm performance. Also, one of the main reasons cited by managers for undertaking a dual-class recapitalization is that it increases flexibility for raising additional equity. Research is required to see if recapitalizing firms go in for additional equity financing following the recapitalization and if this leads to the adverse impact on firm performance following the recapitalization.

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APPENDIX I

Regulation governing RV shares

Increased regulation with regards to RV shares became necessary in the 1980's with investors, investment managers and analysts alike raising concerns with regards to the wealth impacts of dual-class recapitalizations. Such recapitalizations affect shareholders' wealth by influencing the decisions and performance of managers.

A brief summary of the regulations which govern RV shares in Ontario is presented below.⁶ RV shares in this province are governed by regulation from:

- (i) OSC
- (ii) TSE and
- (iii) Corporate Law.

The following discussion will focus briefly on regulation by OSC and TSE as it has undergone considerable change during the past decade. This change is reflected in OSC Policy 1.3 and TSE Policy on 'Takeover Protection for holders of Restricted Shares'

OSC Policy 1.3

OSC Policy 1.3 presents the definitions of various terms, legal requirements that a company must adhere to when issuing and designating RV shares, disclosure requirements upon issuing RV shares and thereafter, the rights of minority shareholders when faced with the proposal of dual-class recapitalization and the rights of RV shareholders in case of a control contest

The disclosure requirements of Policy 1.3 make it compulsory for any company to designate its RV shares as one of the following:

- (i) Non-voting: these shares have no voting rights except under certain given circumstances
- (ii) Subordinate voting: these shares have right to vote at shareholder meetings but another class of shares carry more votes per share, or
- (iii) Restricted voting: these shares have an equal right to vote as the SV shares but have a restriction on the number or percentage of shares that might be voted by a person or company or a group

The takeover rules of the Ontario Securities Act apply to RV shares when the offer of a contesting party together with his current ownership, exceeds 20 percent of the

⁶ Given that the sample will include firms listed on TSE, only

outstanding RV shares.

OSC also requires that dual-class recapitalizations be approved by a majority of the minority shareholders.

TSE Regulation

TSE's policy on 'Takeover Protection for Holders of Restricted Shares' mainly deals with coattail provisions. This policy requires that a takeover offer be extended to all RV shareholders unless:

- (i) an identical offer in terms of price per share and percentage of outstanding shares to be taken up, exclusive of shares owned prior to the offer, is made to RV shareholders, or
- (ii) less than 50 percent of the common shares outstanding (excluding prior holdings by the offeror) are deposited pursuant to the offer. If the common shares do not have a published market then the shareholders holding 80 percent of the common shares must enter into an agreement to protect the rights of RV shareholders during a takeover.

Though the TSE provides guidelines for coattail provisions, the actual wording of the coattail is left to the company. It should be noted that the presence of coattail provisions does not guarantee participation of RV shareholders in a takeover bid. Participation of RV shareholders in a control contest would occur only when the coattail provisions are provided through legislation.

Table 1

Summary of the Theoretical Work on RV Shares

STUDY	OBJECTIVE	HYPOTHESES
Stulz (1988)	Studies the impact of managerial control of voting rights on firm value.	Shareholders' wealth increases or decreases following increased managerial control, depending on whether the managerial control of voting rights is large or small
Grossman and Hart (1988)	Analyze the optimality of the one share-one vote rule.	One share-one vote is both socially and privately optimal
Harris and Raviv (1988)	Derive conditions under which simple majority voting rule and one share-one vote ensure social optimality.	One-share-one vote and simple majority ensure social optimality but deviations from one share-one vote increase shareholder wealth

Table II
**Wealth Effects upon Announcements of Dual-class
recapitalizations**

STUDY	STOCK EXCHANGE¹	SAMPLE SIZE	RESULTS	EVENT WINDOW
Jog and Riding (1986)	TSE	33	- 0.0125	-1 to +1
Jarrell and Poulsen (1988)	NYSE, ² AMEX ³ AND NASDAQ ⁴	94	- 0.82	0 and +1
Partch (1987)	NYSE, NASDAQ and AMEX	44	No wealth effects	Announcement day to the day after shareholder meeting

¹Stock Exchange on which firms included in the sample are listed

²NYSE for New York Stock Exchange.

