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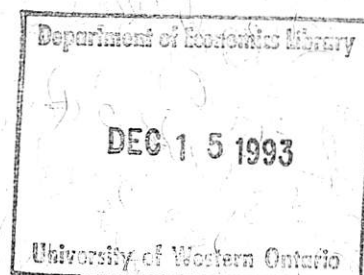
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Paper No. 37

**“Stock Market Performance and
Elections: Made-in-Canada
Effects?”**

Stephen R. Foerster



The UNIVERSITY of WESTERN ONTARIO

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Stock Market Performance and Elections: Made-In-Canada Effects?

by

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Abstract

This study investigates U.S. and Canadian influences of political environments on Canadian stock returns. Canadian markets follow four year Presidential cycles, but also react to Canadian political factors. Markets react favourably to changes in their own governments and Canadian markets react even stronger to U.S. regime changes. Canadian markets perform similarly under majority and minority governments. A trading strategy based on four year cycles outperforms a buy and hold equity investment and exhibits less risk.

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Stock Market Performance and Elections: Made-In-Canada Effects?

Federal governments in North America have a major impact managing the economy through both fiscal and monetary policy, and are often viewed as using their policy influence to attempt to extend their stay in power. Studies have shown that in the U.S., unemployment tends to fall prior to U.S. elections and rise afterwards, and since the early 1960s the U.S. economy has been more actively managed (by the Administration in power) to expand before an election and contract after. Most studies examine political cycles and influences in a purely domestic setting. For example, several U.S. studies have uncovered a well-known stock return cycle related to Presidential elections: stock performance is much stronger in the two years leading up to an election than in the two subsequent years.¹

While Canada and the U.S. are more alike in many ways than most countries, the political systems are vastly different and this raises the question of whether there are made-in-Canada political influences on stock prices. For example, do Canadian stock markets follow a similar four-year cycle as do U.S. stocks or are Canadian cycles related to Canadian elections?

¹Studies which examine political cycles or political cycles related to U.S. stock performance include ALLVINE, F.D., AND D.D. O'NEILL, 'Stock Market Returns and the Presidential Election Cycle', Financial Analysts Journal, 1980, 49-56; HUANG, R.D., 'Common Stock Returns and Presidential Elections', Financial Analysts Journal, 1985, 58-61; NIEDERHOFFER, V., S. GIBBS, AND J. BULLOCK, 'Presidential Elections and the Stock Market', Financial Analysts Journal, 1970, 111-113; NORDHAUS, W.D., 'The Political Business Cycle', The Review of Economic Studies, 169-190; RILEY, W.B., Jr., AND W.A. LUKSETICH, 'The Market Prefers Republicans: Myth or Reality', Journal of Financial and Quantitative Analysis, 1980, 15: 541-559; and TUFTE, E., 'Political Control of the Economy', 1978, Princeton: Princeton University Press.

Can investors profit by following such strategies? Does the market perform differently under minority versus majority governments or Liberal versus Conservative governments? How does the market perform during Canadian election campaigns and in the month following elections? Does the market react differently to Conservative versus Liberal victories?

This study addresses these questions by analyzing the historical political environment in Canada dating back to 1919 and presents a more detailed analysis of the post-1960 period. Canadian stock prices follow a four year cycle similar to U.S. stocks and a trading strategy based on the four year cycle is found to outperform a buy and hold strategy while exhibiting less risk. Market performance and volatility are similar under majority or minority rule. Markets appear to react favourably to the resolution of uncertainty rather than to a particular party as markets rise following both Conservative and Liberal victories.

Canadian Politics and Stock Returns

Between 1867 and 1992, Canada experienced 34 federal elections, or an average of one every 3.7 years. On four occasions back-to-back elections have occurred within one year. Twenty-one elections have occurred since 1919, the period for which data for this study are available.² Over this post-1919 period, the Liberal party has governed for fourteen terms representing 68 percent of the period of study (see Panel A of Table 1), while the Conservative

²The Canadian data series was obtained directly from the TSE. Subsequent to 1977, this series represents the well-known TSE 300 Index. The predecessor of this index is the narrower-based TSE Industrial Index. The U.S. monthly price change series represents the Standard and Poors (S&P) Index, from the Center for Research in Security Prices (CRSP) and contain data since 1926. A similar series of daily S&P Index price changes covers the post-1963 period and is also obtained from CRSP. Canadian daily data for the post-1963 period are obtained from various sources. The 1963 to 1976 data are compiled either directly from TSE records or from listings in the *Globe and Mail*. The post-1977 data are obtained from the TSE/University of Western Ontario database.

party has governed for the remaining seven terms (32 percent). Twelve terms covering 76 percent of the study have been represented by majority governments.