³AMEX for American Stock Exchange

⁴NASDAQ for National Association of Securities Dealers Automated Quotation.

Table III
Premium on SV Shares in Relation to RV Shares

STUDY	STOCK EXCHANGE¹	PERIOD OF STUDY	PREMIUMS (percent)	SAMPLE SIZE
Smith and Amoako-Adu (1991)	TSE	1981-89	11.9	61
Smith and Amoako-Adu (1993)	TSE	1987-91	12.7	90
Jog and Riding (1986) ⁴	TSE	1976-84	7.0	33
Lease, McConnell and Mikkelsen (1983)	NYSE, NASDAQ and AMEX	1940-78	5.4	30
Levy (1982)	Tel Aviv	As of 1981	45.5	25
Horner (1988)	Zurich	1973-83	- ²	45
Meggison (1989)	London	1955-82	13.3	152
Herman and Santoni (1989)	Swiss	1988	15.0	36

¹Stock Exchange on which firms included in the sample are listed

²Not provided.

Table IV
Differences in the Market Model Parameters between RV and SV
Shares

STUDY	STOCK EXCHANGE ¹	SAMPLE SIZE	CONCLUSION
Jog and Riding (1989)	TSE	33	Betas of RV shares are significantly higher than those of SV shares
Amoako-Adu, Smith and Schnabel (1990)	TSE	66	No differences in the systematic risk of RV and SV shares.

¹Stock Exchange on which the sample firms are listed

Table V

Control Implications Following Dual-class recapitalizations

STUDY	STOCK EXCHANGE¹	SAMPLE SIZE	CONCLUSION
DeAngelo and DeAngelo (1985)	NASDAQ and AMEX	45	Managers control 56.9% of voting rights as compared to 24% of cash flows
Partch (1987)	NYSE, NASDAQ and AMEX	44	Insider voting control increased from 48.6% prior to the creation of RV shares to 58.6% after the creation of RV shares
Horner (1988)	Zurich	45	Majority shareholders hold SV shares
Bergstrom and Rydqvist (1990)	Stockholm	204 ²	Proportional ownership of voting rights to cash flows are more predominant

¹Stock Exchange on which firms included in the sample are listed

²Firms studied in 1986 might include firms studied in the previous years if they continue to be listed

Table VI
Distribution of Singles and Couples

Type of RV firm	1928-1992	Percent	1978-92	Percent
Singles	121	59.3	91	59.1
Couples	92	40.7	72	40.1
Total	213	100.0 ¹	163	100.0 ¹

¹The total might not add up to 100 due to rounding

Table VII

List of Dual-class Firms Included in the Sample

No	Stock Symbol			Name of the Dual-Class Firm	Issued Capital as of 31 December 1993	Year first listed on the TSE
	CS	SV	RV			
1	AGR	AGR.A	AGR.B	Agra Industries Ltd CL 'B' NV	16,270,213	1983
2	ADW	ADW.B	ADW.A	Andres Wines Ltd CL 'A' NV	3,461,960	1978
3	ABO	ABO.A	ABO.B	Arbor Capital Inc. CL 'B' NV	5,247,397	1981
4		AYE.A	AYE.B	Argyll Capital inc CL 'A' NV	-	1981
	CDE	CDE.B	CDE.A	Previously Calvert-Dale Estates		
5	ACO.A	ACO.Y	ACO.X	Atco Ltd CL 'T' NV	26,280,612	1981
	ACO.B			Consolidated and split		
6	BNB	BNB.B	BNB.A	Baton Broadcasting Cl 'A' NV	-	1981
7	CSH	CSH.B	CSH.A	Cableshare Inc CL 'A' SV	11,413,746	1986
8	CCM.A	CCM.Y	CCM.X	Canadian Corporate Mgmt Cl 'X' NV	-	1980
	CCM.B			Consolidated and split		
9	CFT	CFT.B	CFT.A	Canadian Foremost Ltd Cl 'A' NV	-	1981
10	CMQ	CMQ	CMQ.A	Canadian Manor Industries Ltd NV	1,600,000	1986

No	Stock Symbol			Name of the Dual-Class Firm	Issued Capital as of 31 December 1993	Year first listed on the TSE
	CS	SV	RV			
11	CU	CU X	CU	Canadian Utilities Ltd. CL 'A' NV	38,497,095	1982
12	CAO	CAO	CAO.A	Cara Operations Ltd. CL 'A' NV	62,547,207	1980
13	CCQ	CCQ.A	CCQ.B	CCL Industries Ltd CL 'B' NV	30,135,692	1983
14	FLY	FLY.B	FLY.A	CHC Helicopter Corp. CL 'A' SV	5,780,682	1991
15	CDG	CDG.B	CDG.A	Consumers Distributing CL 'B' SV	-	1983
16		CRX	CRX.A	Crownx Inc CL 'A' NV Previously Extendicare Ltd	40,216,994	1979
	EXT	EXT	EXT.A			
17	DEN	DEN.A	DEN.B	Denison Mines Ltd CL 'B' NV	43,732,669	1984
18	DML	DML.B	DML.A	Dickenson Mines Ltd. CL 'A' SV	12,384,759	1980
19	DM	DOM.A	DOM.B	Doman Industries Ltd CL 'B' NV Series 2	26,105,476	1984
20	EL.A	EL.X	EL.Y	Electrohome Ltd. CL 'Y' NV Consolidation and subdivision	3,767,560	1981
	EL.B					
21	FTT	FTT.B	FTT.A	Finning Tractor & Equipment Ltd CL 'B' NV	-	1981

No	Stock Symbol			Name of the Dual-Class Firm	Issued Capital as of 31 December 1993	Year first listed on the TSE
	CS	SV	RV			
22	FMS	FMS.C	FMS.A	First Marathon Inc. CL 'A' NV	21,913,723	1984
23	GSD	GSD	GSD.A	Gesco Industries Inc CL 'A' NV	2,115,350	1988
24	GCG	GCG	GCG.A	Guardian Capital Group Ltd. CL 'A' NV	4,622,564	1986
25	IWT	IWT	IWT.A	Irwin Toy NV	2,674,506	1982
26	LDM	LDM.A	LDM.B	Laidlaw Transportation Inc CL 'B' NV	299,555,668	1979
27	LHX	LHX.B	LHX.A	Lochiel Exploration CL 'A' NV	-	1981
28	MS.A	MS.B	MS.A	Marshall Steel Ltd. CL 'A' SV	-	1986
29	MHG	MHG.A	MHG.B	MDS Health Group Ltd CL 'B' NV	-	1980
30	MFC	MFC	MFC.A	Municipal Financial Corp CL 'A' NV	3,977,113	1987
31	NSP	NSP	NSP.A	National Sea Products Ltd. Equity NV	-	1986
32	NCC	NCC.B	NCC.A	Newfoundland Capital Corp CL 'A' SV	10,572,667	1981
33	NMA	NMA.B	NMA.A	Noma Industries Ltd CL 'A' NV	27,179,085	1981
34	NCN	NCN	NCN.A	Norcen Energy Resources	-	1983

No	Stock Symbol			Name of the Dual-Class Firm	Issued Capital as of 31 December 1993	Year first listed on the TSE
	CS	SV	RV			
				Ltd. SV		
35	NPI	NPI.B	NPI.A	Normick Perron CL 'A' SV	-	1984
36	OAK	OAK	OAK.A	Oakwood Petroleum Ltd. CL 'A' NV	-	1983
37	RPC	RPC	RPC.B	Revenue Properties Ltd. CL 'B' NV	-	1981
38	SRC.A SRC.B	SRC.C	SRC	Scott's Hospitality Inc SV	36,770,306	1980
39	SHL	SHL.B	SHL.A	Shaw Industries Ltd CL 'A' SV	-	1988
40	SSI	SSI.A	SSI.B	Slater Industries Inc. CL 'B' NV	5,624,398	1984
41	TBL	TBL.A	TBL.B	Tombill Mines Ltd. CL 'B' NV	3,097,232	1981
42	TZC	TZC.B	TZC.A	Trizec Corp Ltd CL 'A'	138,347,530	1984
43	UCS	UCS.A	UCS.B	Unican Security Systems Ltd CL 'B' SV	5,105,906	1986
45	UPF	UNI.B UPF.B	UNI.A UPF.A	Unicorp Canada Corp. CL 'A' NV Formerly Unicorp Financial Corp.	9,655,251	1979
45	WDR	WDR.B	WDR.A	Wardair International Ltd. CL 'A' NV	-	1983