The remaining panels of Table 1 present the performance of the Canadian market for the overall period, the 1919 to 1959 subperiod, and the 1960 to 1992 subperiod. Panel B compares the percentage of months with positive capital gains based on various types of governments. Overall, the Canadian stock market was up 56.7 percent of the time, and marginally more often under Liberal (57.8 percent) versus Conservative (54.4 percent) governments. However, this result is sensitive to the sample period and is strongly influenced by the fact that the Conservatives governed from July 1930 to October 1935 during the Great Depression when the market performed poorly. In the first subperiod, the market was up only half of the time when the Conservatives were in power, but in the second subperiod, the market was up 58.8 percent of the time (versus 54.8 percent under the Liberals). One might have expected the increased uncertainty during minority government terms to be reflected in stock performance, but this is not the case. The market was up more often during times of minority versus majority governments (60.3 percent versus 55.6 percent respectively), and this result is consistent across subperiods.

Panel C indicates the average annual capital gain under various regimes. While the performance under Liberal governments (8.3 percent) is substantially better than that of under Conservative governments (2.8 percent), the picture is reversed since 1960, with markets under Conservative regimes outperforming those under Liberal regimes (8.1 percent versus 6.2 percent). Returns are higher and standard deviations of returns are lower under minority governments, 14.5 percent, than majority governments, 17.3 percent.

Over the sample period there were ten changes of government (six in the first subperiod and four in the second). As Panel D indicates, the average gain in these *months* is 2.7 percent in the overall period, and 3.9 percent in the most recent period. This suggests the market reacts quite positively to a change in Canadian governments, and an issue addressed below is whether this result depends on which party was initially in power.

U.S. Politics and Stock Returns

Several U.S. studies examine Presidential elections and stock market returns. They find the market reacts more positively immediately following the election of a Republican president and more negatively immediately following the election of a Democrat president. In addition, the market generally declines prior to an election and increases afterwards. Studies also uncover a definite four year cycle in stock returns. Average returns are highest in the year beginning two years before a presidential election, second highest in the year prior to an election, lower in the year following, and negative in the second year following. Trading strategies based on these observations tend to outperform buy and hold strategies. Finally, studies uncover larger average stock returns during Democrat versus Republican Administrations. Such cycles are difficult to reconcile with notions of investor rationality and market efficiency (i.e., prices fully and immediately reflecting all relevant information). However, such cycles are consistent with the notion of a myopic view displayed by voters and investors alike.

U.S. and Canadian Comparisons

If the Canadian and U.S. markets are closely integrated, one would expect to find a similar four year pattern in Canada as in the U.S. Yet "interaction effects" between U.S. and

Canadian government stock market influences may occur, for example, between left- and right-leaning parties. Folklore suggests the Democrats are the party of labour, the Republicans the party of business. Yet it is less clear how such a statement applies to the only federally-elected Canadian parties, the Liberals and Conservatives. Nonetheless, one might expect to see the strongest stock performance in Canada when the Conservatives are in power simultaneously with Republicans and the weakest performance when the Liberals are in power simultaneously with the Democrats, assuming both Democrats and Liberals are less likely to favour business.

Table 2 examines the stock market performance in the U.S. and Canada over the most recent 1960 to 1992 subperiod. From panel A, the average annual market price change in the U.S. (measured in \$US) is 7.9 percent under Republican Administrations versus 6.5 percent under Democrat Administrations. These results reflect the strong market performance during the 1980's when the Republicans were in power. Panel A also lists Canadian results (measured in \$CDN). In contrast to the U.S. results, average price changes in Canada are much higher during a Democrat Administration (10.4 percent) than a Republican (4.9 percent).