Table VIII

Annual Distribution of Couples Listed on the TSE between 1978 and 1992

YEAR	NO. OF COUPLES (1978-92)	PERCENT OF TOTAL	FINAL SAMPLE	PERCENT OF TOTAL
1978-80	15	20.8	9	20.0
1981-83	23	31.9	20	44.4
1984-86	18	25.0	12	26.7
1987-89	7	9.7	3	6.7
1990-92	9	12.5	1	2.2
Total	72	100.0 ¹	45	100 ¹

¹The total might not add up to 100 due to rounding

Table IX
Distribution of Couples with Shares Designated as per the OSC
Classification

Type of RV Share	1978-92	Percent	Final Sample	Percent
Restricted voting	1	1.4	0	0.0
Subordinate voting	26	36.1	11	24.4
Non-voting	45	62.5	34	75.6
Total	72	100.0 ¹	45	100 ¹

¹The total might not add up to 100 due to rounding

Table X**Distribution of Couples depending on the presence or absence of
coattail provisions**

Coattail Provisions	1978-92	Percent	Final Sample	Percent
Yes	48	66.7	33	73.3
No	11	24.2	7	15.6
Not available	13	18.1	5	11.1
Total	72	100 ¹	45	100 ¹

¹The total might not add up to 100 due to rounding

Table XI
Distribution of Couples based on Industry Sector

INDUSTRY SECTOR	1978-92	Percent	Final Sample	Percent
Metals and Minerals	4	5.5	2	4.4
Gold and Silver	1	1.4	1	2.2
Oil and Gas	5	6.9	3	6.7
Paper and Forest Products	1	1.4	1	2.2
Consumer Products	14	19.4	10	22.2
Industrial Products	18	25.0	10	22.2
Real Estate	3	4.2	1	2.2
Transportation and Environmental Services	2	2.8	1	2.2
Pipelines	0	0.0	0	0.0
Utilities	1	1.4	0	0.0
Communications and Media	4	5.5	2	4.4
Merchandising	3	4.2	2	4.4
Financial Services	4	5.5	4	8.9
Conglomerates	12	16.7	8	17.8
TOTAL	72	100 ¹	45	100 ¹

¹The total might not add up to 100 due to rounding

Table XII
Investor Strategies and Measures Used

MEASURES USED	PRE-EVENT	POST-EVENT INVESTOR STRATEGIES
Wealth Relatives	Common Stock	SS-Strategy
		RV-Strategy
		SV-Strategy
Benchmark-adjusted returns (Market Proxies)	Common Stock	SS-Strategy
		RV-Strategy
		SV-Strategy
Sharpe Measure	Common Stock	SS-Strategy
		RV-Strategy
		SV-Strategy

Table XIII

Cumulative benchmark-adjusted returns for the Various Portfolios using
TSE 300 Composite Index

Portfolios		Month			
		-36	-24	-12	-1
CS Portfolio	No. of Cos.	38	40	44	45
	CAR (t-stat)	-3.03 (-2.20)	10.14 (1.44)	27.16 (2.88)	61.96 (5.52)
		+1	+12	+24	+36
SS Portfolio	No. of Cos.	44	45	45	45
	CAR (t-stat)	63.33 (4.18)	53.88 (3.15)	63.77 (3.33)	61.86 (2.95)
SV Portfolio	No. of Cos.	44	45	45	43
	CAR (t-stat)	63.05 (4.11)	53.44 (3.08)	62.62 (3.23)	63.85 (2.94)
RV Portfolio	No. of Cos.	42	44	44	43
	CAR (t-stat)	63.36 (3.91)	53.33 (2.95)	65.86 (3.26)	62.55 (2.79)

Table XIV

Cumulative benchmark-adjusted returns for the Various Portfolios using
Value Weighted Index