Panel B examines Canadian and U.S. interaction effects based on each country's federal administration. Canadian markets perform best when Democrats and Conservatives are in power, followed by Democrat/Liberal regimes, Republican/Conservative regimes and Republican/Liberal regimes. These results suggest Canada should welcome Democrat governments.

As Panel C indicates, the monthly price change of 2.0 percent in months of elections of new U.S. regimes is over three times as great as in other months and reinforces earlier conclusions related to Canadian elections that markets generally react favourably to either change or the resolution of uncertainty. These results are also consistent with a myopic view by

investors that the previous regime was "bad" for the economy and stock markets and the new regime will be "better." Alternatively, these results are consistent with a model of investors who continually change their view of which party is "good for business." In addition, the average month-of-change return in Canada of 3.6 percent is more than six times greater than in other months, indicating a stronger reaction in Canada to U.S. changes than in the U.S. This result highlights the importance of the U.S. political environment to Canada and suggest Canadian markets interpret such changes as having a positive impact on the Canadian economy.

U.S. political cycles exert a considerable influence over Canadian markets. Panel D reexamines the four year election cycle over the more recent 1960 to 1992 period. Year 1 covers the beginning of November of an election year to the end of the October of the following year. U.S. price changes are highest in year 3 (19.3 percent) followed by year 4 (10.8 percent), year 1 (6.6 percent) and year 2 (-6.1 percent). These results extend previous U.S. findings to more recent periods. (An F-test of equality of mean returns across years is rejected at the two percent confidence level). This four year cycle is also evident in Canadian data which exhibits high returns in years 3 and 4 and negative returns in year 2. (Equality of mean returns across years is rejected at the three percent confidence level.) Thus Canadian returns are clearly influenced by U.S. political cycles, at least to some degree, indicating the importance of cross-country political factors.

Trading Strategies Based on Election Cycles

The results above suggest a possibly profitable trading strategy based on switching in and out of equities, which should not only enhance performance, but also reduce risk. Such a strategy involves investing in equities (through an index fund) in years 1, 3 and 4 following a

U.S. federal election, and switching to safer investments, such as T-bills, in year 2. A U.S. study by Allvine and O'Neill finds a similar strategy (based on equities in years 3 and 4 and T-bills in years 1 and 2) outperforms a simple equity buy-and-hold over the 1960 to 1978 period.

Any attempt to uncover profitable trading strategies based on historical return data raises a natural concern of "data snooping" and also a concern of whether "actual" superior returns could be gained in practice. Several attempts are made to mitigate these potential problems. First, the four year cycle is initially uncovered in U.S. data, yet the robustness of such a finding is tested by applying the trading strategy to Canadian data. Second, the post-1978 period represents a long out-of-sample series relative to the Allvine and O'Neill study. Third, returns are calculated in a conservative manner in an attempt to replicate actual performance of a typical "small" investor paying taxes on interest income and facing reasonable commission charges.

Unlike many trading strategies which assume the T-bill return as the risk-free investment, this study assumes investors earn only *one-half* of the T-bill rate when they are out of equities. This assumption reflects the twin notions that taxes are paid on interest by individuals and most investors receive a "money market" rate which is below the T-bill rate. Another assumption, similar to previous studies is that any dividends received are "consumed" rather than reinvested; thus only capital gains are considered. In addition, commission charges of 1.5 percent are incurred every time there is a switch between equities and the money market investment. Of course, returns earned by institutional investors not facing such taxes and commissions will be higher.

Results are presented in Table 3. In the overall period and in both the 1960 to 1978 and 1979 to 1992 subperiods, the switching strategy outperforms the buy and hold strategy and the risk is lower. The superiority of the switching strategy is still evident in the latter subperiod

after the four year cycle was well-documented in the U.S. Overall, annual compound returns are almost three percent greater with the switching strategy versus the buy and hold strategy, and a simple reward (or return) to risk (standard deviation) ratio is 0.75 for the switching strategy versus 0.44 for buy and hold.

Table 3 also compares the final value of a \$1,000 investment under various scenarios. A \$1,000 investment at the beginning of 1960 would have grown to \$6,036 by the end of 1992 under the buy and hold strategy. The switching strategy would have grown to \$13,320 (\$16,964) after (not including) transaction costs. Figure 1 compares the cumulative value of the buy and hold versus switching strategy (after transaction costs) over the entire 1960 to 1992 period. The reduced volatility of the switching strategy is apparent from the graph. The switching strategy avoids part of the down markets of 1982 and 1990, but does not avoid the October 1987 crash.

Stock Market Performance Around Canadian Elections

The performance around the nine Canadian elections subsequent to 1960 is investigated. Canadian markets may react positively to *any* election results, perhaps due to resolved uncertainty regarding which party will govern; alternatively, a phenomenon similar to the U.S. may occur whereby markets may react differently depending on which party wins. To control for any U.S. influences, in this section returns are also examined *in excess* of U.S. returns. Figure 2 plots both raw and excess cumulative returns around elections.

Canadian elections are generally called approximately two months before the election is to occur (or approximately 40 trading days). The cumulative average Canadian daily return between the calling of an election and three trading days prior to the election is 2.1 percent or

(on a daily basis) over three times greater than average returns over the entire time period. However, the cumulative *excess of U.S.* return is only 0.2 percent which suggests U.S. markets tend to rise over this period also. The cumulative excess return over the three trading days prior to and three days subsequent to the election is 1.6 percent. The excess return on the trading day prior to the release of the election results is 0.8, which is the largest and most significant excess return between the calling of the election and the thirty trading days subsequent to the election. The cumulative excess return between the fourth and thirtieth post-election trading days is 1.0 percent. These results support the notion that markets react positively to the resolution of uncertainty. The cumulative excess returns for the six elections subsequently won by the Liberals and the three elections subsequently won by the Conservatives are presented in Figure 3. The results are quite similar for both parties. These results are different from U.S. studies which find prices tend to rise following a Republican victory and fall following a Democrat victory. One interpretation of these results is that markets detect greater differences between Republican and Democrat governments than between Conservative and Liberal governments.

Conclusions

This paper investigates the importance of political factors and cycles which influence stock returns across and within countries. Results of this study highlight the importance of considering political factors in an international, rather than purely domestic setting. While this study examines the case of the U.S. and Canadian stock markets, other cross-country effects could be considered. While the similar four year cycles point to a degree of closeness between the U.S. and Canadian markets, this study also provides some evidence of "segmentation"

between the markets, particularly around Canadian elections. Other conclusions are summarized as follows:

- (1) The Canadian stock market performance is not significantly different under minority versus majority governments, and the standard deviation of returns is actually lower under minority governments. Since minority governments represent a fairly sizeable 24 percent of the period of study, this suggests markets are prepared to live with the uncertainty of these minority governments without any significant negative performance reactions. Thus investors should not fear minority governments.
- (2) Markets in both Canada and the U.S. react favourably to changes in their own government. In addition, Canadian markets react strongly positive to changes in U.S. governments. This suggests that either markets expect new policies to have a positive impact or markets are simply "relieved" to be rid of previous administrations. In either case, these results suggest investors are short-sighted.
- (3) Canadian market returns are considerably greater in years 3 and 4 following U.S. elections than in year 2, demonstrating a pattern similar to that uncovered in previous U.S. studies. Long-term trading strategies based on this observation (and consequently switching between equities and money market securities) tend to outperform buy and hold strategies and also exhibit less risk. Results over the post-1978 subperiod provide a lengthy out-of-sample test of earlier studies. These results cast doubt on the efficiency of markets.
- (4) The "excess" performance of Canadian versus U.S. markets is significant during the month of Canadian elections, suggesting markets react favourably to the resolution of uncertainty. The largest daily excess Canadian return in the months surrounding an

election occurs on the trading day prior to the release of election results. This suggests that at this point the market anticipates election results.

- (5) Markets in Canada react favourably to elections won by both Conservatives and Liberals. The pattern of excess returns is similar in both cases. This contrasts with evidence of different market reactions in the U.S. between Republicans and Democrats. One interpretation of this result is that markets interpret the policies of both Canadian parties to be more similar than those of Republicans and Democrats. In other words, markets view the two major Canadian parties as being closer to the center of the political spectrum than the two major American parties.