Portfolios		Month			
		-36	-24	-12	-1
CS Portfolio	No. of Cos.	38	40	44	45
	CAR (t-stat)	-3.31 (-2.40)	8.97 (1.27)	24.30 (2.58)	59.21 (5.29)
		+1	+12	+24	+36
SS Portfolio	No. of Cos.	44	45	45	45
	CAR (t-stat)	60.59 (4.00)	51.19 (3.00)	61.23 (3.21)	59.21 (2.83)
SV Portfolio	No. of Cos.	44	45	45	43
	CAR (t-stat)	60.31 (3.93)	50.75 (2.93)	60.17 (3.11)	61.14 (2.81)
RV Portfolio	No. of Cos.	42	44	44	43
	CAR (t-stat)	60.63 (3.75)	50.75 (2.82)	63.43 (3.15)	60.10 (2.69)

Table XV

Value of a One Dollar Investment in the Various Portfolios

Adjustment	Portfolios	-36, -1	+1, +36	-36, +36
Raw	CS/SS	2.43	1.44	3.52
	RV	2.43	1.42	3.46
	SV	2.43	1.45	3.53
TSE 300	CS/SS	1.39	1.02	1.42
	RV	1.39	1.01	1.41
	SV	1.39	1.03	1.43
Value-Weighted	CS/SS	1.35	1.02	1.38
	RV	1.35	1.01	1.37
	SV	1.35	1.03	1.39

Table XVI

Beta values for the Three Investor Portfolios

Portfolio	Time Period	Firms	Index	
			TSE 300	Value-Weighted
CS	-36 to -1	44 ¹	0.837872	0.798489
RV	+1 to +36	44 ¹	0.905494	0.876838
SV	+1 to +36	44 ¹	0.827906	0.801717

¹ One of the 'couples' which had abnormal values was excluded from the mean portfolio beta computations.

Table XVII

Wealth Relatives for the Various Portfolios

Portfolio P1			Portfolio P2			Wealth Relatives
Portfolio	q	s	Portfolio	q	s	
CS	-36	-1	TSE 300	-36	-1	1.63
SS	+1	+36	TSE 300	+1	+36	1.30
SV	+1	+36	TSE 300	+1	+36	1.34
RV	+1	+36	TSE 300	+1	+36	1.28
CS	-36	-1	VW	-36	-1	1.51
SS	+1	+36	VW	+1	+36	1.24
SV	+1	+36	VW	+1	+36	1.34
RV	+1	+36	VW	+1	+36	1.17
SS	+1	+36	CS	-36	-1	.38
SV	+1	+36	SS	+1	+36	1.02
RV	+1	+36	SS	+1	+36	1.00
SV	+1	+36	RV	+1	+36	1.05

Table XVIII

Transformed Sharpe Measures and the corresponding Z-Statistics

Portfolio i	q	s	Portfolio p	q	s	Transformed Sharpe Measures (Z-Statistic)
CS	-36	-1	TSE 300	-36	-1	1.11 (3.42)
SS	+1	+36	TSE 300	+1	+36	0.00 (-0.11)
SV	-1	+36	TSE 300	+1	+36	0.03 (0.12)
RV	+1	+36	TSE 300	+1	+36	0.00 (-0.18)
CS	-36	-1	VW	-3	-1	1.11 (2.50)
SS	+1	+36	VW	+1	+36	0.00 (-0.11)
SV	+1	+36	VW	+1	+36	0.03 (0.13)
RV	+1	+36	VW	+1	+36	0.00 (-0.17)
SS	+1	+36	CS	+1	+36	0.00 (-0.82)
SV	+1	+36	SS	+1	+36	0.03 (0.85)
RV	+1	+36	SS	+1	+36	0.00 (-0.26)
SV	+1	+36	RV	+1	+36	0.03 (0.61)

Table XIX

**Changes in the Performance of the Various Investor Portfolios
(McNemar Change Test)**

Pre Dual-class Recapitalization	Post Dual-class Recapitalization			
	Positive average benchmark- adjusted returns	Negative average benchmark- adjusted returns	Positive average benchmark- adjusted returns	Negative average benchmark- adjusted returns
SS-and RV- Portfolios	TSE 300 Composite Index		Value-weighted Index	
Negative average benchmark- adjusted returns	6	5	6	3
Positive average benchmark- adjusted returns	15	19	15	21
SV-Portfolio	TSE 300 Composite Index		Value-weighted Index	
Negative average benchmark- adjusted returns	6	5	6	5
Positive average benchmark- adjusted returns	16	18	16	18

Table XX
 χ^2 Values for the McNemar Change Test

Index Used	Portfolios	χ^2
TSE 300 Composite Index	SS-and RV-Portfolios	5.76 ¹
	SV-Portfolio	5.04
Value-Weighted Index	SS-and RV-Portfolios	7.26 ²
	SV-Portfolio	5.04

1. All χ^2 values are significant at the 0.025 level with df=1
2. Significant at the 0.01 level with df=1

Figure I
Value of \$1 dollar Investment in the Various Portfolios

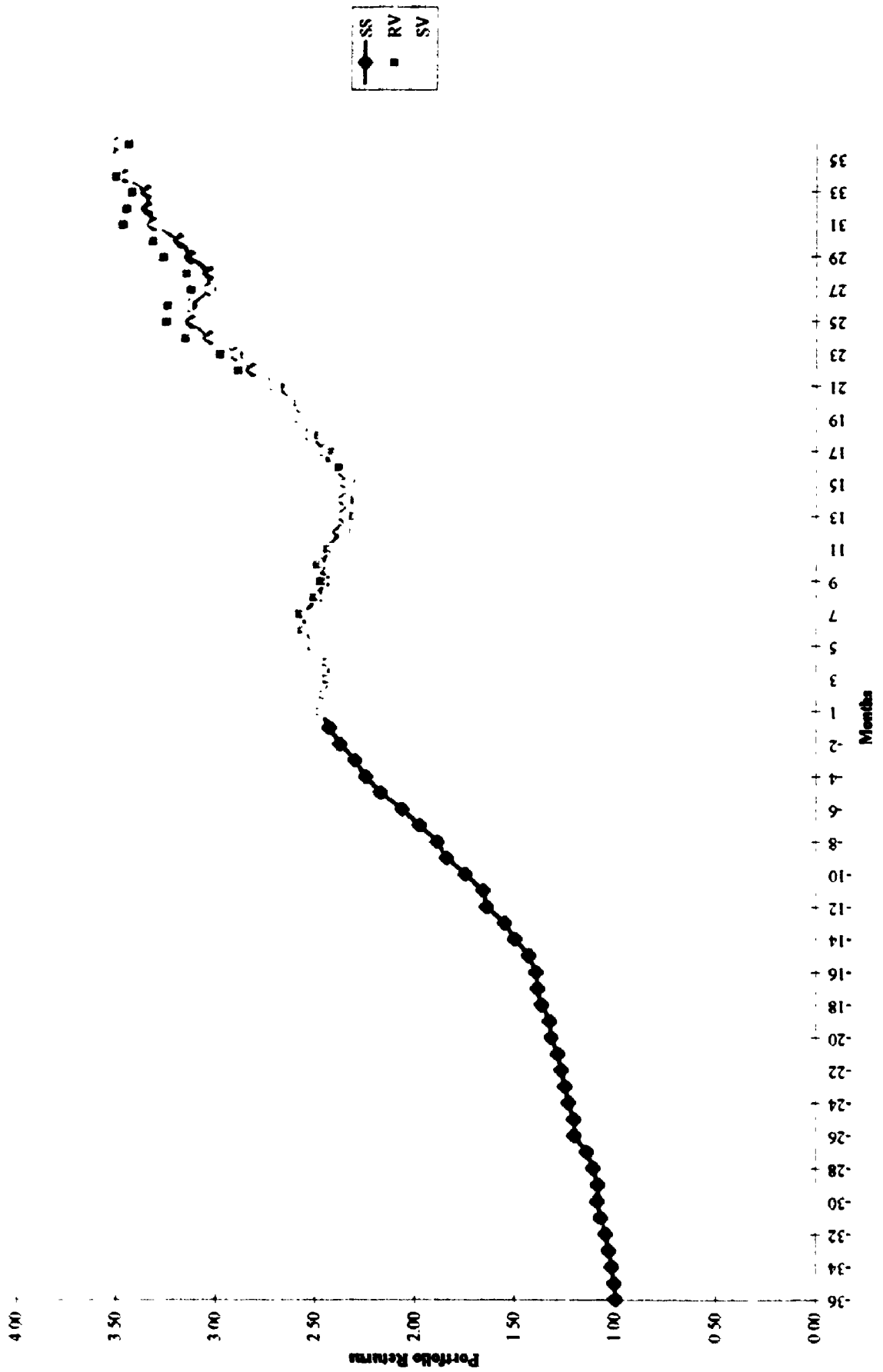


Figure II
Cumulative Benchmark-Adjusted Returns using TSE 300 Composite Index