TABLE 1
Canadian Politics and Stock Returns

	1919 to 1992	1919 to 1959	1960 to 1992
A. Percentage of time in power based on type of government			
Liberal government	67.6	71.7	62.6
Conservative government	32.4	28.3	37.4
Majority government	75.9	77.2	74.2
Minority government	24.1	22.8	25.8

B. Percentage of time with positive capital gains based on type of government			
Overall	56.7	57.0	56.3
Liberal government	57.8	59.9	54.8
Conservative government	54.4	49.6	58.8
Majority government	55.6	55.7	55.4
Minority government	60.3	61.6	58.8

C. Average annual % capital gain (standard deviation) based on type of government			
Overall	6.5 (16.7)	6.1 (17.6)	6.9 (15.5)
Liberal government	8.3 (16.0)	9.8 (16.0)	6.2 (16.1)
Conservative government	2.8 (18.0)	-2.5 (21.0)	8.1 (14.6)
Majority government	6.2 (17.3)	5.8 (18.4)	6.7 (15.9)
Minority government	7.4 (14.5)	7.2 (14.7)	7.5 (14.3)

D. Average monthly % capital gain (standard deviation) around Canadian elections			
Month of change	2.7 (3.6)	1.9 (3.7)	3.9 (2.9)

TABLE 2
U.S. and Canada Comparison of Capital Gains (Standard Deviation), 1960 to 1992^a

	U.S.	Canada
A. Based on type of U.S. government		
Overall	7.4 (14.9)	6.9 (15.5)
Democrat government	6.5 (13.2)	10.4 (15.1)
Republican government	7.9 (15.8)	4.9 (15.7)
B. Based on type of both U.S. and Canadian governments		
Democrat and Conservative	6.8 (15.8)	15.7 (17.7)
Democrat and Liberal	6.5 (12.5)	9.1 (14.4)
Republican and Conservative	12.5 (15.5)	6.3 (13.7)
Republican and Liberal	3.7 (16.0)	3.6 (17.4)
C. Around U.S. elections		
Month of U.S. change	2.0 (2.7)	3.6 (3.5)
D. Based on a "four year" cycle^b		
Year 1	6.6 (11.9)	8.1 (13.3)
Year 2	-6.1 (18.3)	-7.0 (17.2)
Year 3	19.3 (15.5)	14.4 (16.0)
Year 4	10.8 (12.3)	12.8 (14.7)
F-statistic [p-value] ^c	3.72 [0.011]	3.09 [0.027]

^a Returns are based on local currencies.

^b A year is from November to October relative to a U.S. election.

^c Test of hypothesis of equal means across all years.

TABLE 3
Buy-and-hold versus switching strategy, with/without transaction costs (TC), 1960 to 1992

AVERAGE ANNUAL COMPOUND RETURN (STANDARD DEVIATION) PERCENT		
	Buy and Hold ^a	Switch ^b
1960 to 1992	6.89 (15.53)	9.86 (12.82)
1960 to 1978	5.67 (14.12)	9.21 (11.18)
1979 to 1992	8.56 (17.20)	10.76 (14.76)

FINAL VALUE OF \$1,000 INITIAL INVESTMENT			
	Buy and Hold ^a	Switch No TC ^b	Switch with TC ^b
1960 to 1992	\$6,036	\$16,964	\$13,320
1960 to 1978	\$2,360	\$ 4,748	\$ 4,082
1979 to 1992	\$2,558	\$ 3,573	\$ 3,263

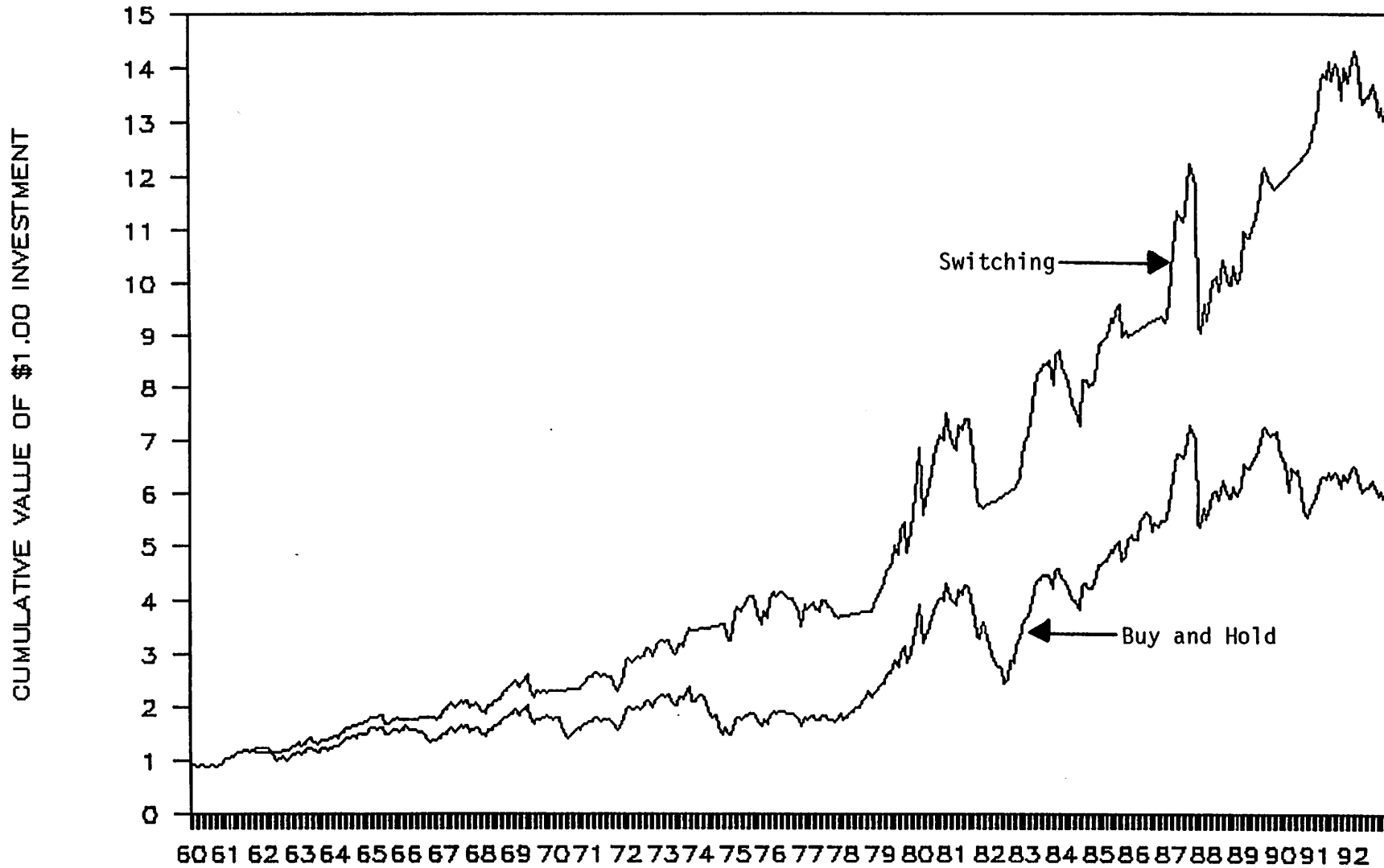
^a "Buy and hold" represents capital appreciation of TSE Index stocks and assumes dividends are not reinvested.

^b "Switch" represents a money market investment for one year starting in November of a U.S. federal election, and a TSE Index investment otherwise. Money market returns are one-half the T-bill returns, reflecting typical after-tax performance for most investors. TSE Index returns are similar to the buy and hold returns. The "with transaction cost" switching includes 1.5 percent commission charges incurred every two years for switching.