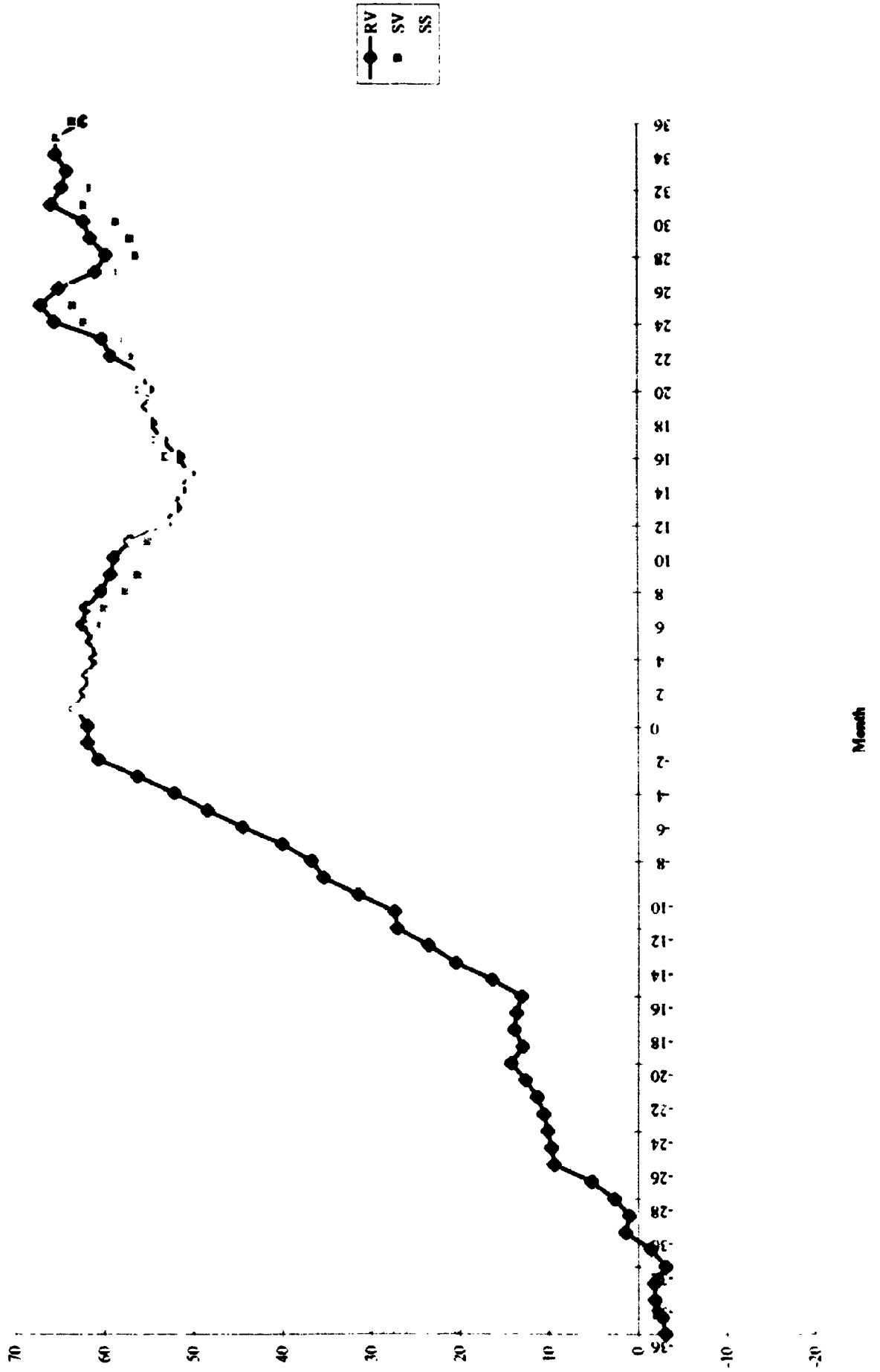
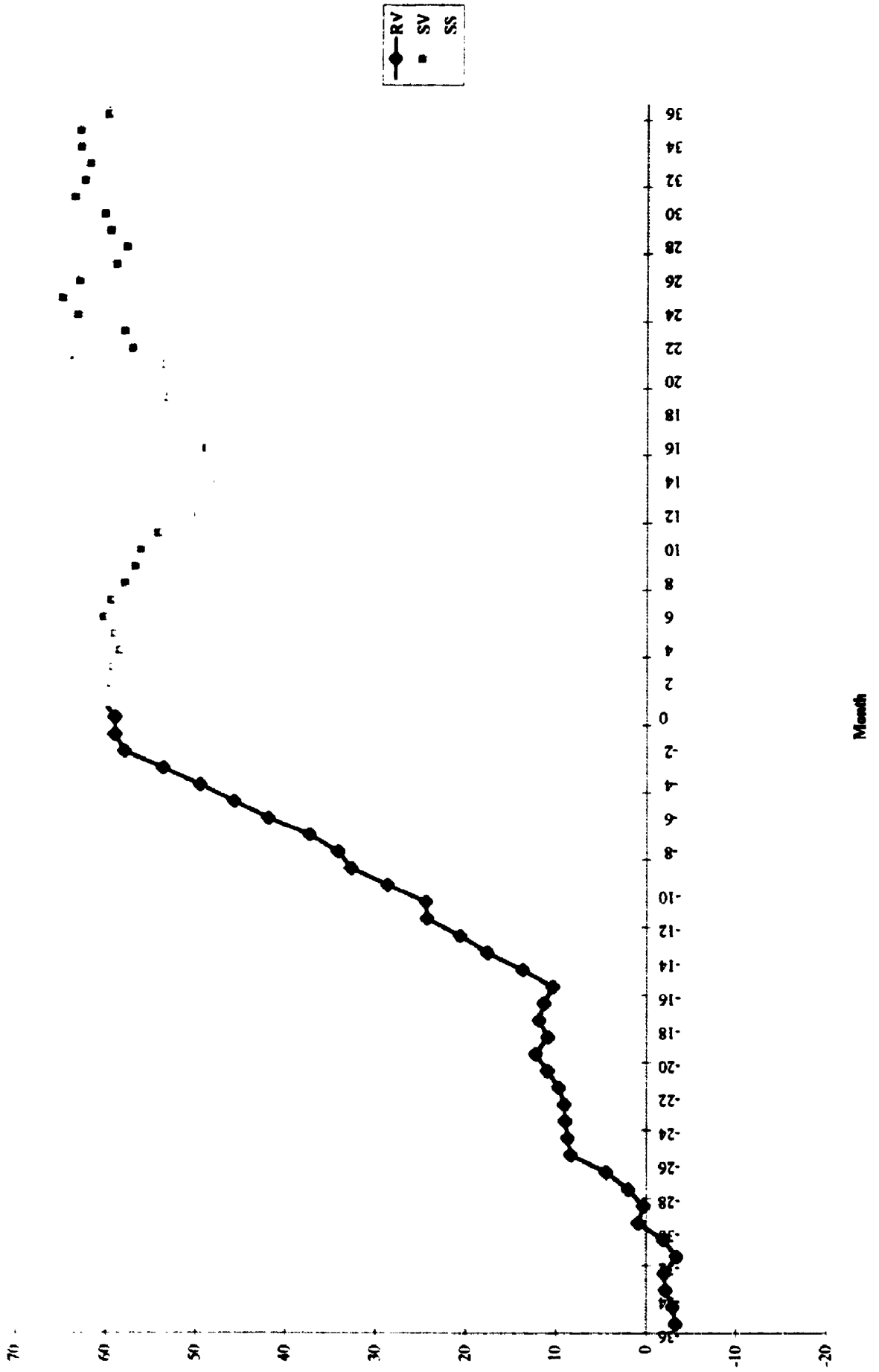


Figure III
Cumulative Benchmark-Adjusted Returns using Value-Weighted Index



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