FIGURE 1

TSE BUY & HOLD VS. TSE/MONEY MARKET

1960 to 1992 cumulative value

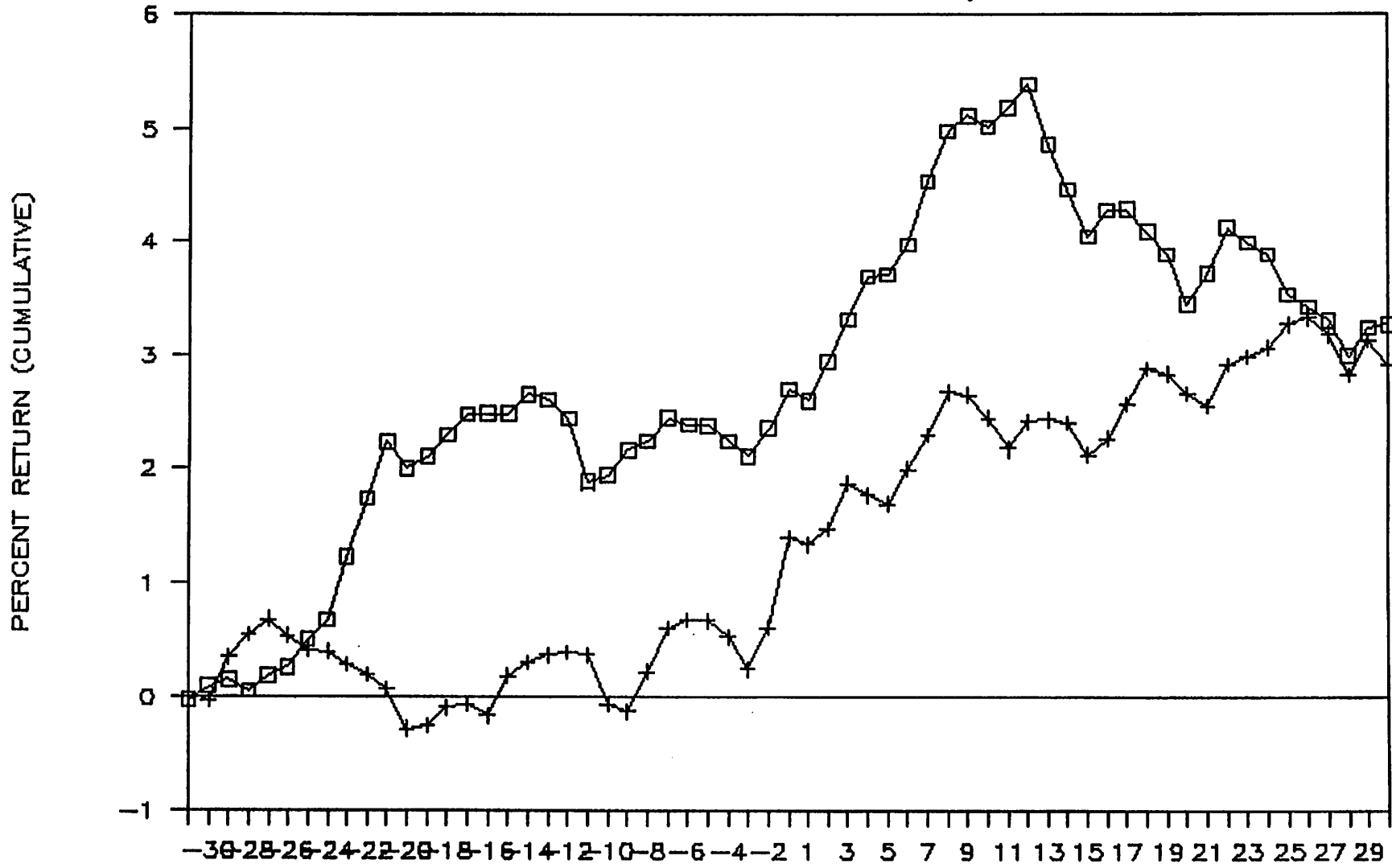


switch: money mkt yr 2, TSE yrs 1,3,4

FIGURE 2

CANADIAN ELECTIONS, 1963 TO 1992

Performance Relative to Election Day



□ Unadjusted returns

+ (CDN ret - US ret)

FIGURE 3

CANADIAN ELECTIONS, 1963 TO 1992

Excess Returns Liberals & Conservatives

